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A FUNCTIONAL THEORY OF INTERNATIONAL REGIMES

Chapter 5 discussed how international regimes could be created and emphasized their value for overcoming what could be called "political market failure." Now we turn to a more detailed examination of this argument by exploring why political market failure occurs and how international regimes can help to overcome it. This investigation will help us understand both why states often comply with regime rules and why international regimes can be maintained even after the conditions that facilitated their creation have disappeared. The functional theory developed in this chapter will therefore suggest some reasons to believe that even if U.S. hegemonic leadership may have been a crucial factor in the creation of some contemporary international economic regimes, the continuation of hegemony is not necessarily essential for their continued viability.

POLITICAL MARKET FAILURE AND THE COASE THEOREM

Like imperfect markets, world politics is characterized by institutional deficiencies that inhibit mutually advantageous cooperation. We have noted the prevalence, in this self-help system, of conflicts of interest between actors. In economic terms, these conflicts can be regarded as arising in part from the existence of externalities: actors do not bear the full costs, or receive the full benefits, of their own actions.¹ Yet in a famous article Ronald Coase (1960) argued that the presence of externalities alone does not necessarily prevent effective coordination among independent actors. Under certain conditions, declared Coase, bargaining among these actors could lead to solutions that are Pareto-optimal regardless of the rules of legal liability.

To illustrate the Coase theorem and its counter-intuitive result, suppose that soot emitted by a paint factory is deposited by the wind onto clothing hanging outdoors in the yard of an old-fashioned laundry. Assume that the damage to the laundry is greater than the \$20,000 it would cost the laundry to enclose its yard and install indoor drying

¹ For an elaborated version of this definition, see Davis and North, 1971, p. 16.

COOPERATION IN THEORY

equipment; so if no other alternative were available, it would be worthwhile for the laundry to take these actions. Assume also, however, that it would cost the paint factory only \$10,000 to eliminate its emissions of air pollutants. Social welfare would clearly be enhanced by eliminating the pollution rather than by installing indoor drying equipment, but in the absence of either governmental enforcement or bargaining, the egoistic owner of the paint factory would have no incentive to spend anything to achieve this result.

It has frequently been argued that this sort of situation requires centralized governmental authority to provide the public good of clean air. Thus if the laundry had an enforceable legal right to demand compensation, the factory owner would have an incentive to invest \$10,000 in pollution control devices to avoid a \$20,000 court judgment. Coase argued, however, that the pollution would be cleaned up equally efficiently even if the laundry had no such recourse. If the law, or the existence of a decentralized self-help system, gave the factory a right to pollute, the laundry owner could simply pay the factory owner a sum greater than \$10,000, but less than \$20,000, to install anti-soot equipment. Both parties would agree to some such bargain, since both would benefit.

In either case, the externality of pollution would be eliminated. The key difference would not be one of economic efficiency, but of distribution of benefits between the factory and the laundry. In a self-help system, the laundry would have to pay between \$10,000 and \$20,000 and the factory would reap a profit from its capacity to pollute. But if legal liability rules were based on "the polluter pays principle," the laundry would pay nothing and the factory would have to invest \$10,000 without reaping a financial return. Coase did not dispute that rules of liability could be evaluated on grounds of fairness, but insisted that, given his assumptions, efficient arrangements could be consummated even where the rules of liability favored producers of externalities rather than their victims.

The Coase theorem has frequently been used to show the efficacy of bargaining without central authority, and it has occasionally been applied specifically to international relations (Conybeare, 1980). The principle of sovereignty in effect establishes rules of liability that put the burden of externalities on those who suffer from them. The Coase theorem could be interpreted, therefore, as predicting that problems of collective action could easily be overcome in international politics through bargaining and mutual adjustment—that is, through cooperation as we have defined it. The further inference could be drawn that the discord observed must be the result of fundamental conflicts

A FUNCTIONAL THEORY OF REGIMES

of interest rather than problems of coordination. The Coase theorem, in other words, could be taken as minimizing the importance of Olson's perverse logic of collective action or of the problems of coordination emphasized by game theory. However, such a conclusion would be incorrect for two compelling sets of reasons.

In the first place, Coase specified three crucial conditions for his conclusion to hold. These were: a legal framework establishing liability for actions, presumably supported by governmental authority; perfect information; and zero transaction costs (including organization costs and the costs of making side-payments). It is absolutely clear that none of these conditions is met in world politics. World government does not exist, making property rights and rules of legal liability fragile; information is extremely costly and often held unequally by different actors; transaction costs, including costs of organization and side-payments, are often very high. Thus an *inversion* of the Coase theorem would seem more appropriate to our subject. In the absence of the conditions that Coase specified, coordination will often be thwarted by dilemmas of collective action.

Second, recent critiques of Coase's argument reinforce the conclusion that it cannot simply be applied to world politics, and suggest further interesting implications about the functions of international regimes. It has been shown on the basis of game theory that, with more than two participants, the Coase theorem cannot necessarily be demonstrated. Under certain conditions, there will be no stable solution: any coalition that forms will be inferior, for at least one of its members, to another possible coalition. The result is an infinite regress. In game-theoretic terminology, the "core" of the game is empty. When the core is empty, the assumption of zero transaction costs means that agreement is hindered rather than facilitated: "in a world of zero transaction costs, the inherent instability of all coalitions could result in endless recontracting among the firms" (Aivazian and Callen, 1981, p. 179; Veljanovski, 1982).

What do Coase and his critics together suggest about the conditions for international cooperation through bargaining? First, it appears that approximating Coase's first two conditions—that is, having a clear legal framework establishing property rights and low-cost information available in a roughly equal way to all parties—will tend to facilitate cooperative solutions. But the implications of reducing transaction costs are more complex. If transaction costs are too high, no bargains will take place; but if they are too low, under certain conditions an infinite series of unstable coalitions may form.

Inverting the Coase theorem allows us to analyze international in-

COOPERATION IN THEORY

stitutions largely as responses to problems of property rights, uncertainty, and transaction costs. Without consciously designed institutions, these problems will thwart attempts to cooperate in world politics even when actors' interests are complementary. From the deficiency of the "self-help system" (even from the perspective of purely self-interested national actors) we derive a need for international regimes. Insofar as they fill this need, international regimes perform the functions of establishing patterns of legal liability, providing relatively symmetrical information, and arranging the costs of bargaining so that specific agreements can more easily be made. Regimes are developed in part because actors in world politics believe that with such arrangements they will be able to make mutually beneficial agreements that would otherwise be difficult or impossible to attain.

This is to say that the architects of regimes anticipate that the regimes will facilitate cooperation. Within the functional argument being constructed here, these expectations explain the formation of the regimes: the *anticipated effects* of the regimes account for the actions of governments that establish them. Governments believe that *ad hoc* attempts to construct particular agreements, without a regime framework, will yield inferior results compared to negotiations within the framework of regimes. Following our inversion of the Coase theorem, we can classify the reasons for this belief under the categories of legal liability (property rights), transaction costs, and problems of uncertainty. We will consider these issues in turn.

Legal Liability

Since governments put a high value on the maintenance of their own autonomy, it is usually impossible to establish international institutions that exercise authority over states. This fact is widely recognized by officials of international organizations and their advocates in national governments as well as by scholars. It would therefore be mistaken to regard international regimes, or the organizations that constitute elements of them, as characteristically unsuccessful attempts to institutionalize centralized authority in world politics. They cannot establish patterns of legal liability that are as solid as those developed within well-ordered societies, and their architects are well aware of this limitation.

Of course, the lack of a hierarchical structure of world politics does not prevent regimes from developing bits and pieces of law (Henkin, 1979, pp. 13-22). But the principal significance of international regimes does not lie in their formal legal status, since any patterns of

A FUNCTIONAL THEORY OF REGIMES

legal liability and property rights established in world politics are subject to being overturned by the actions of sovereign states. International regimes are more like the "quasi-agreements" that William Fellner (1949) discusses when analyzing the behavior of oligopolistic firms than they are like governments. These quasi-agreements are legally unenforceable but, like contracts, help to organize relationships in mutually beneficial ways (Lowry, 1979, p. 276). Regimes also resemble conventions: practices, regarded as common knowledge in a community, that actors conform to not because they are uniquely best, but because others conform to them as well (Hardin, 1982; Lewis, 1969; Young, 1983). What these arrangements have in common is that they are designed not to implement centralized enforcement of agreements, but rather to establish stable mutual expectations about others' patterns of behavior and to develop working relationships that will allow the parties to adapt their practices to new situations. Contracts, conventions, and quasi-agreements provide information and generate patterns of transaction costs: costs of reneging on commitments are increased, and the costs of operating within these frameworks are reduced.

Both these arrangements and international regimes are often weak and fragile. Like contracts and quasi-agreements, international regimes are frequently altered: their rules are changed, bent, or broken to meet the exigencies of the moment. They are rarely enforced automatically, and they are not self-executing. Indeed, they are often matters for negotiation and renegotiation. As Puchala has argued, "attempts to enforce EEC regulations open political cleavages up and down the supranational-to-local continuum and spark intense politicking along the cleavage lines" (1975, p. 509).

Transaction Costs

Like oligopolistic quasi-agreements, international regimes alter the relative costs of transactions. Certain agreements are forbidden. Under the provisions of the General Agreement on Tariffs and Trade (GATT), for instance, it is not permitted to make discriminatory trade arrangements except under specific conditions. Since there is no centralized government, states can nevertheless implement such actions, but their lack of legitimacy means that such measures are likely to be costly. Under GATT rules, for instance, retaliation against such behavior is justified. By elevating injunctions to the level of principles and rules, furthermore, regimes construct linkages between issues. No longer does a specific discriminatory agreement constitute merely a particular

COOPERATION IN THEORY

act without general significance; on the contrary, it becomes a "violation of GATT" with serious implications for a large number of other issues. In the terms of Prisoners' Dilemma, the situation has been transformed from a single-play to an iterated game. In market-failure terms, the transaction costs of certain possible bargains have been increased, while the costs of others have been reduced. In either case, the result is the same: incentives to violate regime principles are reduced. International regimes reduce transaction costs of legitimate bargains and increase them for illegitimate ones.

International regimes also affect transaction costs in the more mundane sense of making it cheaper for governments to get together to negotiate agreements. It is more convenient to make agreements within a regime than outside of one. International economic regimes usually incorporate international organizations that provide forums for meetings and secretariats that can act as catalysts for agreement. Insofar as their principles and rules can be applied to a wide variety of particular issues, they are efficient: establishing the rules and principles at the outset makes it unnecessary to renegotiate them each time a specific question arises.

International regimes thus allow governments to take advantage of potential economies of scale. Once a regime has been established, the marginal cost of dealing with each additional issue will be lower than it would be without a regime. As we saw in chapter 5, if a policy area is sufficiently dense, establishing a regime will be worthwhile. Up to a point there may even be what economists call "increasing returns to scale." In such a situation, each additional issue could be included under the regime at lower cost than the previous one. As Samuelson notes, in modern economies, "increasing returns is the prime case of deviations from perfect competition" (1967, p. 117). In world politics, we should expect increasing returns to scale to lead to more extensive international regimes.

In view of the benefits of economies of scale, it is not surprising that specific agreements tend to be "nested" within regimes. For instance, an agreement by the United States, Japan, and the European Community in the Multilateral Trade Negotiations to reduce a particular tariff will be affected by the rules and principles of GATT—that is, by the trade regime. The trade regime, in turn, is nested within a set of other arrangements, including those for monetary relations, energy, foreign investment, aid to developing countries, and other issues, which together constitute a complex and interlinked pattern of relations among the advanced market-economy countries. These, in

A FUNCTIONAL THEORY OF REGIMES

turn, are related to military-security relations among the major states.²

The nesting patterns of international regimes affect transaction costs by making it easier or more difficult to link particular issues and to arrange side-payments, giving someone something on one issue in return for her help on another.³ Clustering of issues under a regime facilitates side-payments among these issues: more potential *quids* are available for the *quo*. Without international regimes linking clusters of issues to one another, side-payments and linkages would be difficult to arrange in world politics; in the absence of a price system for the exchange of favors, institutional barriers would hinder the construction of mutually beneficial bargains.

Suppose, for instance, that each issue were handled separately from all others, by a different governmental bureau in each country. Since a side-payment or linkage always means that a government must give up something on one dimension to get something on another, there would always be a bureaucratic loser within each government. Bureaus that would lose from proposed side-payments, on issues that matter to them, would be unlikely to bear the costs of these linkages willingly on the basis of other agencies' claims that the national interest required it.

Of course, each issue is not considered separately by a different governmental department or bureau. On the contrary, issues are grouped together, in functionally organized departments such as Treasury, Commerce, and Energy (in the United States). Furthermore, how governments organize themselves to deal with foreign policy is affected by how issues are organized internationally; issues considered by different regimes are often dealt with by different bureaucracies at home. Linkages and side-payments among issues grouped in the same regime thus become easier, since the necessary internal tradeoffs will tend to take place within rather than across bureaus; but linkages among issues falling into different regimes will remain difficult, or even become more so (since the natural linkages on those issues will be with issues within the same regime).

Insofar as issues are dealt with separately from one another on the international level, it is often hard, in simply bureaucratic terms, to arrange for them to be considered together. There are bound to be

² For the idea of "nesting," I am indebted to Aggarwal (1981). Snidal (1981) also relies on this concept, which was used in a similar context some years ago by Barkun (1968), p. 17.

³ On linkage, see especially the work of Kenneth A. Oye (1979, 1983b). See also Stein, 1980, and Tollison and Willett, 1979.

COOPERATION IN THEORY

difficulties in coordinating policies of different international organizations—GATT, the IMF, and the IEA all have different memberships and different operating styles—in addition to the resistance that will appear to such a move within member governments. Within regimes, by contrast, side-payments are facilitated by the fact that regimes bring together negotiators to consider sets of issues that may well lie within the negotiators' bureaucratic bailiwicks at home. GATT negotiations, as well as deliberations on the international monetary system, have been characterized by extensive bargaining over side-payments and the politics of issue-linkage (Hutton, 1975). The well-known literature on "spillover" in bargaining, relating to the European Community and other integration schemes, can also be interpreted as concerned with side-payments. According to these writings, expectations that an integration arrangement can be expanded to new issue-areas permit the broadening of potential side-payments, thus facilitating agreement (Haas, 1958).

We conclude that international regimes affect the costs of transactions. The value of a potential agreement to its prospective participants will depend, in part, on how consistent it is with principles of legitimacy embodied in international regimes. Transactions that violate these principles will be costly. Regimes also affect bureaucratic costs of transactions: successful regimes organize issue-areas so that productive linkages (those that facilitate agreements consistent with the principles of the regime) are facilitated, while destructive linkages and bargains that are inconsistent with regime principles are discouraged.

Uncertainty and Information

From the perspective of market-failure theories, the informational functions of regimes are the most important of all. Recall that what Akerlof called "quality uncertainty" was the crucial problem in the "market for lemons" example. Even in games of pure coordination with stable equilibria, this may be a problem. Conventions—commuters meeting under the clock at Grand Central Station, suburban families on a shopping trip "meeting at the car"—become important. But in simple games of coordination, severe information problems are not embedded in the structure of relationships, since actors have incentives to reveal information and their own preferences fully to one another. In these games the problem is to reach some point of agreement; but it may not matter much which of several possible points is chosen (Schelling, 1960/1978). Conventions are important and inge-

A FUNCTIONAL THEORY OF REGIMES

nulty may be required, but serious systemic impediments to the acquisition and exchange of information are lacking (Lewis, 1969; Young, 1983).

Yet as we have seen in our discussions of collective action and Prisoners' Dilemma, many situations—both in game theory and in world politics—are characterized by conflicts of interest as well as common interests. In such situations, actors have to worry about being deceived and double-crossed, just as the buyer of a used car has to guard against purchasing a "lemon." The literature on market failure elaborates on its most fundamental contention—that, in the absence of appropriate institutions, some mutually advantageous bargains will not be made because of uncertainty—by pointing to three particularly important sources of difficulty: *asymmetrical information*; *moral hazard*; and *irresponsibility*.

ASYMMETRICAL INFORMATION

Some actors may know more about a situation than others. Expecting that the resulting bargains would be unfair, "outsiders" will be reluctant to make agreements with "insiders" (Williamson, 1975, pp. 31-33). This is essentially the problem of "quality uncertainty" as discussed by Akerlof. Recall that this is a problem not merely of insufficient information, but rather of *systematically biased* patterns of information, which are recognized in advance of any agreement both by the holder of more information (the seller of the used car) and by its less well-informed prospective partner (the potential buyer of the "lemon" or "creampuff," as the case may be). Awareness that others have greater knowledge than oneself, and are therefore capable of manipulating a relationship or even engaging successful deception and double-cross, is a barrier to making agreements. When this suspicion is unfounded—that is, the agreement would be mutually beneficial—it is an obstacle to improving welfare through cooperation.

This problem of asymmetrical information only appears when dishonest behavior is possible. In a society of saints, communication would be open and no one would take advantage of superior information. In our imperfect world, however, asymmetries of information are not rectified simply by communication. Not all communication reduces uncertainty, since communication may lead to asymmetrical or unfair bargaining outcomes as a result of deception. Effective communication is not measured well by the amount of talking that used-car salespersons do to customers or that governmental officials do to one another in negotiating international regimes! The information that is required in entering into an international regime is not merely in-

COOPERATION IN THEORY

formation about other governments' resources and formal negotiating positions, but also accurate knowledge of their future positions. In part, this is a matter of estimating whether they will keep their commitments. As the "market for lemons" example suggests, and as we will see in more detail below, a government's reputation therefore becomes an important asset in persuading others to enter into agreements with it. International regimes help governments to assess others' reputations by providing standards of behavior against which performance can be measured, by linking these standards to specific issues, and by providing forums, often through international organizations, in which these evaluations can be made.⁴ Regimes may also include international organizations whose secretariats act not only as mediators but as providers of unbiased information that is made available, more or less equally to all members. By reducing asymmetries of information through a process of upgrading the general level of available information, international regimes reduce uncertainty. Agreements based on misapprehension and deception may be avoided; mutually beneficial agreements are more likely to be made.

Regimes provide information to members, thereby reducing risks of making agreements. But the information provided by a regime may be insufficiently detailed. A government may require precise information about its prospective partners' internal evaluations of a particular situation, their intentions, the intensity of their preferences, and their willingness to adhere to an agreement even in adverse future circumstances. Governments also need to know whether other participants will follow the spirit as well as the letter of agreements, whether they will share the burden of adjustment to unexpected adverse change, and whether they are likely to seek to strengthen the regime in the future.

The significance of asymmetrical information and quality uncertainty in theories of market failure therefore calls attention to the importance not only of international regimes but also of variations in the degree of closure of different states' decisionmaking processes. Some governments maintain secrecy much more zealously than others. American officials, for example, often lament that the U.S. government

⁴ This point was suggested to me by reading Elizabeth Colson's account of how stateless societies reach consensus on the character of individuals: through discussions and gossip that allow people to "apply the standards of performance in particular roles in making an overall judgement about the total person; this in turn allows them to predict future behavior" (1974, p. 53).

A FUNCTIONAL THEORY OF REGIMES

leaks information "like a sieve" and claim that this openness puts the United States at a disadvantage vis-à-vis its rivals.

Surely there are disadvantages in openness. The real or apparent incoherence in policy that often accompanies it may lead the open government's partners to view it as unreliable because its top leaders, whatever their intentions, are incapable of carrying out their agreements. A cacophony of messages may render all of them uninterpretable. But some reflection on the problem of making agreements in world politics suggests that there are advantages for the open government that cannot be duplicated by countries with more tightly closed bureaucracies. Governments that cannot provide detailed and reliable information about their intentions—for instance, because their decisionmaking processes are closed to the outside world and their officials are prevented from developing frank informal relationships with their foreign counterparts—may be unable convincingly to persuade their potential partners of their commitment to the contemplated arrangements. Observers from other countries will be uncertain about the genuineness of officials' enthusiasm or the depth of their support for the cooperative scheme under consideration. These potential partners will therefore insist on discounting the value of prospective agreements to take account of their uncertainty. As in the "market for lemons," some potential agreements, which would be beneficial to all parties, will not be made because of "quality uncertainty"—about the quality of the closed government's commitment to the accord.⁵

MORAL HAZARD

Agreements may alter incentives in such a way as to encourage less cooperative behavior. Insurance companies face this problem of "moral hazard." Property insurance, for instance, may make people less careful with their property and therefore increase the risk of loss (Arrow, 1974). The problem of moral hazard arises quite sharply in international banking. The solvency of a major country's largest banks may be essential to its financial system, or even to the stability of the entire international banking network. As a result, the country's central bank

⁵ In 1960 Thomas Schelling made a similar argument about the problem of surprise attack. Asking how we would prove that we were not planning a surprise attack if the Russians suspected we were, he observed that "evidently it is not going to be enough just to tell the truth. ... There has to be some way of authenticating certain facts, the facts presumably involving the disposition of forces" (p. 247). To authenticate facts requires becoming more open to external monitoring as a way of alleviating what Akerlof later called "quality uncertainty."

COOPERATION IN THEORY

may have to intervene if one of these banks is threatened. The U.S. Federal Reserve, for instance, could hardly stand idly by while the Bank of America or Citibank became unable to meet its liabilities. Yet this responsibility creates a problem of moral hazard, since the largest banks, in effect, have automatic insurance against disastrous consequences of risky but (in the short-run at least) profitable loans. They have incentives to follow risk-seeking rather than risk-averse behavior at the expense of the central bank (Hirsch, 1977).

IRRESPONSIBILITY

Some actors may be irresponsible, making commitments that they may not be able to carry out. Governments or firms may enter into agreements that they intend to keep, assuming that the environment will continue to be benign; if adversity sets in, they may be unable to keep their commitments. Banks regularly face this problem, leading them to devise standards of creditworthiness. Large governments trying to gain adherents to international agreements may face similar difficulties: countries that are enthusiastic about cooperation are likely to be those that expect to gain more, proportionately, than they contribute. This is a problem of self-selection, as discussed in the market-failure literature. For instance, if rates are not properly adjusted, people with high risks of heart attack will seek life insurance more avidly than those with longer life expectancies; people who purchased "lemons" will tend to sell them earlier on the used-car market than people with "creampuffs" (Akerlof, 1970; Arrow, 1974). In international politics, self-selection means that for certain types of activities—such as sharing research and development information—weak states (with much to gain but little to give) may have more incentive to participate than strong ones, but less incentive actually to spend funds on research and development.⁶ Without the strong states, the enterprise as a whole will fail.

From the perspective of the outside observer, irresponsibility is an aspect of the problem of public goods and free-riding; but from the standpoint of the actor trying to determine whether to rely on a potentially irresponsible partner, it is a problem of uncertainty. Either way, informational costs and asymmetries may prevent mutually beneficial agreement.

⁶ Bobrow and Kudrle found evidence of severe problems of collective goods in the IEA's energy research and development program, suggesting that "commercial interests and other national rivalries appear to have blocked extensive international cooperation" (1979, p. 170).

A FUNCTIONAL THEORY OF REGIMES

Regimes and Market Failure

International regimes help states to deal with all of these problems. As the principles and rules of a regime reduce the range of expected behavior, uncertainty declines, and as information becomes more widely available, the asymmetry of its distribution is likely to lessen. Arrangements within regimes to monitor actors' behavior—discussed more fully below under the heading of "compliance"—mitigate problems of moral hazard. Linkages among particular issues within the context of regimes raise the costs of deception and irresponsibility, since the consequences of such behavior are likely to extend beyond the issue on which they are manifested. Close ties among officials involved in managing international regimes increase the ability of governments to make mutually beneficial agreements, because intergovernmental relationships characterized by ongoing communication among working-level officials, informal as well as formal, are inherently more conducive to exchange of information than are traditional relationships between closed bureaucracies. In general, regimes make it more sensible to cooperate by lowering the likelihood of being double-crossed. Whether we view this problem through the lens of game theory or that of market failure, the central conclusion is the same: international regimes can facilitate cooperation by reducing uncertainty. Like international law, broadly defined, their function is "to make human actions conform to predictable patterns so that contemplated actions can go forward with some hope of achieving a rational relationship between means and ends" (Barkun, 1968, p. 154).

Thus international regimes are useful to governments. Far from being threats to governments (in which case it would be hard to understand why they exist at all), they permit governments to attain objectives that would otherwise be unattainable. They do so in part by facilitating intergovernmental agreements. Regimes facilitate agreements by raising the anticipated costs of violating others' property rights, by altering transaction costs through the clustering of issues, and by providing reliable information to members. Regimes are relatively efficient institutions, compared with the alternative of having a myriad of unrelated agreements, since their principles, rules, and institutions create linkages among issues that give actors incentives to reach mutually beneficial agreements. They thrive in situations where states have common as well as conflicting interests on multiple, overlapping issues and where externalities are difficult but not impossible to deal with through bargaining. Where these conditions exist, international regimes can be of value to states.

COOPERATION IN THEORY

We have seen that it does not follow from this argument that regimes necessarily increase global welfare. They can be used to pursue particularistic and parochial interests as well as more widely shared objectives. Nor should we conclude that all potentially valuable regimes will necessarily be instituted. As we have seen, even regimes that promise substantial overall benefits may be difficult to invent.

COMPLIANCE WITH INTERNATIONAL REGIMES

International regimes are decentralized institutions. Decentralization does not imply an absence of mechanisms for compliance, but it does mean that any sanctions for violation of regime principles or rules have to be enacted by the individual members (Young, 1979, p. 35). The regime provides procedures and rules through which such sanctions can be coordinated. Decentralized enforcement of regime rules and principles is neither swift nor certain. Yet, in many instances, rules are obeyed. Indeed, Louis Henkin goes so far as to say that "almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time" (1979, p. 47). In the world political economy, we observe a good deal of compliance even when governments have incentives, on the basis of myopic self-interest, to violate the rules. Although the United States eventually broke the Bretton Woods arrangements unilaterally on August 15, 1971, for some years before that the U. S. government followed rules that constricted American freedom of action. Japanese fishermen have apparently complied, in general, with prescriptions of the International North Pacific Fisheries Convention (Young, 1979, pp. 79-88). Examples of regime compliance could also be drawn from such issue-areas as commodity trade and air transport (Cahn, 1980; Jonsson, 1981).

The extent of international compliance should not be overstated. As we will see, the trade and monetary regimes both became weaker during the 1970s. American and European policies became more protectionist in textiles, steel, and other threatened sectors (Aggarwal, 1983; Verreydt and Waelbroeck, 1982; Woolcock, 1982). Nevertheless, despite the economic disruptions of the 1970s and 1980s, there has been no headlong rush to reduce trade drastically. Indeed, only in the severe recessions of 1975 and 1982-83 did the volume of industrialized countries' exports fall; in every other year they rose by more than the real gross national product of those countries (IMF, 1983, tables B-1 and B-8, pp. 170,176). The form that protectionism takes, furthermore, is, like hypocrisy, "the tribute that vice pays to virtue": much contemporary protectionism is designed to avoid run-

A FUNCTIONAL THEORY OF REGIMES

ning directly afoul of international agreements. For instance, American protectionism in manufactured goods consists largely of "voluntary export restraints" rather than unilaterally imposed import quotas, despite the fact that import quotas do not require laborious international negotiations and capture more rents for the government or private firms in the importing country (Bergsten, 1975b). Voluntary export restraints are often chosen because they bypass GATT restrictions without directly violating explicit GATT prohibitions; yet this advantage is gained at the expense of frequently building in loopholes permitting imports to continue to increase rapidly (Yoffie, 1983). Certainly liberalism in world trade has been under pressure, but the pattern as a whole does not suggest disregard on the part of governments for compliance with international agreements. Although governments sometimes break international rules, they often comply with them.

The puzzle of compliance is why governments, seeking to promote their own interests, ever comply with the rules of international regimes when they view these rules as in conflict with what I will call their "myopic self-interest." Myopic self-interest refers to governments' perception of the relative costs and benefits to them of alternative courses of action with regard to a particular issue, *when that issue is considered in isolation from others*. An action is in a government's myopic self-interest if it has the highest expected value of any alternative, apart from the indirect effects that actions on the specific issue in question would have on other issues. That governments often comply with rules that conflict with their myopic self-interest poses a potential anomaly for theories, such as Realism or the functional theory developed in this chapter, that assume rational, egoistic action in world politics. Why should an egoistic actor behave, on a given issue, in a way that is inconsistent with its self-interest on that issue? If we observe compliance with the rules of international regimes, is this not inconsistent with the assumption of egoism?

The murky language of national interests allows some Realists, such as Hans J. Morgenthau, to avoid this issue. Morgenthau notes the existence of functional organizations such as the specialized agencies of the United Nations system, but contents himself with the observation that when there is a conflict between the national interest and the operation of such agencies, "the national interest wins out over the international objective" (1948/1966, p. 509). This begs the question of whether the national interest is defined myopically, without regard to the effects of one's actions on other issues or other values, or in a more farsighted way, taking into account the impact of violating international rules and norms on other state objectives. Yet the crucial

COOPERATION IN THEORY

issues are precisely those of how interests are defined, and how institutions affect states' definitions of their own interests. An understanding of the puzzle of compliance requires an examination of how international regimes affect the calculations of self-interest in which rational, egoistic governments engage.

Such an exploration is pursued below through two distinct but related lines of argument. The first looks at a given regime in isolation, examining its value to governments as opposed to the feasible alternatives. This explanation of the puzzle of compliance emphasizes the difficulty of establishing international regimes in the first place. Because regimes are difficult to construct, it may be rational to obey their rules if the alternative is their breakdown, since even an imperfect regime may be superior to any politically feasible replacement. The second line of argument sets regimes in the context of other regimes in world politics. We view each issue and each regime as part of a larger network of issues and regimes. Much as iterated Prisoners' Dilemma leads to very different results from the single-play version of the game, so does an analysis of a given regime in the context of others produce a different structure of incentives than considering each regime in isolation.

The Value of Existing Regimes

We have seen that it is difficult even for perfectly rational individuals to make agreements with one another in the absence of provisions for central enforcement of contracts. In world politics, international regimes help to facilitate the making of agreements by reducing barriers created by high transaction costs and uncertainty. But these very difficulties make it hard to create the regimes themselves in the first place.

The importance of transaction costs and uncertainty means that regimes are easier to maintain than they are to create. Complementary interests are necessary but not sufficient conditions for their emergence. The construction of international regimes may require active efforts by a hegemonic state, as the IMF and GATT did after World War II; or regime-creation in the absence of hegemony may be spurred on by the pressures of a sudden and severe crisis, such that which led to the IEA. Even with complementary interests, it is difficult to overcome problems of transaction costs and uncertainty.

Once an international regime has been established, however, it begins to benefit from the relatively high and symmetrical level of information that it generates, and from the ways in which it makes regime-supporting bargains easier to consummate. We will see in chapter 9 that the international organizations at the center of the inter-

A FUNCTIONAL THEORY OF REGIMES

national monetary and trade regimes have outlived the period of U.S. hegemony that brought them into being. Viewing international regimes as information-providing and transaction cost-reducing entities rather than as quasi-governmental rule-makers helps us to understand such persistence. Effective international regimes facilitate informal contact and communication among officials. Indeed, they may lead to "trans-governmental" networks of acquaintance and friendship: supposedly confidential documents of one government may be seen by officials of another; informal coalitions of like-minded officials develop to achieve common purposes; and critical discussions by professionals probe the assumptions and assertions of state policies (Neustadt, 1970; Keohane and Nye, 1974; Keohane, 1978). These transgovernmental relationships may increase opportunities for cooperation in world politics by providing policymakers with high-quality information about what their counterparts are likely to do.⁷

Appreciating the significance of these information-producing patterns of action that become embedded in international regimes helps us to understand further why the erosion of American hegemony during the 1970s was not accompanied by an immediate collapse of cooperation, as the crude theory of hegemonic stability would have predicted. Since the level of institutionalization of postwar regimes was extremely high by historical standards, with intricate and extensive networks of communication among working-level officials, we should expect the lag between the decline of American hegemony and the disruption of international regimes to be quite long and the "inertia" of the existing regimes relatively great.

This argument about the role of information in maintaining regimes can be reinforced by examining some work on oligopolistic cooperation and competition that has similar analytic concerns. Oliver Williamson (1965, p. 584) argues on the basis of organization theory that communication among members of a group tends to increase cooperation, or what he calls "adherence to group goals." Cooperation among oligopolists will also be fostered by a record of past cooperation. Using these assumptions, Williamson constructs a model that has two points of equilibrium, one at high levels and one at low levels of cooperation. Once a given equilibrium has been reached, substantial changes in the environment are necessary to alter it:

⁷ At the very highest levels of government, however, these transgovernmental interactions are often quite limited (Russell, 1973; Putnam and Bayne, 1984)

COOPERATION IN THEORY

If the system is operating at a low level of adherence and communication (i.e., the competitive solution), a substantial improvement in the environment will be necessary before the system will shift to a high level of adherence and communication. *Indeed, the condition of the environment required to drive the system to the collusive solution is much higher than the level required to maintain it once it has achieved this position. Similarly, a much more unfavorable condition of the environment is required to move the system from a high to a low level equilibrium than is required to maintain it there* (p. 592).⁸

Like Williamson's oligopolies, international regimes are easier to maintain than to construct. The principles, rules, institutions, and procedures of international regimes, and the informal patterns of interaction that develop in conjunction with them, become useful to governments as arrangements permitting communication and therefore reducing transaction costs and facilitating the exchange of information. As they prove themselves in this way, the value of the functions they perform increases. Thus even if power becomes more diffused among members, making problems of collective action more severe, this disadvantage may be outweighed by the agreement-facilitating effects of the information provided by the regime.

Arthur Stinchcombe (1968) has made a similar point in discussing "sunk costs."⁹ He writes that "when an action in the past has given rise to a permanently useful resource, we speak of this resource as a 'sunk cost.' " Sunk costs, such as those invested in reputation and good will (or, we might add, in institutions such as international regimes), cannot be recovered and therefore "ought not enter into current calculations of rational policy." But "if these sunk costs make a traditional pattern of action cheaper, and if new patterns are not enough more profitable to justify throwing away the resource, the sunk costs tend to preserve a pattern of action from one year to the next" (pp. 120-21). In these terms, international regimes embody sunk costs, and we can understand why they persist even when all members would prefer somewhat different mixtures of principles, rules, and institutions.

Ironically, if regimes were costless to build, there would be little point in constructing them. In this case, agreements would also be

⁸ I am indebted to Timothy McKeown for introducing me to Williamson's argument and its implications for the study of international relations.

⁹ I am indebted to Stephen D. Krasner for this reference.

A FUNCTIONAL THEORY OF REGIMES

costless. Under these circumstances, governments could wait until specific problems arose, then make agreements to deal with them; they would have no need to construct international regimes to facilitate agreements. It is precisely the costliness of agreements, and of regimes themselves, that make them important. The high costs of regime-building help existing regimes to persist.

Networks of Issues and Regimes

In thinking about compliance, we should recall the previous discussion of how regimes facilitate the making of agreements. To some extent, it is governments' anticipation that international regimes will increase compliance that accounts for their willingness to enter into these arrangements in the first place. Insofar as regimes create incentives for compliance, they also make it more attractive for conscientious potential members to join them. We saw that, by linking issues to one another, regimes create situations that are more like iterated, open-ended Prisoners' Dilemma, in which cooperation may be rational, than like single-play Prisoners' Dilemma, in which it is not. Violation of one's commitments on a given issue, in pursuit of myopic self-interest, will affect others' actions on other questions. Pursuit of its farsighted self-interest may therefore lead a government to eschew its myopic self-interest.

As the Prisoners' Dilemma example suggests, social pressure, exercised through linkages among issues, provides the most compelling set of reasons for governments to comply with their commitments. That is, egoistic governments may comply with rules because if they fail to do so, other governments will observe their behavior, evaluate it negatively, and perhaps take retaliatory action. Sometimes retaliation will be specific and authorized under the rules of a regime; sometimes it will be more general and diffuse.

Suppose, for example, that a member of GATT is under pressure from domestic manufacturers of nuts and bolts to enact import quotas on these products. Even if the government perceives that it has a myopic self-interest in doing so, it knows that such an action in violation of the rules would have negative implications for it on other trade questions—let us say, in opening markets for its semiconductors abroad. The principles and rules of the regime, since they facilitate linkage among issues, will in such circumstances render pursuit of myopic self-interest less attractive. Indeed, the prospect of discord as a result of its rule-violation may lead the government to continue to

COOPERATION IN THEORY

engage in cooperation, whereas if it could have gotten away with the violation without risking discord, it would have gone ahead.

This hypothetical example helps us understand why governments, having entered into regimes that they find beneficial, comply with the rules even in particular cases where the costs of so doing outweigh the benefits. Yet sometimes governments may find that the regimes to which they belong are no longer beneficial to them. What happens to incentives for compliance when the regime as a whole seems malign?

If there were only one regime in world politics, or each regime existed in isolation, the egoistic government would rationally cease to comply with its rules. Regimes would be abandoned when governments calculated that the opportunity costs of belonging to a regime were higher than those of some feasible alternative course of action. In the contemporary world political economy, however, there are multiple issues and multiple contacts among governments; thus governments belong to many regimes.¹⁰ Disturbing one regime does not merely affect behavior in the issue-area regulated by it, but is likely to affect other regimes in the network as well. For a government rationally to break the rules of a regime, the net benefits of doing so must outweigh the net costs of the effects of this action on other international regimes. Insofar as its partners retaliate in those domains for its actions against the first regime, it may find that it is inhibited from pursuing its myopic self-interest.

All of these incentives for compliance rest on the prospects of retaliatory linkage: as in Axelrod's (1981) simulation of Prisoners' Dilemma, "tit for tat" is a more effective strategy to induce cooperation than submissiveness. We have seen that GAIT contains provisions for retaliation; and the Bretton Woods Agreement of 1944 furnishes another relevant example. Under Article VII (the "scarce currency clause"), a surplus country that declined to replenish the IMF's depleted holdings of its currency could find its exports discriminated against with the sanction of the IMF itself (Hirsch, 1967, p. 433). Yet retaliation for specific violations is not a reliable way to maintain international regimes; indeed, the GATT provisions for retaliation have been in-

¹⁰ Multiple issues and multiple contacts among societies are two aspects of "complex interdependence" (Keohane and Nye, 1977). Both facilitate agreements by multiplying points of interaction among governments and therefore increasing incentives to comply with commitments in a situation characterized by practices of "tit for tat" reciprocity. The third characteristic of complex interdependence—lack of efficacy of resorts to force—has similar effects, since it helps to guarantee that the game will not be truncated by sudden violent acts.

A FUNCTIONAL THEORY OF REGIMES

voked only once, and then ineffectively (Jackson, 1983). Individual governments find it costly to retaliate. Familiar problems of collective action arise: if a given state's violation of a particular rule does not have a large effect on any one country, retaliation is unlikely to be severe, even if the aggregate effect of the violation is large. If international regimes depended entirely for compliance on specific retaliations against transgressors, they would be weak indeed.

In the absence of specific retaliation, governments may still have incentives to comply with regime rules and principles if they are concerned about precedent or believe that their reputations are at stake. Governments worry about establishing bad precedents because they fear that their own rule-violations will promote rule-violations by others, even if no specific penalty is imposed on themselves. That is, breaking rules may create an individual benefit, but it produces a "collective bad." The effect of the collective bad on the utility of the individual government may under certain circumstances outweigh the benefit.

Putting the point this way makes it evident that precedent is a weak reed to lean on. No matter how much international lawyers may preach about the adverse consequences of rule-violation, even the most dim-witted egoist can see that, from her standpoint, the proper comparison is not between the benefits from her rule-breaking and its total costs to everyone, but between its benefits and its costs *to her*. The problem of collective action raises its ugly head again.

The dilemmas of collective action are partially solved through the device of reputation. Unlike the costs of establishing bad precedents, the costs of acquiring a bad reputation as a result of rule-violations are imposed specifically on the transgressor. As long as a continuing series of issues is expected to arise in the future, and as long as actors monitor each other's behavior and discount the value of agreements on the basis of past compliance, having a good reputation is valuable even to the egoist whose role in collective activity is so small that she would bear few of the costs of her own malefactions.

Our analysis of uncertainty earlier in this chapter suggests how important reputation can be even to governments not concerned with personal honor and self-respect. Under conditions of uncertainty and decentralization, governments will decide whom to make agreements with, and on what terms, largely on the basis of their expectations about their partners' willingness and ability to keep their commitments. A good reputation makes it easier for a government to enter into advantageous international agreements; tarnishing that reputation

COOPERATION IN THEORY

imposes costs by making agreements more difficult to reach.¹¹

The importance of reputation as an incentive to conform to standards of behavior in world politics has an interesting parallel in the practices of stateless societies. "Primitive" societies without centralized patterns of authority develop what one anthropologist has called "rule(s) and standards which define appropriate action" (Colson, 1974, p. 52). Like international regimes, these rules help to limit conflicts of interest by reducing ambiguity—in this case, by providing information about which types of behavior are legitimate. A principal sanction for violating social norms and rules in these societies is the cost to the offending individual's reputation: "The one public crime in such societies was often that of being a bad character" (Colson, 1974, p. 53). As in world politics, the focus of public concern is less on what an actor has done in the past (as in a formal legal system) than on what she is likely to do in the future. That is, systems of social control in primitive societies, as in international relations, are "forward-looking." They depend on intense, continuing interaction among a small number of actors, who deal frequently with each other without formal laws enforced by a common government.

For reasons of reputation, as well as fear of retaliation and concern about the effects of precedents, egoistic governments may follow the rules and principles of international regimes even when myopic self-interest counsels them not to. As we have seen in this section, they could do so strictly on the basis of calculations of costs and benefits. Each time that they seem to have incentives to violate the provisions of regimes, they could calculate whether the benefits of doing so outweigh the costs, taking into account the effects on their reputations as well as the probability of retaliation and the effects of rule-violation on the system as a whole. They might often decide, in light of this cost-benefit calculation, to conform to the rules. Rational egoism can lead governments not only to make agreements, but to keep them even when they turn out poorly.

¹¹ Heymann makes this point succinctly for the general case: "Since coordinated actions to obtain outcomes of benefit to all parties often depend upon trust, each actor who wants to be a participant in, and thus beneficiary of, such cooperative schemes in the long run and on a number of separable occasions has an important stake in creating and preserving a reputation as a trustworthy party" (1973, p. 822). He also points out that the incentive to obey agreed-upon rules for the sake of one's reputation only operates when one's actions are not secret and others retain the capability to retaliate effectively against one's infractions.

A FUNCTIONAL THEORY OF REGIMES

CONCLUSIONS

This chapter has used theories of rational choice and of the functions performed by institutions to help us understand the creation, maintenance, and evolution of international regimes. My analysis has assumed that governments calculate their interests minutely on every issue facing them. It has not relied at all on assumptions about the "public interest" or the General Will; no idealism whatsoever is posited. I have tried to show that, even on the restrictive assumptions of Realism and game theory, gloomy conclusions about the inevitability of discord and the impossibility of cooperation do not logically follow. Egoistic governments can rationally seek to form international regimes on the basis of shared interests. Governments may comply with regime rules even if it is not in their myopic self-interest to do so. In a world of many issues, such apparent self-abnegation may actually reflect rational egoism.

In view of the difficulties of constructing international regimes, it is also rational to seek to modify existing ones, where possible, rather than to abandon unsatisfactory ones and attempt to start over. Thus regimes tend to evolve rather than to die. Governments that are in general sympathy with the principles and rules of regimes have incentives to try to maintain them, even when doing so requires sacrifices of myopic self-interest.

International regimes perform the valuable functions of reducing the costs of legitimate transactions, while increasing the costs of illegitimate ones, and of reducing uncertainty. International regimes by no means substitute for bargaining; on the contrary, they authorize certain types of bargaining for certain purposes. Their most important function is to facilitate negotiations leading to mutually beneficial agreements among governments. Regimes also affect incentives for compliance by linking issues together and by being linked together themselves. Behavior on one set of questions necessarily affects others' actions with regard to other matters.

Decisions by governments to join international regimes are made partially behind a "veil of ignorance," to use an analogy from John Rawls's discussion of the social contract (Rawls, 1971; Sandel, 1982). Of course, governments know better than Rawls's shadowy individuals which provisions are likely to benefit them; but they nevertheless cannot predict the future with perfect accuracy. Regimes can be affected in the future by many factors, including alterations in world power relations, changes in interests, perhaps as a result of new patterns of interdependence, and changes in membership, as newly independent

COOPERATION IN THEORY

countries join the regimes. Governments adopting the rules and principles of international regimes take on future obligations whose costs they cannot accurately calculate.

These commitments reduce the flexibility of governments and in particular limit their ability to act on the basis of myopic self-interest. To do so is likely to be costly not only to the regime itself but to the state's reputation. Governments of wealthy countries that join international lending networks recognize that once they become active participants in these regimes, they cannot predict how much they may be called upon to lend to their partners. Countries belonging to the IEA agree to provide oil in an emergency to members suffering the most serious shortfalls, according to a pre-arranged formula. Although it may be possible to predict which countries are likely to be creditors and which debtors, or which members of the IEA are likely to have oil to share, the magnitudes involved are unclear in advance. Governments recognize that it will be difficult to renege on their commitments without suffering costly damage to their reputations. Regimes rely not only on decentralized enforcement through retaliation but on governments' desires to maintain their reputations.

A decent respect for the realities of human life and the findings of social science requires us to acknowledge that the assumption of pure maximizing rationality is not fully realistic. Although, as we have seen, the assumption of rationality can be very useful for the construction of theory at the level of the international system, no serious recent study of decisionmaking concludes that modern governments actually behave according to the canons of pure rationality (Snyder and Diesing, 1977). Governments do not act as classical maximizers any more than other large organizations (March and Simon, 1958). In the next chapter, therefore, we will modify the assumption of rationality by introducing concepts such as "bounded rationality" and "satisficing," which have been widely used in the last quarter-century to describe how individuals, and particularly organizations, behave. These concepts do not deny or disparage the intelligence of human beings, nor do they challenge the assumption of egoism. But they do lead to some different ways of thinking about how governments make decisions and about international cooperation.

Up to this point we have assumed, with Realists, that governments are egoistic. This assumption, like that of perfect rationality, is a theoretically useful simplification of reality rather than a true reflection of it. Governments are composed of individuals, some of whom have values that extend beyond their own narrowly conceived self-interest. In view of the hypocrisy that typically characterizes governments'

A FUNCTIONAL THEORY OF REGIMES

pronouncements on international relations—proclaiming dedication to principle while pursuing self-interested ends—we will be cautious about relaxing the assumption of egoism. But in chapter 7 we will explore the possibility that empathy could have profound effects on the prospects for international cooperation. Having shown that cooperation is explicable even on narrowly self-interested, egoistic assumptions about the actors in world politics, we can entertain the notion that more generous values may make a difference in the world political economy.