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The "theory of hegemonic stability" is widely discussed as an explanation for the successful operation of the international system in certain circumstances and the failure of international cooperation in other circumstances. The theory, to state it baldly, claims that the presence of a single, strongly dominant actor in international politics leads to collectively desirable outcomes for *all* states in the international system. Conversely, the absence of a hegemon is associated with disorder in the world system and undesirable outcomes for individual states.

If the theory could be taken at face value, it would be among the most powerful and general in all of international relations. Yet its widespread use seems more closely associated with an equally widespread sloppiness in "applying" the theory than with any general or fundamental validity. As I demonstrate in this article, the range of the theory is limited to very special conditions. While some international issue-areas may possibly meet these conditions, they do so far less frequently than the wide application of the theory might suggest.

I start by discussing the derivation and implications of hegemonic stability theory. Different strands of the theory can be distinguished according to whether they conceive of hegemonic leadership as more "benevolent" or "coercive" and by how they relate hegemony to interest and capability. The next two sections of the article challenge the general applicability of the theory from two perspectives. One investigates the limitations of the public goods hypothesis for understanding many issues of international politics. The other analyzes the implicit assumption of the theory that collective action in the international system is impossible in the absence of a dominant state. Graphical analysis and a numerical example show that cooperation not only can be sustained in the face of declining hegemony, it may even

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be enhanced. The concluding section summarizes how the limited range of the theory of hegemonic stability has important implications for understanding the role of hegemony and asymmetry in international politics.

The message of the article is not as gloomy or destructive as might appear from this brief summary. On the theoretical side, hegemonic stability theory does point toward fertile ground for analytical and empirical investigation of international politics. A revised formulation, while unlikely to be as tidy as the original theorem, will be more fruitful for understanding politics among states pursuing strategies of international cooperation. Ultimately, it offers the prospect of a better explanation of regime performance. On the substantive side, the article demonstrates the possibility of highly cooperative outcomes in the face of declining hegemony. In an era when it is generally conceded that the United States no longer possesses an overwhelming dominance over Western affairs, this is surely good news.[1]

1. Derivation and application of the theory

a. Deductive conclusions and empirical implications

The politics of international economics (especially free trade) originally inspired the theory of hegemonic stability. Charles Kindleberger contends that the maintenance of free trade requires what he calls (approvingly) a "benevolent despot" to provide certain institutional public goods.[2] Following

1. Proponents of hegemonic stability theory implicitly introduce it as part of a more general lament or "nostalgia" for a perceived decline of American hegemony in recent years. Viewing the postwar period of American leadership as beneficial to Western interests more generally, they associate the decline in American strength with increased disorder in the international system. The decline of 19th-century British hegemony (with World War I as the ultimate consequence) and the absence of leadership during the interwar period (which deepened the Great Depression and perhaps helped cause World War II) are invoked to show the potential dangers of such decline. Traditional concerns about the dangers of international hegemony are mitigated by a conception of nonselfish leadership (discussed below) that is built into the theory. Thus hegemonic stability theory provides a strong normative justification for maintaining that American decline is unfortunate from the perspective of *all* members of the international system. A separate empirical question is whether there has been a significant decline in American hegemony. For a challenge to this conventional wisdom, see Bruce Russett, "The Mysterious Case of Vanishing Hegemony; or, Is Mark Twain Really Dead?" *International Organization* 39 (Spring 1985).

2. See Charles Kindleberger, *The World in Depression, 1929–1939* (Berkeley: University of California Press, 1974), and especially Kindleberger, "Systems of International Economic Organization," in David Calleo, ed., *Money and the Coming World Order* (New York: New York University Press, 1976). In the terminology of much contemporary international political economy the "regime" is the public good being provided, as discussed in Robert Keohane, "The Demand for International Regimes," *International Organization* 36 (Spring 1982). These institutional public goods include pressures for low tariffs, acceptance of nondiscrimination, and provision of stable monetary relations. Note that once the emphasis is shifted to the provision of regimes, issue-areas not directly involving any underlying public goods come to be treated *as if* derivations based on public goods assumptions apply to them. While this assumption *may* be fruitful for analysis, it may also be most misleading—as I discuss later.

Mancur Olson, he argues that, given the absence of "selective incentives," these international public goods are unlikely to exist unless the group is "privileged" so that a single state has sufficient interest in the good to be willing to bear the full costs of its provision.[3] This outcome will be most likely when some single state, the hegemonic power, is sufficiently large relative to all others that it will capture a share of the benefit of the public good larger than the entire cost of providing it. Thus the existence and maintenance of free-trade regimes in the mid-19th and mid-20th centuries can be directly attributed to the leadership and burden bearing provided by dominant members of the international system, Britain and the United States respectively. This argument concerning the provision of a public good by a hegemonic actor is fundamental to hegemonic stability theory.[4]

The theory entails two significant yet separable conclusions. First, the presence of a dominant actor will lead to the provision of a stable international regime of free trade (more broadly, hegemons provide leadership for the emergence of international regimes in various issue-areas). Second, although the dominant leader benefits from this situation (i.e., it turns a net "profit" from providing the good), smaller states gain even more. They bear none of the costs of provision and yet share fully in the benefits. In Olson's terms the "small exploit the large," and the traditional view of hegemony in the international system is turned on its head.[5]

3. Mancur Olson, *The Logic of Collective Action* (Cambridge: Harvard University Press, 1965).

4. The public goods interpretation is central in Kindleberger's writing. Robert Keohane, who has given the theory both its name and its prominence through his criticisms and revisions of it, also bases his use of the theory (explicitly in some places, implicitly in others) on public goods or collective action assumptions. His most relevant works include "The Theory of Hegemonic Stability and Changes in International Economic Regimes," in O. Holsti, R. Siverson, and A. George, eds., *Change in the International System* (Boulder: Westview, 1980); "The Demand for Regimes"; and *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984). Although Keohane (in correspondence useful in the revision of this article) feels it misrepresents his position, I argue below that he shares fundamental assumptions with Kindleberger even as he introduces important modifications and qualifications that accord with arguments in this article. But perhaps our positions differ most pointedly in how we approach the deficiencies of the theory. Keohane's solution is to demote the theory to a nonfalsifiable "interpretive framework," useful for description but not for explanation (*After Hegemony*, pp. 39, 195). He uses this framework as part of an often compelling account of postwar international cooperation, but the theory itself is left in limbo: neither right nor wrong, just available. I am more concerned with understanding the assumptions and hence the range of the theory, and how a revised, nontautological theory might better explain international politics.

5. Keohane (in correspondence) argues this is *not* a central proposition in the theory—however, to deny it is to deprive the theory of its originality and to ignore its logical basis. What is novel in the theory is not the claim that strong actors can impose regimes in international politics (which goes back at least as far as Thucydides) but the use of the collective action formulation and the implication that hegemony is more widely beneficial. Moreover, once the public goods formulation is invoked to explain the emergence of regimes under hegemony, the distributional argument follows as a logical conclusion. Indeed, the proposition (or at least the weaker form that most states benefit most of the time) seems central to Keohane's *After Hegemony*, which poses as a fundamental question how the benefits of hegemonic cooperation (which are generalized beyond the hegemonic actor) can be maintained after the decline of hegemony.

This second proposition gives the theory its distinctive bite. After all, there is little new in the claim that a dominant state will enforce a stable global order for its own benefit; it is much more novel to claim that domination will benefit all and especially the weaker members of the international system. This is no trivial difference. Beyond its appealing normative implications, it has important ramifications for the conduct of relations in the international system. When the conditions specified in the theory of hegemonic stability apply, all states will welcome leadership and seek to take a "free ride" on it. In other circumstances, when power is distributed asymmetrically but hegemony is exercised in ways that do not benefit all states, subordinate states will chafe under the (coercive) leadership. One obvious empirical implication is that in the former case smaller powers will continue to support a declining hegemonic leader; in the latter case they will work to hasten its demise.[6] This illustrates how the theory may ultimately generate a rich set of empirical propositions—although it must do so as part of a rigorous elaboration of the theory.

Without this elaboration an initial empirical test of the theory needs to assess two propositions: first, that the presence of a dominant state leads to greater stability in the international system; second, that this greater stability benefits *all* states in the system (and more specifically benefits smaller states more than larger states).[7] Only if both propositions hold simultaneously is the theory supported. In particular, the case where the first proposition holds and the regime is stable but the second fails and benefits are distributed differently accords with fundamentally different interpretations of the impact of hegemony in the global system. Confusion between these explanations would seriously impair our understanding of international politics.

The danger is compounded because data limitations confound efforts to test the second proposition. Since it is concerned with the size and distribution of benefits, a proper test requires an empirical assessment of national welfare under different circumstances. The measurement of, say, "gains from trade" presents all of the well-known problems of evaluating preferences and utilities. It also requires international welfare comparisons and poses enormous counterfactuals concerning potential outcomes from different hypothetical distributions of power. Nor can the empirical problem be finessed. The

6. A further variation on the theory of hegemonic stability, which lies between these extremes, will be discussed below. In it, leadership is coercive but provides sufficient benefits to subordinate states that they will accept it as legitimate.

7. The normative connotation of "stability" in the everyday language of international relations can misleadingly suggest that the first proposition implies the second. To keep the propositions distinct, stability will be used here in the technical sense of an outcome that is likely to maintain itself over time. (Such stability is the result not of any inherent homeostatic property of the international system but of the configuration of states and their interests in maintaining the prevailing international equilibrium.) In this sense even a prolonged period of international conflict (e.g., the Hundred Years' War) could be a stable outcome. The second proposition then involves a normative evaluation of the particular stable outcome. Since a stable outcome could be either good or perfectly dreadful, the two propositions are now logically distinct.

assumption that all states must benefit or else they would withdraw from the relevant international interaction trivializes the theory, by reducing its most intriguing derivation to an a priori assumption, and ignores the possibility that strong leaders in the international system may be able to deny smaller members the option of exit. That is to say, the argument "If countries do not gain from trade they can choose autarchy" misses the point that the capabilities of a hegemonic actor may enable it to prevent withdrawal.

The first proposition, that the presence of dominant leaders results in stable regimes, is more readily testable. System stability can be measured in terms of the persistence of the rules and procedures that characterize a particular international regime, and the existence of a hegemonic state can be observed in the distribution of power and capability over the relevant dimension. (However, note the important shift from the distribution of "interest" in the good to the distribution of capability for providing it.)[8] The obvious test is whether predominance of a single state is associated with persistence of regimes and, conversely, whether more equal distributions of power are associated with instabilities or changes in regimes. Tests of this sort have provided modest but not overwhelming support for the proposition.[9]

But even compelling evidence in support of the first proposition would not provide sufficient empirical support for the theory of hegemonic stability. By itself, such evidence establishes only that hegemonic leaders are associated with stable regimes. It does not show that such regimes have any of the (perhaps normatively desirable) distributive properties entailed in the second proposition. Without the second proposition as a "critical" test, the theory cannot be distinguished from plausible contending explanations.

8. The correct theoretical measure would be in terms of each state's expected benefit from provision of the good. A satisfactory measure of interest is not easily available, for reasons discussed in the text, but this problem is not debilitating if it is reasonable to assume that benefits from the good are roughly proportional to country size. The exact dimension of size that is appropriate will depend on the issue-area (e.g., size of global exports and imports for trade, military power and geopolitical considerations for security issues). However, note that such measures of size are also frequently used as indicators of capability, and indeed, the hegemonic stability argument is typically transformed so that the distribution of capability substitutes for the distribution of interest. Thus a distinction not made clear in the theory (i.e., between interest and capability) is further disguised by a measurement strategy that makes no distinction. The two strands of the theory discussed later in this section are distinguished in part through the different ways in which they introduce a presumed coincidence of capability with interest. A useful discussion of related conceptual issues is Timothy McKeown, "Hegemonic Stability Theory and Nineteenth-Century Tariff Levels in Europe," *International Organization* 37 (Winter 1983).

9. John Conybeare, "Tariff Protection in Developed and Developing Countries: A Cross-Sectional and Longitudinal Analysis," *International Organization* 37 (Summer 1983); Peter Cowhey and Edward Long, "Testing Theories of Regime Change: Hegemonic Decline or Surplus Capacity?" ibid. (Spring 1983); Keohane, "Hegemonic Stability"; David Lake, "International Economic Structure and American Foreign Economic Policy, 1887–1934," *World Politics* 35 (July 1983); Fred Lawson, "Hegemony and the Structure of International Trade Reassessed: A View from Arabia," *International Organization* 37 (Spring 1983); McKeown, "Tariffs"; and Arthur Stein, "The Hegemon's Dilemma: Great Britain, the United States, and the International Economic Order," *International Organization* 38 (Spring 1984).

Because of these difficulties inherent in empirical tests of the theory, we need to place substantially greater emphasis on its logical derivation and its underlying assumptions. In particular, and *contra* Milton Friedman's well-known position, the empirical veracity of the assumptions that underlie the deductive theory needs to be confirmed.[10] Such checks cannot fully substitute for ultimate empirical testing, but they can eliminate unwarranted applications to issue-areas that do not meet the theory's specifications. And the process of clarifying assumptions may also produce a richer set of hypotheses more amenable to empirical testing (doubly important because of the paucity of empirical cases on which to test the theory).[11] The primary concern of the remainder of this article is to clarify those assumptions and then to elaborate on the deductive argument that underlies the theory of hegemonic stability.

b. Dynamic extensions and the concept of "size"

The analytical model underlying the theory is fundamentally static in nature, but it has straightforward dynamic implications. Some writers, indeed, have treated it as a dynamic theory. In brief, they claim that international regimes will reflect changes in the distribution of "power" in the international system. The rise or fall of a dominant leader will lead to the emergence or decline of stable and generally beneficial international arrangements.

This theorizing is nothing more than simple comparative statics. A fuller, dynamic explanation would specify more precisely how the system moves through time—including a consideration of the role of lags (perhaps induced by the conventional aspects of regimes) and of the changing strategic incentives for both providers and free riders in response to exogenous changes in the distribution of power. Such dynamic arguments need to be integrated with the static argument rather than patched on in an ad hoc fashion. The dangers of "patchwork theory" are evident in the "leadership lag" argument that cooperation may persist after hegemonic decline because of the inertia of existing regimes.[12] Institutional factors and different logics of regime creation

10. For a succinct discussion and demolition of Friedman's wrongheaded "irrelevance of assumptions" argument, see Mark Blaug, *The Methodology of Economics* (Cambridge: Cambridge University Press, 1980), pp. 104–28. Even those who still cling to the irrelevance argument will surely agree that it is nevertheless important to know which assumptions are being used, what their logical implications are, and whether modifications of them provide more accurate predictions.

11. A clarification of assumptions will also help to establish the appropriate data and tests for the theory. Even though Conybeare's results in "Tariff Protection" are fairly negative, for example, the underlying hegemonic stability argument is not sufficiently closely modeled for those results to be treated as definitive.

12. See Keohane, "Demand for Regimes," pp. 348–50. For a more detailed elaboration based on the distinction between regime start-up and maintenance costs, see Charles Lipson, "The Transformation of Trade: The Sources and Effects of Regime Changes," *International Organization* 36 (Spring 1982). Both Lipson and Keohane show the limitations of "leadership lag" arguments.

and maintenance have been invoked to explain the failure of the current economic regime to disintegrate rapidly in response to the decline of American predominance in world affairs. But they do not so much elaborate the theory (e.g., by providing predictions about new aspects of international affairs) as seek to plug the gaps between the static theory and the empirical reality with plausible, and almost nonfalsifiable, theoretical filler. In fact, the apparent empirical anomaly disappears with a straightforward elaboration of the (clarified) static model developed in section 3 of this article.

The implications for regime stability of change in the international distribution of power invite us to clarify the notion of size that underlies the theory of hegemonic stability. The distribution of power cannot change without some corresponding change in the size of one or more nation-states—where the relevant concept of size (e.g., military might, economic resources) depends on the issue being examined. But absolute and relative sizes may change differentially, and the distinction between the two is crucial.

Hegemonic decline can result either from the absolute decline of the dominant actor (e.g., Spain beginning in the late 16th century) or from positive but differential growth rates through which secondary powers "catch up" to a former leader (e.g., the "decline" with growth of the United States after 1960). The first case is clear-cut: both the absolute and the relative size of the hegemonic actor, and hence the extent of its hegemony, have been diminished. In the second case, however, the impact of the changed distribution of power is unclear. The relative size of the dominant actor—which we might normally think of as indicating its hegemony—has declined, but its absolute size has increased. If the issue is willingness to contribute to a public good, then the hegemonic power should be *more* willing to contribute to provision of the good. Indeed, with growth across the set of relevant actors, the whole group may have become so privileged that the second- or even the third-largest actor may have an incentive to provide the good by itself. These circumstances raise a problem of strategic manipulation but vitiate the problem of hegemonic decline. Thus our understanding of the theory and its implications hinges on the appropriate underlying concept of size. This distinction between relative and absolute size is in turn related to the existence of two different strands within the theory, each with a different emphasis on interest in the good versus capacity to ensure the good is provided.

c. Empirical applications: benevolent and coercive strands of the theory

The failure to define clearly such underlying concepts as size and to clarify underlying assumptions has fostered a tendency to lump together quite different, though partially compatible, theoretical orientations. In addition, the various strands within the theory of hegemonic stability are sometimes insufficiently differentiated from other substantially incompatible theories about

the role and impact of hegemonic powers. Indeed, tremendous diversity exists in the analysis of the impact of hegemonic powers.

Returning to the trade example, we find an array of divergent views. The dominant public goods strand of the theory, initially proposed by Kindleberger and extended with modification by Robert Keohane, as I argue below, needs to be distinguished from other arguments about the impact of hegemony on the emergence of an open international trading system. Stephen Krasner argues that a hegemonic power will use its superiority to structure the trading system to its own advantage.[13] He expects that an open trading system will result and may or may not be to the advantage of other states, depending on their particular circumstances. Indeed, his argument fits as comfortably with situations in which a hegemonic power pursues "imperialism by free trade" as with situations where an open international economy benefits a wider set of nation-states.[14] Robert Gilpin also premises his argument about multinational corporations on notions of hegemonic self-interest with no necessary connection to the provision of public goods.[15] Therefore, even though Krasner's and Gilpin's arguments are often considered together with those of Kindleberger and Keohane, they differ substantially in not stipulating any of the generalized benefits associated with the public goods argument.

Of course, there are even more extreme views concerning the role of hegemony in trading relations. Baumgartner and Burns, for example, argue that asymmetrical control relationships between states work heavily to the advantage of dominant countries and to the disadvantage of weaker countries.[16] Such "regimes" may be stable, but they certainly are not mutually beneficial in the way suggested by the theory of hegemonic stability. And, of course, the extensive literature on imperialism, world systems, and dependency theory is rife with arguments that hegemony does not benefit weaker actors in the international system. Even those who agree that hegemony will result in openness differ on the impact of openness on economic growth and social-political development. Therefore we cannot simply infer from the presence of a hegemonic actor (or from the existence of a stable regime, or even from the existence of the predicted open trading regime) that the full implications of the theory of hegemonic stability hold. The different approaches are fundamentally distinct in their underlying interpretation of these asymmetric international political relations.

Keohane has incorporated some concern for this other side of hegemony in his use of hegemonic stability theory. While arguing for the symbiosis of hegemony and cooperation in the postwar period, he recognizes that hegemony

13. Stephen Krasner, "State Power and the Structure of International Trade," *World Politics* 28 (April 1976).

14. Ibid., p. 335.

15. Robert Gilpin, *U.S. Power and the Multinational Corporation* (New York: Basic, 1975).

16. Tom Baumgartner and Tom Burns, "The Structuring of International Economic Relations," *International Studies Quarterly* 19 (June 1975).

may involve constraints on subordinate members of the regime and exploit nonmembers. Nevertheless, this "coercion" rests primarily on manipulating opportunity sets and providing incentives rather than on threatening sanctions and so remains in the background. It does not alter a basic view of hegemonic cooperation in which hegemonic leadership works to the advantage of other states as well as to the advantage of the hegemon.[17]

Some of the most interesting work on hegemonic stability extends the theory to different international issue-areas. These extensions raise important new questions pertaining to the relation between power and interest within issue-areas. However, because nothing in the theory limits it to trade or even to economic issues, new applications expand the universe of empirical evidence against which to test the theory. At the same time these extensions of the theory will raise further questions about whether the underlying theoretical assumptions properly characterize the new issue-areas.

One particularly ambitious application is Gilpin's analysis of war and (hegemonic) stability.[18] He argues that the presence of a hegemonic power is central to the preservation of stability and peace in the international system. Much of Gilpin's argument resembles his own and Krasner's earlier thesis that hegemonic states provide an international order that furthers their own self-interest. Gilpin now elaborates the thesis with the claim that international order is a public good, benefiting subordinate states. This is, of course, the essence of the theory of hegemonic stability. But Gilpin adds a novel twist: the dominant power not only provides the good, it is capable of extracting contributions toward the good from subordinate states. In effect, the hegemonic power constitutes a quasi-government by providing public goods *and* taxing other states to pay for them. Subordinate states will be reluctant to be taxed but, because of the hegemonic state's preponderant power, will succumb. Indeed, if they receive net benefits (i.e., a surplus of public good benefits over the contribution extracted from them), they may recognize hegemonic leadership as legitimate and so reinforce its performance and position.[19]

17. This symbiosis between hegemony and cooperation is reflected in Keohane's assessment of the beneficiaries of postwar U.S. hegemony. Secondary states in the system have benefited greatly, probably more than the hegemonic power. Evaluating the benefits to smaller and less developed states (which are not really full members of international economic regimes) is harder, but the tentative conclusion is that they fared better than they would have done under feasible alternatives. See *After Hegemony*, pp. 45, 252–57.

18. Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1982). Stein points out related similarities between A. F. K. Organski's power transition model and hegemonic stability theory in "Hegemon's Dilemma."

19. This line of argument, evident in other writers, is most distinctive in Gilpin. Although he says that this effect is "usually weak or nonexistent" (*War and Change*, p. 34), he uses it as a cornerstone of his theory. Without it, as discussed below, his argument has very different implications. Otherwise, why would the hegemon worry about providing public goods rather than pursuing its own individual interests? To let this claim rest on a supposed correlation of interests between dominant and subordinate actors (as in mainstream hegemonic stability theory) is insufficient for his purposes.

The public good here is provided in a way quite different from that in the main strand of hegemonic theory. In the original formulation, provision is decentralized; the argument is based on the hegemonic actor's inability either to induce others to share costs or to exclude them from the good. Subordinate actors take advantage of the hegemonic actor despite the latter's preponderance. In this alternative version, by contrast, the hegemonic power is effective in coercing other states. It resolves the problem of provision by imposing itself as a centralized authority able to extract the equivalent of taxes. The focus of the theory thus shifts from the ability to provide a public good to the ability to coerce other states.

This theoretical shift has dramatic implications. First, even if provision of the good and its corresponding taxation scheme is a Pareto-superior move (i.e., leaves all as well or better off), there is no longer any reason to assume that the distribution of benefits favors smaller states. The hegemonic actor, with its ability to distribute costs among states, can alter the distribution of benefits to favor itself. Second, the new distribution of (net) benefits could even be exploitative in the sense that costs imposed on subordinate states may exceed the benefits those states receive from provision of the good. Indeed, it is unclear why the hegemon would use its powers only for the provision of public goods—why would it not also expropriate a wider range of private goods to benefit itself at the expense of other states?

By Gilpin's logic, subordinate states will accept their exploitation as long as the costs of being exploited are less than the costs of overthrowing the hegemonic power. Thus the potential for exploitation is great in situations with strong hegemonic states. (The normative implications are, of course, much less compelling when Gilpin's arguments are applied to hegemonic powers other than the United States.) And if we were thinking about desirable possible worlds, we might choose not a strong hegemonic power but a weak hegemonic power, one that has greater incentives to provide benefits to subordinate states in order to preserve its legitimacy. Only weakness will constrain a despot to act benevolently.[20]

The contrast between the *coercive leadership* of the centralized model and the *benevolent leadership* of the decentralized model further helps to clarify the concepts of size and growth appropriate to the respective strands of the theory. In the benevolent leadership model a greater absolute size of the largest actor means it has a greater interest in providing the good. The group is thus more likely to be privileged. The dynamic corollary is that maintenance or growth of the largest actor is the key factor in regime stability; absolute decline is the source of decay. Relative preponderance is not central to this

20. The same problem is prevalent in democratic societies where formal institutional controls are needed so that, if the government errs in the provision of or taxation for public goods, its centralized authority can be checked from below. The unilateral direction of control under international hegemony makes it more difficult to ensure that the hegemonic state does not become exploitative.

version of the theory. It may play a role in minimizing problems of strategic rationality where states try to shift the burden of leadership to one another and to take a free ride. Moreover, if the costs of providing the collective good increase with the size of the system or with greater equality among states, then relative size would play a role. But these are plausible modifications rather than assumptions fundamental to the benevolent leadership model, and in this strand of theory it is absolute size that is central.[21]

In the coercive leadership model, by contrast, it is relative size that is foremost. The key to centralized provision is the ability to force subordinate states to make contributions, and this ability rests primarily on the relative power of states. However, since an underlying public good is being provided, increases in absolute size will also have an effect by decreasing the costs of provision relative to the collective benefits supplied. This effect will enhance opportunities for hegemonic powers to increase their legitimacy and expand their influence through the provision of collective goods. Thus absolute size may also play a role in the coercive leadership variant of hegemonic stability theory—but its role will be secondary to that of relative size.

The contrast between the benevolent and coercive forms of leadership further illuminates the relation between the notion of size and the underlying concepts of interest and capability. In both models effective hegemonic leadership requires an interest in providing the public good as well as the capability to do so. But the benevolent model focuses primarily on interest, implying that capability follows. This assumption is compatible with the model's emphasis on economic issues and its frequent assumption that issue-areas are separable. The model presumes that, because a hegemonic state has a dominant interest in a cooperative outcome, it also has the capacity (i.e., preponderant resources in the issue-area) to ensure its emergence. In contrast, the coercive model focuses on capability, implying that interest in providing the public good follows from the distribution of capabilities. This assumption is compatible with the model's emphasis on military issues and its more hierarchical view of the relation among issue-areas. The model presumes that the (military) dominance of the hegemonic state, which gives it the capacity to enforce an international order, also gives it an interest in providing a generally beneficial order so as to lower the costs of maintaining that order and perhaps to facilitate its ability to extract contributions from other members of the system. Thus both strands of the theory subsume a

21. Attempts to test this model have often relied on measures of relative hegemony. These measures come not from the benevolent leadership but from the coercive leadership strand of the theory. The two are sufficiently distinct that it is important to keep them straight in empirical tests. However, it is possible that the definition of collective goods intended in the benevolent model implies a good with sufficient rivalness that relative size is the relevant concept. (For a discussion of different conceptions of collective goods, see Russell Hardin, *Collective Action* [Baltimore: Johns Hopkins Press, 1982], chap. 3.) This seems unlikely given the heavy reliance on the public goods argument but, if such is the case, a further clarification of the theory is needed.

correlation between interest and capability under the single term "size." While this broad theoretical notion can be useful in pursuing the implications of the theory, it indicates an area where further elaboration of both strands of the theory is essential.

Setting aside situations where hegemonic states operate purely as exploiters of weaker states, hegemonic stability theory thus contains two differing conceptions of the role of hegemons in the international system. Both conceptions involve the provision of collective goods, although they differ sharply in the form and degree of centralization that this provision will entail. Both predict "cooperative" outcomes that make states better off than they would be without the hegemonic power, but they have significantly different distributive implications: is the dominant state taken advantage of, or is it able to exercise its power over other states to its own advantage? These factors all relate directly to whether hegemony is treated in relative or absolute terms—which, as we have seen, is crucial for the analysis of the impact of growth or decline among states on the international system. However, the two models are not logically incompatible. Some combination of coercion and benevolence may obtain.[22]

2. Antecedent conditions of the theory

a. Logical conditions

Either version of hegemonic stability theory can apply only to issue-areas that satisfy several technical and political assumptions. The technical assumptions require the issue to fulfill the relevant conditions of a public or collective good. Important classes of international issues do not meet these conditions. My analysis in section 3 will assume that these conditions *are* met, in order to focus on the important political assumptions pertaining to the nature of strategic interaction in the presence or absence of a dominant state in the international system. Here, however, I review the conditions that pertain to public or collective goods, emphasizing the limitations that they impose on the range of the theory's applicability. (These restrictions apply to both strands of the theory since both depend on assumptions pertaining to the provision of public goods.)

The first condition for a public good is the purely technical one of *jointness*. Strictly defined, jointness requires that different states be able simultaneously to consume the same produced unit of a good. A broader definition entails only that all members of an international system simultaneously benefit from the provision of some group or collective good. The benefit that one state receives must neither be seriously impaired by another state's enjoying the good nor come at the expense of another state's enjoyment. Thus hegemonic

22. Keohane, *After Hegemony*; McKeown, "Tariffs."

regimes that are exploitative would not satisfy the property of jointness, since benefits are not shared in common but are redistributed from one state to another.

The broader definition of jointness is useful for expanding the realm of the analysis, but it is essential to emphasize that not all situations of joint benefit involve jointness and not all instances of cooperation involve the provision of public goods. The obvious illustration comes from the neoclassical ideal world where exchanges of purely private goods have the potential to make all members of society better off. (A more institutionally relevant example is the corresponding social organization into a division of labor.) Joint gains result, but no public goods are involved. With a bit of ingenuity, of course, the "provision" of a market (or of a division of labor) could be designated as the relevant public good, but when all is said and done, such fancy footwork may be more confusing than clarifying. Public goods originally became of interest in economics because they pose a different set of problems from private goods. Similarly, public goods analysis is useful in international analysis insofar as it helps us to identify and analyze a distinct set of problems, not because it provides a new language for old ideas.

This digression would be unnecessary were it not that analysts sometimes mistake the existence of joint gains from international cooperation for proof of the preexistence of jointness and public goods. In particular, the establishment of the "regime" itself is often taken to be a public good. This assumption generates insights when the primary problem is establishing *some* regime to govern interaction between states and the matter of *which* regime (i.e., which particular set of rules and conventions) to establish provokes relatively little dispute. If the question can be reduced to one of order or chaos—whether a choice between a particular military order and war or between one particular international economic arrangement and its breakdown—then a regime is surely a group good. But as distributional questions (i.e., which order?) become important relative to pure efficiency considerations (i.e., any order rather than chaos), the public goods assumptions become less tenable. Unless there is widespread agreement on particular regime institutions, the presence of a regime will not itself suffice to ensure the presence of jointness.[23]

23. Of course, it is possible that a regime will be a "public" good to a subset of states and that the theory only concerns the provision of a regime benefiting a more restricted set of states. Domestic analogies would include higher union wages as a public good to union workers but not to employers and nonunion workers, or oligopoly profits as a public good to colluding oligopolists but not to consumers. However, the claims for the virtues of hegemonic order do not follow from an analysis of such "restricted public" goods, and the implications of such a revised theory would be very different and less attractive. For different but related critiques of the centrality of "order" in the hegemonic stability and regimes literature, see Susan Strange, "*Cave! Hic Dragones*: A Critique of Regime Analysis," *International Organization* 36 (Spring 1982), pp. 486–88, and Richard Ashley, "The Poverty of Neorealism," ibid. 38 (Spring 1984), pp. 245–48.

Assessing jointness within any regime or issue-area is inherently difficult. In the benevolent leadership model the assessment is complicated by the strategic incentives of states to misrepresent their true preferences. Subordinate states will understate their evaluation of the good as part of a strategy of free riding; hegemonic states will manipulate their pronouncements and level of provision to encourage other contributions. In the coercive leadership model the problems are even more severe. Since subordinate states are "forced" to contribute, their contribution cannot be taken as evidence of benefits. Indeed, the very distinction between regimes that provide net benefits and have a basis of legitimacy and regimes that are purely coercive and exploitative becomes a major difficulty. Such distinctions necessarily require close examination of particular issue-areas, although even then different interpretations (e.g., neoclassical versus imperialist interpretations of open trading regimes) may be confounding.

(Numerous other technical properties of a good may be relevant in specific issue-areas. Is a good "lumpy"—can it be provided only in large chunks? Are there differences between start-up and maintenance costs for a good or regime? Do rules pertaining to sovereignty or other activities of states limit or structure the nature of cooperative actions? Although these questions are important in specific issue-areas, I set them aside here in favor of more general issues pertaining to hegemonic stability. Thus, except as noted below, I treat goods as pure, continous public goods.)

The second key property of public goods, *nonexclusion*, concerns the inability of states to prevent noncontributors from benefiting from the collective good. This inability to enforce property rights depends partly on the technical characteristics of the good, while the nature of the political order in which they are produced will be of paramount importance.[24] The absence of centralized coercive authority in the benevolent leadership model severely restricts the capacity of states to enforce property rights over goods to which they contribute. However, the impact of this restriction will hinge directly on the basis of the hegemony. Unless hegemony is defined solely in terms of interest in the good and not at all in terms of ability to dominate relations with other states, a hegemonic actor is likely to be able to enforce at least partial exclusion from the good. Exceptions will occur only where the process of exclusion itself interferes with provision of the good (which is often argued to be the problem with exclusionary trade agreements or in excluding alliance members). If the good is to be provided in such cases, then attempts to control its exclusion will not be feasible. But typically we would expect a hegemonic power—even in the benevolent leadership model—to have some minimal ability to exclude other states and for the regime's institutional arrangements to reflect this ability.

24. I use nonexclusion in terms of the inability to control exclusion. See Duncan Snidal, "Public Goods, Property Rights and International Organizations," *International Studies Quarterly* 23 (December 1979).

In the coercive leadership model the hegemonic actor, regardless of whether it is able to enforce exclusion, will be capable of coercing others to contribute to the provision of the good. Indeed, such coercion may be relatively easy to accomplish since members of the international system will accept coercion as "legitimate" provided that they remain *net* beneficiaries. It is not unreasonable to view the coercive leader in terms of its ability to render the nonexclusion property of public goods irrelevant, since it extracts contributions directly without recourse to any intervening property rights.[25]

The nonexclusion assumption will therefore be inappropriate in many issue-areas. Indeed, much international effort is directed toward finding means of exclusion. States often seek to resolve problems of public goods provision by devising techniques to restrict benefits to contributing states. For example, they extend tariff reductions or rights of innocent passage only to states that reciprocate. In such cases, cooperation may well be attained without a hegemonic power.

In addition to these two public goods assumptions, hegemonic stability theory contains a third, virtually hidden, assumption: *collective action is impossible.* This pessimism regarding the prospects for collective action among states, however closely they are allied, is well demonstrated in Kindleberger's negative assessment of the likelihood of Japan and West Germany overcoming their private interests to collaborate with a (less than dominant) United States in providing collective economic leadership.[26] Such a view is necessary to the theory, for if collective action is possible then states might cooperate to provide public goods in the absence of hegemonic power. If it is not possible, then only a hegemonic actor (if the system is lucky enough to have one) can provide the good because only it can act unilaterally to provide the good or to coerce other states into contributing, or both.

This "impossibility of collective action" stems from an incorrect understanding of the realist assumptions that underlie the theory of hegemonic stability. First, consider the assumptions made about states as actors. Realism argues that states can be treated as unitary (rational) actors engaged in the pursuit of national self-interest. In this pursuit they will sometimes find it advantageous to take actions that harm other states. But this rationality does not prevent states from collaborating when that is in their best interest. And, except in the implausible case of the constant-sum interaction (which is in fact already ruled out by the assumption of jointness), they may well find

25. An alternative possibility is that the hegemonic actor is able to enforce exclusion over the good and makes it available only to other states that allow it to "tax" them for it. This might provide a basis for a third strand of the theory, combining properties of both benevolent and coercive models, although it is not clear that it is empirically very relevant. The various problems of achieving collectively *optimal* levels of provision for public goods persist in all versions of the theory.

26. Kindleberger, "International Economic Organization," p. 37. Keohane in *After Hegemony* parts company with Kindleberger in arguing that collective action is possible under certain circumstances.

it advantageous to pursue their self-interest through collaboration. Nothing in realism's assumptions about states would rule out collective action.

Alternatively, the impossibility of collective action might stem from a misunderstanding of realism's assumptions about the nature of the international political environment. In particular, realism emphasizes the lack in international politics of any centralized authority that can guarantee performance on commitments to cooperate. This difficulty is heightened by the fear that other states will take advantage of cooperative behavior in ways that will be ruinous for cooperating states. If such were the case, then collective action would surely be doomed to fail. However, this characterization does not adequately describe all of international politics—especially as it pertains to economic and nonsecurity issues. Only a few issues between states are of such a life-and-death nature that elimination from the international system is at stake. More typically, being taken advantage of imposes considerable costs (which certainly merit caution), but such risks are not unbearable for states and are often warranted by the incentives offered by the possibility of cooperation. In addition, since most issues are continuous through time and reputations for reliability are linked across issue-areas, states face changed incentives. Instead of taking advantage of cooperators, states increasingly find it in their interest to reciprocate cooperation, especially under the conditions of growing interdependence observed in the postwar years.

The result is a need to broaden the realist notion of rationality beyond the simple pursuit of immediate self-interest. States are better characterized by strategic rationality, which takes into account the likely reactions of other states as well as the pursuit of interests across a wide range of issues and through time. These conditions facilitate self-enforcing cooperative agreements since the incentive not to cooperate on a given issue at any point in time must be weighed against the costs inherent in these reactions. In these new circumstances the traditional international anarchy, with its lack of centralized enforcement, need not preclude international collective action.[27]

It does not follow that collective action will always result when the possibility for joint gains is present. Collective action will depend on a host of relevant circumstances (e.g., likely continuation of the issue through time, nature of linkage to other issues, existence of relevant regime rules or conventions). It will also be affected by many of the same factors associated with the relative rise and decline of states. These exogenous factors may be inherently conflictual (e.g., the last-gasp imperialist rivalries leading up to World War I) or mutually beneficial and conducive to cooperation (e.g., the system-

27. This is only the briefest summary of major points in the rapidly growing literature on international cooperation. The arguments here reflect a perspective shared by such recent analyses of international cooperation as Keohane, *After Hegemony*; Kenneth Oye, ed., *Cooperation under Anarchy* (forthcoming as a special issue of *World Politics*, October 1985); and Duncan Snidal, "International Cooperation: A Game Theory Analysis of Regimes and Interdependence" (book manuscript).

wide growth that led to the "decline" of the United States relative to other advanced capitalist countries in the last two decades). Finally, and most important for the analysis in section 3, the possibilities for collective action will depend on the nature of strategic interrelations between states, including the impact of the relative sizes of different states.

Insofar as collective action is likely, the theory of hegemonic stability will be incorrect. This likelihood, as discussed below, depends vitally on the exact distribution of capability and interest among states as the hegemon declines. If states are numerous and small, then collective action is unlikely and the predictions of the theory will be correct. However, if states vary in size, then cooperation between the largest of the former free riders (and including the declining hegemonic power) may suffice to preserve the cooperative outcome. Thus we need to amend the assumption that collective action is impossible and incorporate it into a fuller specification of the circumstances under which international cooperation can be preserved even as a hegemonic power declines.

b. Empirical veracity of assumptions: some examples

Before examining the conditions under which collective action will be possible, it is instructive to assess the realism of the various assumptions in several different issue-areas. Even without detailed analysis, it is clear that there is substantial diversity in the extent to which the assumptions of the theory of hegemonic stability characterize different issue-areas. These results are summarized in Table 1.

An analysis of the properties of the trade issue-area depends heavily on the basic interpretative approach employed. If we adopt a neoclassical perspective, then the presumption of generalized gains from trade ensures that the condition of jointness will be fulfilled.[28] It is less evident, however, that trade meets the criterion of nonexclusion. Common markets as well as discriminatory tariff and nontariff barriers against particular countries, particular goods, and even particular goods from particular countries indicate the possibilities for extensive and fine-tuned control over exclusion. Moreover, the past decade has not borne out suggestions that recourse to such exclusionary controls will ultimately destroy the regime (and hence that they are infeasible

28. Actually, the formal results of neoclassical theory show only that, with compensation, each state *could* gain from trade—although this is typically treated as implying that each *will* gain. Other theoretical assumptions give very different results. For example, mercantilist theories emphasize relative position and see no joint (or net) gain but only zero-sum distribution among states. Imperialism theories concede net global gains but a lop-sided distribution that makes them far from joint. Nevertheless, the neoclassical theory provides at least a widely accepted basis upon which to rest the application of hegemonic stability theory to international trade issues.

TABLE 1. *Issue-areas and the conditions of hegemonic stability theory*

	Antecedent Conditions		
	Jointness	*Nonexclusion*	*Collective Action Impossible*
Theory of Hegemonic Stability	Yes	Yes	Yes
Trade	Yes	No	No
Military	Yes	No	No
Law of the Sea	Some Issues; Not All	Some Issues; Not All	?
a. Environment	Yes	Yes	?
b. Mineral Nodules	No	Yes	?
c. Innocent Passage	Yes	No	?
d. Coastal Fisheries	No	No	?

Note. Such a crude classificatory schema necessarily involves approximating characteristics of various issue-areas. Different interpretations of various issue-areas could lead to different conclusions.

if the regime is to be sustained).[29] Finally, postwar experience demonstrates that collective action is not impossible in trade issues. The success of the European Community has been flawed but is still impressive, while the GATT represents a broader-based collective action. The presence of the United States as a supporting hegemonic power has probably facilitated the development of each, but each has continued to operate after hegemonic decline. Nevertheless, the ease of collective action in trade issues should not be overstated, and examples of failure (e.g., LDC trading communities) are numerous.

In the military issue-area jointness is assured insofar as the primary value of interest is peace. Not only allies but also neutrals and rivals benefit from the provision of this good. However, it does not follow that exclusion is impossible. Alliances and defense pacts are based on providing peace and security benefits to some but not to others. They also provide prime examples of collective action to secure these goods. Again, while the hegemonic role of the United States may have been instrumental to the success of NATO, numerous historical examples illustrate the possibility of collective action among more equal-sized states. Finally, there is significant opportunity (and perhaps necessity) for collective action between military rivals. The success

29. Indeed, it is possible to argue that exclusiveness in trade agreements may have been a fundamental building block of trade regimes along subsystemic rather than global organizing principles. For a useful discussion and historical narrative on this point, see Stein, "Hegemon's Dilemma."

of defense and deterrence regimes, as well as the potential for arms control, indicate the wide range of possible collective action.

The law of the sea provides not a single set of issues with similar properties but a grab bag of issues with quite diverse properties. The four subissues noted in Table 1 illustrate the variation. Environmental pollution and rights to innocent passage both meet the assumption of jointness, but the latter is more susceptible to control over exclusion; neither mineral nodules nor coastal fisheries are joint, but the latter is more susceptible to exclusion (for non-migratory fish species) than is the former where property rights are ill-defined. There has been limited collective action although it has largely involved situations where individual states could themselves enforce commonly agreed rules. Thus innocent passage and delineation of fisheries have been accepted more widely than regimes to govern seabed resources or environmental issues, which seem to require more centralized enforcement.

These quick sketches indicate the tremendous diversity within and across the three issue-areas. They provide a clear warning that the applicability of the assumptions underlying hegemonic stability theory varies substantially across issue-areas. They also demonstrate that the assumption of the general impossibility of collective action is especially tenuous since it is not completely fulfilled in any of the examples. It is on this assumption that the next section focuses.

3. Collective action and intermediate groups

We can investigate the substitution of collective action for hegemonic leadership further through a formal representation of the impact of different distributions of size on international cooperation. For this purpose, we shall assume that the problem is one of providing international public goods and that "larger" states are those with both a greater interest in and a greater capacity for providing the good. Thus these key assumptions of the theory will be stipulated in order to demonstrate the problematic character of the "impossibility of collective action" assumption. Of course, no single model can completely capture the richness of strategic interaction in a multiactor world. Nor will any single model provide a single (general) deterministic solution. But what partial models can illustrate by capturing salient features of international collective action problems is the range of potential and likely outcomes.[30]

A good place to begin this investigation is a (re)analysis of Kindleberger's pessimistic claim that tripartite collective action among the United States, Japan, and West Germany must fail. He argues that the private interests of

30. For a discussion of solution theory in n-person games, see Martin Shubik, *Game Theory in the Social Sciences* (Cambridge: MIT Press, 1982).

the latter two states will lead them not to cooperate, leaving little hope for cooperation after the decline of U.S. hegemony. This argument centers on the relationship between the size of states and their interest in international cooperation (and not on any cultural or moral differences) as the key variable motivating willingness to contribute to international public goods.

Two different but closely related models of collective action are useful for examining the impact of changes in the relative sizes of actors. The first is a modified version of Thomas Schelling's n-person binary choice model, showing the relation of the interests of individual actors to their collective interests. The modification introduced here allows for variations in states' interests and for a focus on the incentives facing the largest states in the global system. The second model, a three-person game represented in characteristic function form, further isolates the strategic interrelations among these largest states. Together the two models show that the conflict between individual and collective interests does not guarantee the failure of cooperation in the absence of hegemony. Collective action is possible, even likely, and may result both in higher levels of cooperation and in a preferable distribution of the costs and benefits of cooperation. The analysis makes clear why the decline in U.S. dominance has not severely interrupted Western economic cooperation.

a. Size and the problem of international cooperation

Schelling's model is an n-person Prisoners' Dilemma, of which the provision of public goods is a special case.[31] It provides an alternative representation of Olson's problem of collective action where, if each actor pursues its own immediate self-interest, all will be worse off than if they forgo narrow self-interest for collective interests. Like Olson's model (although with the modifications shown below), it indicates that such collective action is unlikely in groups where the cooperation of large numbers is required.

Applied to international relations, Schelling's model focuses on the interaction of "n" states where all states have equal interests and can choose either to cooperate or not to cooperate. Because cooperation is costly to a cooperating state, the net payoff to each country is greater when it does *not* cooperate but larger numbers of other states *do* cooperate. This situation is represented in Figure 1a. The two upward sloping lines indicate the payoff (on the vertical axis) to a state as a function of whether it does or does not cooperate (lines C and NC respectively) and of the total number of countries that do cooperate (on the horizontal axis). Regardless of the number of cooperating states, each individual state has an individual incentive not to cooperate (i.e., line NC is always above line C). If every state follows this logic, then the ultimate outcome will be at point 0 where there is no co-

31. Thomas Schelling, *Micromotives and Macrobehavior* (New York: Norton, 1978).

operation. This outcome is inferior to one at point C where every state forgoes its narrow self-interest for the collective outcome. With the large number of states in the world system, however, Olson's argument would seem to apply. Cooperation will fail because states give priority to their individual over their collective interests.

The story does not stop here. As Schelling points out—and as Russell Hardin emphasizes in an important revision of Olson's argument—the minimum number of states that can benefit from cooperation (despite the continuing noncooperation of others) is of crucial importance.[32] This minimum number is reflected in Figure 1a by "k," the point where the benefits of cooperation begin to outweigh the costs for the cooperating states. Once k or more states cooperate, cooperators do as well as or better than they did before cooperation—notwithstanding the facts that noncooperators do even better by taking a free ride and that incentives to defect from cooperation persist.

Olson's privileged group corresponds to $k = 1$ where a single state finds it in its own self-interest to provide the good. The theory of hegemonic stability is based on this and the further claim that in large groups where $k > 1$, collective action and cooperation must fail. However, as Hardin in particular has argued, as long as k is "small" (where the definition of small is contingent on the nature of the sociopolitical interactions among the members of the k-group) collective action may be possible regardless of the number of states in the group. As I shall demonstrate below, all states do not have to coordinate collective action as long as some effective k-group can cooperate.

Before applying Schelling's symmetric model to the analysis of k-groups and the theory of hegemonic stability, we must amend it to incorporate the different sizes of states. The revision is straightforward. Just as Schelling's symmetric case uses unit markings (on the horizontal axis in Figure 1a) to indicate the number of equal-sized cooperating states, proportionately unequal spacing along the axis (as in Figure 1b) can indicate the relative sizes of unequal-sized states. Without loss of generality, states can be arrayed along the horizontal axis in order of decreasing size.[33] Finally, size may be rep-

32. Ibid., and Hardin, *Collective Action*. Hardin demonstrates how Olson's argument confuses the size of the overall group with the minimum-size group that can be effective in collective action. Schelling (*Micromotives*, p. 221) also has some interesting observations on how it is not always "k" but often its relation to "n" that is most important. But for the case of public goods, k alone is the most relevant criterion for successful cooperation.

33. Here I interpret size in terms of the different interests of states so that the presentation corresponds to Kindleberger's "benevolent leadership" problem. When coercive leadership is involved, size can be interpreted primarily in terms of capacity. As discussed above, hegemonic stability theory typically does not make any clear distinction between interest and capability but subsumes them both under the single notion of size. This notion is also flexible enough to accommodate differences in intensity over international issues or in efficiency in producing international public goods—although such considerations further increase the need for the relation between interest and capability to be built explicitly into the theory. Finally, the shift to unequal-sized actors means that the interpretation of payoffs on the vertical axis changes from "per state" to "per capita" (within a state). Thus the total payoff to a state is equal to the product

resented in either relative or absolute terms. If our concern is with relative size, then the length of the axis occupied by all states taken together stays constant while individual portions of the axis change to reflect states' changing "proportions" of overall power due to underlying growth and decline. If our concern is with absolute size, on the other hand, the length of the axis occupied by all states taken together will increase or decrease with the sum of total growth or decline in individual states.[34]

In Figure 1b the group is privileged because the largest state (1) has sufficient individual incentive to provide the good itself and increase its payoff from 0 to N. At the same time, it increases the payoff to other states by an even greater amount, from 0 to M. This is the core situation analyzed by the theory of hegemonic stability. The hegemonic power, in pursuing its own self-interest, benefits other states—although, in the situation depicted in Figure 1b, every state receives a lesser payoff (M or N) than is attainable through collective action and full cooperation (C). Nevertheless, hegemonic provision of the good is likely to be a stable outcome since no state has an incentive to deviate from it. The hegemonic state only loses by decreasing its provision of the good, as would any other state that joins in cooperation (e.g., state 2's cooperation reduces its own payoff from M to S). Other situations are also possible: if the hegemonic power (state 1) is sufficiently dominant, for example, M may be above C, in which case other states will prefer free riding on the hegemonic actor to full cooperation.

This analysis, like hegemonic stability theory, ignores strategic interaction. It assumes that states are myopic decision makers (like those in Cournot equilibria) and that other states' behavior remains *constant*. Consequently, the theory ignores the impact of bargaining, negotiation, strategic rationality, and, of course, cooperation through collective action. For example, state 1 might posture that it will not cooperate unless states 2 and 3 also cooperate. If successful, this threat raises state 1's payoff from N to Q and even raises the other two states' payoffs slightly, from M to Q (although each retains an incentive to defect). Smaller states now receive an even larger free ride, at R instead of M. Alternatively, state 1 might adopt a yet tougher bargaining position by feigning indifference to the good and refusing to cooperate at all. If successful, this ploy might induce 2 and 3 (and perhaps 4) to collaborate in providing the good. A casual examination of this second strategy suggests

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of its payoff (indicated on the vertical axis) and its size (indicated on the horizontal axis). Since we are interested primarily in whether net gains from cooperation are positive, the distinction between "per capita" and "per state" payoffs is secondary; the two will always increase or decrease together for any state.

34. The payoff curves (C and NC) may also change depending on the extent of jointness and how it is affected by the growth in the system. The analysis below uses relative size and keeps the payoff curves fixed. Thus jointness is limited: as the size of states increases uniformly, their total payoff from any given level of cooperation stays constant. The case analyzed below is, as a result, a tougher case for collective action than if benefits increased with absolute size thereby increasing the incentives for cooperation in a world of growth, *ceteris paribus*.

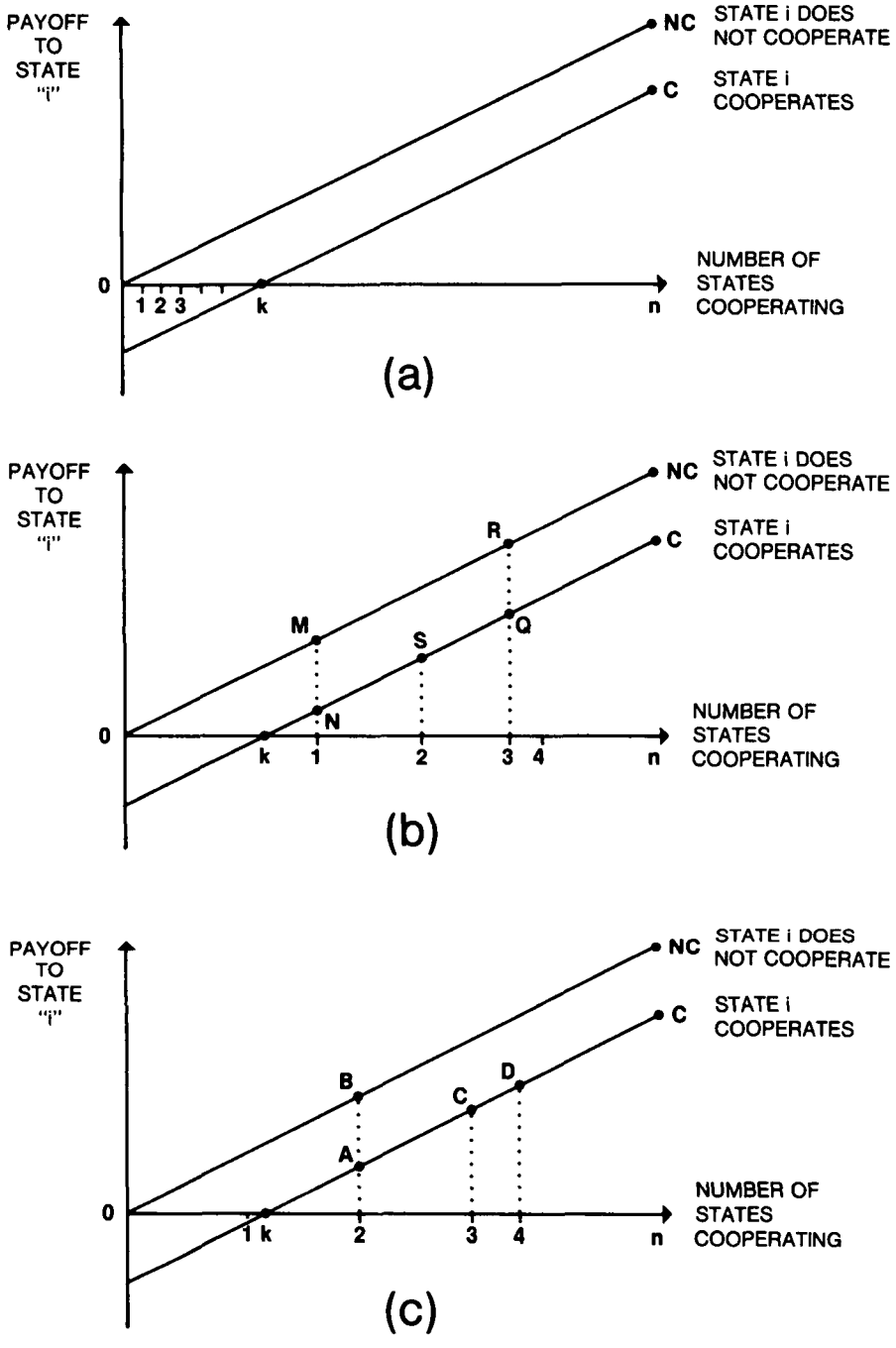

Figure 1 (a-c). *"Schelling" representation and k-groups*

that it is bound to fail and that the prospects for success with the former bargaining position are only slightly better (as I illustrate more rigorously in the next section). However, such conclusions need to be derived *after* incorporating strategic considerations into the analysis, not by ignoring them. Myopic and strategic assumptions lead to similar outcomes in this example, but they do not do so in all cases.

To address Kindleberger's problem of the declining hegemonic power, let us suppose that state 1 "declines." This new situation is depicted in Figure 1c. We need, as argued above, a more precise definition of the relevant concept of size to analyze the impact of decline. Here I use relative size (the total represented by line segment *On* is constant while the relative sizes of states change).[35] As shown, state 1 has declined primarily at the expense of states 2 and 3 whose relative sizes have increased. The group is no longer "privileged," and state 1 will no longer be willing to provide the good by itself. Nor will any other state. The theory of hegemonic stability predicts the demise of the regime.

Analysis of the strategic interrelation of the largest states indicates, however, that predictions of the regime's demise are (in Mark Twain's terminology) "premature." Either state 2 or state 3 (which are the same size) would prefer to join state 1 in cooperating to maintain the outcome at A rather than moving to 0 (with the result that the other states will remain at B rather than returning to 0). If both join with state 1 they will achieve C; D is attainable if they can convince state 4 to join. States smaller in size than 4 are unlikely to be induced to cooperate since they have little impact on the probability of success (i.e., that a k-group able to provide itself a payoff greater than 0 will form) and will be able to take a free ride on others' cooperation. (Of course, they may be forced to contribute if coercive leadership applies.) While it is not possible to specify the outcome more precisely without a richer description of the strategic relations between states (presented in the next section), it is clear that these states will have a strong incentive to find some way to achieve collective action. And, because of this incentive, the theory of hegemonic stability is likely to be wrong. Not only might cooperation persist after the decline of the hegemonic power, the degree of cooperation might well increase (e.g., from N in Figure 1b to C in Figure 1c).

Understanding the impact of hegemonic decline requires information about the size distribution of states that goes beyond the mere preponderance or nonpreponderance of the dominant state. The size of the next-largest states

35. Changes in absolute growth can be represented by changes in the length of *On* and the "unit" sizes for individual states. Alternatively, if we wish to maintain relative sizes on the horizontal axis (as in Figure 1c), the impact of changes in absolute size can be indicated by rotations of the C and NC payoff curves around their respective y-intercepts. Positive (average) growth rates result in counterclockwise rotation, which raises the two curves, easing the problem of cooperation by lowering the size of the minimum k-group regardless of changes in relative size. Conversely, negative absolute growth will make cooperation more difficult.

and of the minimum k-group must also be examined. In the postwar period, for example, the decline in the importance of the United States in the global economy has been balanced by the rising importance of Japan and West Germany. The relative size of the largest state has declined, but the aggregate size of the top three states has not changed appreciably.[36] Moreover, the problem of organizing a k-group of up to three states is likely to have been simplified by the ongoing relations and the institutional framework developed among these states under American hegemony. Therefore, the failure of the current economic regime to fall apart need not rest on an ad hoc appeal to "leadership lag"; it can be understood as a straightforward result of collective action by self-interested states.

The above analysis has used the *relative* sizes of states as the relevant concept of size while presenting its arguments in terms of the benevolent leadership model. This seems something of a mismatch because the benevolent leadership model implies an emphasis on absolute size, but it is faithful to recent discussion about hegemonic decline. For the benevolent leadership model in situations of general growth, the impact of the relative decline of the hegemonic power will be offset by its absolute growth. The growth of secondary powers will further help to reduce the minimum size of the k-group necessary for successful collective action. Generalized growth will have a similar though smaller impact in the coercive leadership model because there absolute size is of secondary importance to relative size.

The possibility that collective action may substitute for a decline in hegemonic leadership also applies to the coercive leadership model, but a different interpretation of the model is needed: states in the k-group, in addition to contributing to the public good, must coordinate their coercive capacities to enforce contributions from other states. In principle this seems no more difficult than other forms of collective action. If coercion is overt, hegemonic military alliances are required; if coercion is passive or indirect, it may operate through the same international regime institutions (e.g., IMF, GATT) that a hegemonic actor might employ. Because the coercive leadership model involves a redistribution of "free ride" benefits away from noncooperators, however, the payoff curves C and NC in Figure 1 inaccurately represent the payoffs to states not included in the k-group. In large part this is because these states are not expected to cooperate but to acquiesce. Since they are not part of the collective action in providing the regime, their payoffs are irrelevant as long as they are not so dissatisfied as to upset the regime. Full modeling of the coercive leadership model must await a more precise elaboration of it.

36. For example, the U.S. share of GDP for all OECD countries has dropped from 51% to 35% in the 1960–80 period while the share of the largest three countries (the countries involved have changed in the period) has dropped only from 65% to 62%. The corresponding figures for export share are 25% to 18% and 51% to 45%. The combined share of the United States, West Germany, and Japan has risen slightly in both categories over this period. For a thorough analysis of whether there has been a decline, see Russett, "The Mysterious Case."

b. A numerical example of the decline of a hegemonic state

A more formal game model of public goods provision, one that examines the distributional issues in detail, illustrates the impact of strategic interaction among states. The strategic situation depicted below loosely approximates the interrelations on economic issues among the United States, West Germany, and Japan but remains only a hypothetical numerical example. Including different numbers of states, varying the properties of the good, or changing the payoff functions would alter the situation. Nevertheless, the example, while arbitrary, serves to highlight the logical possibilities with which hegemonic stability theory needs to contend. (The numerical data used in the example are presented in Tables 2–4.)

Consider a three-actor game of public goods provision involving a dominant hegemonic actor designated US and two equal-sized subordinate actors, WG and J. Other states in the system will be ignored; they are free riders and do not contribute to the good. All states benefit from provision of the good regardless of who provides the units. But the benefits received by a state are proportional to its size: larger states benefit more from provision of the good than do smaller states. Finally, there are declining marginal payoffs (utility) from successive units of the good while its unit cost is constant (at 6). These conditions are reflected in the payoff schedule in Table 2, which I shall use throughout this example.

States are now in a position to decide whether to contribute to provision of the public good. Following the simplifying assumption of the previous example, each state can choose either to cooperate or not to cooperate. If a state contributes to the good, it does so in proportion to its size. For example, if the three states are in the size ratio 8:2:2 then cooperation means they contribute 8, 2, or 2 units of the good, respectively. If a state chooses not to cooperate, it makes no contribution toward the good.[37] Self-interest, as reflected in the maximization of net payoff, is the sole criterion for making this choice. However, in deciding upon its course of action, a state will act strategically by taking into account the impact that its choice will have on the behavior of other states. Thus a state may agree to cooperate provided that other states will also cooperate—although such cooperation can be enforced only if states find it in their interest to continue it.

Table 3 shows the calculations that confront individual states or combinations of states given the actions of other states. For example, Column 4 outlines the incentives facing a prospective coalition of US with either WG or J under the condition that no state presently provides the good. Since the cost of 60 to the coalition in cooperating to provide ten units of the good (i.e., eight by US and two by WG or J, at a cost of 6 per unit) is less than

37. The complexities of bargaining introduced by "partial" contributions toward the good are not ignored. They are reintroduced in the discussion of bargaining over the distribution of net benefits of collective action.

TABLE 2. *Schedule of payoffs for numerical example*

Number of Units	*Marginal Benefits*	*Total Benefits*	*Total Benefits to Country of Size*			
			2	*3*	*6*	*8*
1	1.1	1.1	2.2	3.3	6.6	8.8
2	1.05	2.15	4.3	6.45	12.9	17.2
3	1.0	3.15	6.3	9.45	18.9	25.2
4	.95	4.1	8.2	12.3	24.6	32.8
5	.9	5.0	10.0	15.0	30.0	40.0
6	.85	5.85	11.7	17.55	35.1	46.8
7	.8	6.65	13.3	19.95	39.9	53.2
8	.75	7.4	14.8	22.2	44.4	59.2
9	.7	8.1	16.2	24.3	48.6	64.8
10	.65	8.75	17.5	26.25	52.5	70.0
11	.6	9.35	18.7	28.05	56.1	74.8
12	.55	9.9	19.8	29.7	59.4	79.2

Note. The assumed marginal benefit schedule is given by the linear formula $MB = 1.15 - .05q$ where q is the total number of units of the public good provided and MB is the increment of benefit provided by the q^{th} unit. Total benefit is simply the sum of marginal benefits for units $1, \ldots, q$ of the good for a state of "unit" size. The last four columns give the total benefit for states of different sizes obtained by multiplying total benefits by the size of the state.

the benefit of 87.5 they will receive (i.e., 70 for US plus 17.5 for WG or J as shown in Table 2), the coalition could achieve a net gain of 27.5 if it forms (Row C of Table 3). But a positive gain does not necessarily indicate that a coalition will form. That decision depends on the comparison of potential gains from this coalition with the gains available from alternative coalitions that each state could join. Moreover, although the stipulated restrictions on how the public good is provided and consumed seem to determine the distribution of net benefits, this distribution can be altered by various side-payments between states. (The issue of side-payments is complicated. They could be arranged through agreements on different cost-sharing schemes or through linkage to other issues. I shall not explore the topic in detail here.)

The final outcome for the coalition {US + WG/J} equals the sum of the payoff it can obtain for itself plus any "free ride" it receives from contributions to provision of the good by nonmembers of the coalition (Row D in Table 3). In the present case no other states are cooperating, so there is no free ride and the coalition's total payoff (Row E) is simply the net gain it provides itself by forming. Since the coalition receives more from cooperating (Row E) than free riding (Row D), it will form *if* the precondition that no other states will contribute to the good is valid. The *value* of this coalition is circled in the table and can be designated as $V\{US + WG/J\} = 27.5$. Other coalitions

TABLE 3. *Strategic interaction over public goods provision when state size ratio is 8:2:2*

	No Other States Cooperate				*US Cooperates*		*All Cooperate*
	US (1)	*WG/J* (2)	*WG+J* (3)	*US+WG/J* (4)	*WG/J* (5)	*WG+J* (6)	*US+WG+J* (7)
A. Cost of Cooperation	48	12	24	60	12	24	72
B. Benefit from Cooperation	59.2	4.3	16.4	87.5	2.7	10	118.8
C. Net Gain by Cooperating	11.2	−7.7	−7.6	27.5	−9.3	−14	46.8
D. Free Ride	0	(0)	(0)	0	(14.8)	(29.6)	0
E. Total Payoff if Cooperate	(11.2)	−7.7	−7.6	(27.5)	5.5	15.6	(46.8)

1. Row C = Row B − Row A. Row D gives coalition payoff when it does not contribute to provision of the good and the condition described in the column heading applies. Row E = Row C + Row D and gives the total payoff for cooperating states when the condition described in the column heading applies.

2. Units of the public good cost 6 each and states must either contribute a fixed number of units (proportional to their size) or else not contribute. For example, US whose size is 8 must contribute either 48 or zero.

3. "Benefit from cooperation" refers to incremental benefits of a state or coalition contributing given the prevailing levels of other states' contributions. Since contributions are lumpy, this is not equivalent to the marginal benefit of a single additional unit of the good.

4. The plus sign indicates coalitions; the slash indicates "or" and represents situations where the column describes the similar situation facing either of two states acting in isolation.

5. The circled payoff in one of the last two rows indicates the optimal choice under the conditions described in the column.

may do better by not cooperating and by free riding. For example, Column 5 shows that WG and J each do better by not contributing to the good *given* that US does contribute (i.e., V{WG/J} = 14.8 by free riding on US provision).

The values of the coalitions in Table 3 can be collected to form a (modified) characteristic function representation of this three-actor game.[38]

38. This is a modified version of the standard characteristic function. The value of each coalition is determined not by the worst conceivable outcome (as in standard characteristic functions) but by the likely outcome in an analysis of the strategic situation. For example, if J or WG does not cooperate in this example, the worst that could happen is that none of the public good is provided and each receives a zero payoff. The more likely eventuality from an analysis of the situation is that each will receive the benefit of a free ride on the contribution of US.

Value of Coalition	*Comment (See Table 3)*
$V\{US\} = 11.2$	Without cooperation from others US will make the group privileged (Column 1).
$V\{WG\} = V\{J\} = 14.8$	J and WG will free ride on US in the absence of collective action (Columns 5, 2).
$V\{US + WG/J\} = 27.5$	US cooperation with one of WG or J is unlikely as discussed below (Column 4).
$V\{J + WG\} = 29.6$	J and WG do better by individually free riding on US than by cooperating (Column 6, 3).
$V\{US + WG + J\} = 46.8$	Cooperation of all through collective action is problematic as discussed below (Column 7).

In the absence of cooperation the group is privileged. Since US receives sufficient benefit, it will unilaterally contribute to the good even if other states do not. From this baseline outcome we can determine whether any coalition of two or three states will have an incentive to form through collective action.

First, consider the coalition possibilities involving two states. Since J and WG can do no better together than by free riding, cooperation between them is not possible. Coalition with US by either J or WG provides a small improvement over independent action (i.e., $V\{US + J/WG\} - V\{US\} - V\{WG/J\} = 27.5 - 11.2 - 14.8 = 1.5\}$ and hence some incentive for cooperation. However, the one of WG or J that does *not* join this coalition stands to have its free ride increased by an even greater amount (i.e., $17.5 - 14.8 = 2.7$). Thus continuing to take a free ride provides nearly twice the gain from cooperating even if the other, cooperating country receives *all* of the joint gains of cooperation with US. These incentives for both WG and J not to cooperate make two-state coalitions improbable.[39]

Prospects for collective action must therefore depend on the possibility of forming a coalition of all three states. This grand coalition can achieve net gains of $[V\{US + WG + J\} - V\{US\} - V\{J\} - V\{WG\} =] 6$. Despite this considerable incentive for collective action, however, cooperation is likely to fail because of a combination of two factors. First, all three states have an incentive to defect. Either WG or J receives a free ride of 17.5 by defecting from the coalition while the other two states continue to cooperate;

39. The problem of "burden sharing" in cooperation further accentuates the difficulties for two-state coalitions in this example. For either WG or J to be net beneficiaries from cooperation, the hegemonic state would have to provide a minimum subsidy (side-payment) of 9.3 against the smaller cooperator's contribution of 12. While US would still gain from such an arrangement, it undoubtedly would provide a source of friction that the hegemonic actor has to provide over three-quarters of the smaller cooperator's "contribution."

TABLE 4. *Alternative schemes for distributing gains from cooperation*

Principle	*Payoffs to {US, WG, J}*	*Comment*
Distribute Payoffs According to Contributions	(31.2,7.8,7.8)	J and WG would prefer to free ride.
Equal Shares	(15.6,15.6,15.6)	Most of joint gain goes to US.
Distribute Joint Gains According to Contributions	(15.2,15.8,15.8)	US treated less well despite making largest contribution.
Equal Shares of Gains	(13.2,16.8,16.8)	
Baseline	(11.2,14.8,14.8)	Inefficient.

US can obtain 32.8 by defecting. The coalition cannot provide a payoff to its members sufficient to eliminate all of these individual incentives to defect (i.e., $V\{US + WG + J\} = 46.8 < 17.5 + 17.5 + 32.8$). Therefore, as agreements can be enforced only through the voluntary acquiescence of individual states, the stability of the regime must rest on the realization that any defection would cause the complete unraveling of the collective action (which follows from the fact that no two-state coalition can succeed, as shown above). Only if states are satisfied with the payoffs distributed by the coalition will the regime be stable because no state will risk causing its destruction by defecting.

The difficulty in maintaining this cooperation arises precisely because of severe problems in determining an acceptable distribution of the coalition's payoff. The problem is sticky because the "baseline" for comparison is itself intuitively inequitable. In this case, the relevant baseline is the value that each state can guarantee for itself in the absence of collective action (i.e., $V\{US\}$, $V\{J\}$, $V\{WG\}$). This baseline distribution of (11.2, 14.8, 14.8) provides collective benefits of 40.8, whereas cooperation can increase collective benefits by 6 to 46.8. But the success of this cooperation depends on satisfying the expectations of individual states so that they participate in the cooperative effort. States WG and J both premise their minimal expectations on the assumption that they will do better by cooperating than by free riding. They will (reasonably) want to share in any group gains achieved through a grand coalition that forms when they begin to contribute to the good. On the other hand, US contributes more than any other state to provide the good and might reasonably expect to do as well as or better than the other countries in the coalition.

To highlight the conflicts raised by these two positions, consider the several possible distributions of benefits that result from the application of different

TABLE 5. *Strategic interaction over public good provision when state size ratio is 6:3:3*

	No Other States Cooperate				*US Cooperates*		*All Cooperate*
	US (1)	*WG/J* (2)	*WG+J* (3)	*US+WG/J* (4)	*WG/J* (5)	*WG+J* (6)	*US+WG+J* (7)
A. Cost of Cooperation	36	18	36	54	18	36	72
B. Benefit of Cooperation	35.1	9.45	35.1	72.9	6.75	24.3	118.8
C. Net Gain by Cooperating	−.9	−8.55	−.9	18.9	−11.25	−11.7	46.8
D. Free Ride	(0)	(0)	(0)	0	(17.55)	(35.1)	0
E. Total Payoff if Cooperate	−.9	−8.55	−.9	(18.9)	6.3	23.4	(46.8)

See notes to Table 3.

principles shown in Table 4.[40] These alternatives indicate the extreme difficulty inherent in determining a reasonable distribution of payoffs. The demand by WG and J that they gain through their cooperation cannot be easily reconciled with a demand by US that the ultimate outcome reflect its much greater level of contribution. (The conflict becomes even more severe when using other criteria. For example, if we take "per capita" benefits by controlling for size, citizens of US receive only one-quarter the net benefits received by citizens of WG and J even under the "equal shares" criterion.) Despite the opportunities for joint gains, these difficult bargaining problems make it unlikely that a cooperative arrangement will emerge. Instead, the group is likely to operate as a privileged group (as we would expect from hegemonic stability theory) with US bearing the burden of provision and other countries free riding.

Now consider the impact of a decline in the hegemonic power. Viewing size in relative terms, let the size distribution of the three largest powers change from 8:2:2 to 6:3:3.[41] The incentives facing various coalitions are

40. The different distributions could be achieved either through side-payments or through states (relaxing the simplifying assumption used above) varying their levels of provision of the good. Without such possibilities for redistributing the gains from collective action, cooperation will not occur since the distribution that results (in the first row of Table 4) does not provide incentives for WG or J to participate.

41. Since we implicitly hold the size of the system constant in the numerical example, this change means that the hegemonic power has declined in absolute terms while the two subordinate powers have grown. The benefit table is constructed to hold the overall gains from cooperation for the group constant. These assumptions about the nature of the hegemonic decline make cooperation substantially more difficult than the sort of "decline" that the United States is alleged to have experienced by proponents of the theory.

tabulated in Table 5 and the corresponding characteristic function can be derived as before.

Value of Coalition	*Comment (See Table 5)*
$V\{US\} = 0$	US will not make the group privileged (Column 1).
$V\{WG\} = V\{J\} = 0$	J and WG cannot free ride and have no incentive to contribute by themselves (Columns 5, 2).
$V\{US + WG/J\} = 18.9$	US cooperation with one of WG or J is viable but unlikely as discussed below (Column 4).
$V\{J + WG\} = 0$	Cooperation between J and WG is not profitable regardless of what US does (Columns 6, 3).
$V\{US + WG + J\} = 46.8$	Cooperation of all through collective action is quite likely as discussed below (Column 7).

In this new situation no individual state will contribute to the good unless others also contribute. Of possible two-actor coalitions only those including US can provide a net gain. However, it is unclear that such a coalition will ever form. Both WG and J will seek to take a free ride and shift the costs of cooperating with US onto the other. Their incentives to do so are great since the value of a free ride to *either* of them (24.3) as shown in Table 2 exceeds the total benefits to be shared between *both* members of the cooperating coalition (18.9). Similar considerations will impair the stability of the coalition should it form, even though defection by a cooperating state may lead to complete dissolution of cooperation and a loss for all states. Thus cooperation through two-state coalitions is unlikely.[42]

Surprisingly, the improbability of cooperation in two-state coalitions improves prospects for cooperation of all three states. This grand coalition offers a net payoff of 46.8 but is still vulnerable to defection. US defection destroys the coalition, but either WG or J can defect to obtain a payoff of 24.3 *if* the others continue to cooperate. Since the grand coalition's payoff cannot cover this amount twice over, direct incentives to prevent defection cannot be provided. Therefore the hope for the coalition must rest with the

42. A purely logical argument could be substituted for the more empirically oriented argument of this paragraph to show why two-state coalitions are unstable. If such a coalition (including US and one of WG or J) does form, then provision of the good is not impeded by the decline of hegemony since provision actually increases from 8 to 9 units. Thus hegemonic stability theory *requires* that these coalitions be unstable. In the next paragraph I show that *if* this assumption is correct, *then* the grand coalition is likely to form. Hegemonic stability theory is in either case contradicted by the example since the level of provision rises as hegemony wanes.

strategic rationality of states and their realization that defection will lead to the complete collapse of cooperation.

The strategic structure of the situation indicates that collective action involving all three states is likely to be successful and stable. US knows that its defection will end all cooperation; if either J or WG defects it runs a severe risk of destroying the coalition because the resulting two-state coalition is unstable. This potential loss is large because the baseline (i.e., the minimum guaranteed payoff if collective action fails) is (0, 0, 0) instead of the (11.2, 14.8, 14.8) baseline faced when the group was privileged. Regardless of how the 46.8 payoff of the grand coalition is distributed, this new baseline provides large incentives to organize and maintain collective action. Bargaining over the exact distribution is sure to be intense, but the contending positions and principles will not be as incompatible as in the earlier case.[43] Therefore the decline of hegemonic power will facilitate collective action by increasing its importance and changing the strategic interrelations of the actors. Further, it will lead to an outcome collectively superior to that which occurred under the dominance of the hegemonic power (i.e., 46.8 instead of 40.8 when US provided WG and J with a free ride) and one that may even have preferable distributive characteristics. The theory of hegemonic stability needs to be revised to incorporate the possible impact of collective action in such situations.

One of the insights of n-person game theory is that when the power (i.e., the value) of individual actors and coalitions of intermediate size is small, then the grand coalition is more likely to be viable.[44] Hence collective action fails when the size distribution is 8:2:2 but succeeds when it shifts to 6:3:3. The presence of a hegemonic actor is deleterious to collective action because the hegemonic actor has the power to provide the good itself without collaborating with other states. Subordinate states also have power because they can count on obtaining a free ride. Hegemonic decline weakens both sources of power and strengthens the possibility of collective action by forcing states to cooperate if they wish to achieve reasonable outcomes. However, this observation needs to be balanced by the insight of the previous section that too precipitous a decline in the size of the hegemonic actor and other large states may increase the size of the requisite k-group and impede collective action.

The analysis of asymmetry in international politics requires that we do more than just look at the largest actor. The impact of the size-distribution of states depends on the size and strategic interaction among possible k-

43. Consider the distribution principles proposed in Table 4. The first and third principles now both result in a (23.4, 11.7, 11.7) payoff while the second and fourth lead to a (15.6, 15.6, 15.6) payoff. While there will still be some dispute, the bargaining range is less than in the previous case *and* none of the states can afford not to agree on some distribution since the baseline is so undesirable.

44. Shubik, *Game Theory*.

groups. In its present form the theory of hegemonic stability covers only one special (though certainly important) case—one large actor and many small ones such that k = 1—where collective action is irrelevant. The theory needs to be expanded to cover broader and more diverse circumstances with different strategic settings where collective action is (sometimes) possible. Such an approach will be complicated; it is unlikely to produce as simple yet sweeping a conclusion as that promised by hegemonic stability theory. Its only justification is that it will do a better job in explaining the success and failure of international cooperation and regimes.

Returning briefly to Kindleberger's problem, this analysis shows that his pessimism is not well-founded and his distress is premature. There is no reason to expect that a decline in hegemonic power will lead to the collapse of economic order. Secondary powers will be willing to participate in collective action provided that they have incentives to avoid the collapse of the regime—which follows both from his assumption that they benefit from it and from the observation that they are sufficiently powerful to have an impact on it. This changed strategic situation may even lead to higher levels of cooperation. So we do not need any "leadership lag" to explain why Kindleberger's prediction of regime demise has not come true. The stability of the current economic order is well explained by the incentives of the major Western economic powers to maintain it. To be sure, there has been friction and tough bargaining, but there has been no collapse or even significant weakening of the regime. Collective action has taken up where hegemonic power left off.

4. Conclusion

The theory of hegemonic stability is a special case, one whose general applicability needs to be carefully circumscribed. My examination of the logical underpinnings of the theory, accompanied by some concern for the empirical referents and implications of the theoretical argument, suggests directions for further elaboration of the conditions under which cooperation will emerge with regard not only to the existence of hegemony but also to the other assumptions about international politics contained in the theory. It also raises important questions about the performance of hegemonic regimes and collective action in promoting international cooperation.

A first consideration is the distribution of benefits, or the "publicness," of cooperation in various issue-areas. The appeal of hegemonic stability theory is that it points out how dominance may be reflected in "leadership" rather than exploitation. It is not surprising, therefore, that adherents of the theory have expressed concern about the decline in American hegemony and the decrease in global order. But some of that disorder reflects dissenting views as to the virtues of American leadership and of the order associated

with Pax Americana. In particular, some Third and Fourth World states have viewed American leadership more as a private club than as a public good. A more effective dissenting group has been the oil-producing states, which have used sectoral clout to gain a share of the benefits of hegemonic cooperation. Even other advanced industrial countries, the prime beneficiaries of hegemonic leadership, have shown ambivalence over the merits of American leadership and have sought a progressively greater role in determining regime outcomes. Thus the deeper question is whether there really has been a decrease in order as opposed to a decrease in American control over order. Regardless of one's answer, international attitudes reflect more fundamental doubts about the publicness of the benefits associated with American hegemony.

The assumption that goods are public therefore requires more critical scrutiny than has been customary. Given the richer possibility of alternative regimes, the relationship of different orders to the interests of states and the distribution of benefits among them needs to be addressed. Different issues will pose different degrees of publicness or even fundamentally different strategic structures not addressed in hegemonic stability theory. The analysis of the impact of different distributions of interest and capability needs to be extended to these other situations of strategic interdependence. Here, the benevolent and especially the coercive models must be elaborated to address the presumed correlation between interest in and capability for promoting international cooperation and to clarify the relation between absolute and relative size in the theory. This elaboration will lead to a better understanding of the circumstances under which hegemony will be exploitative and the conditions under which hegemonic actors will be constrained to operate in the more general interest. In brief, the content as well as the amount of cooperation needs to be considered.

Since collective action can provide an alternative basis for cooperation, the possibility of and requirements for collective action also need to be built into the analysis. Relevant considerations include the strategic interactions and bargaining problems that I have addressed here only in terms of the particular example; they may impede collective action in many situations. Other considerations such as the impact of linkage (to other issues and to the same issue through time), the possibility of excluding noncooperators, or the evolving nature of international interdependence and regimes may enhance prospects for collective action. In terms of hegemonic stability theory these concerns are brought together under the central question of how the distribution of interests and capability affects possibilities for collective action. While dominance by a single actor may not be necessary, models of collective action indicate that *some* asymmetry may be useful in reducing the number of states whose participation is necessary for cooperation to succeed.

But collective action among a few large states to preserve "hegemonic cooperation" after hegemonic decline should not be seen as a panacea. To

be sure, collective leadership will have virtues in tempering the idiosyncratic tendencies of individual leaders, but a collective leadership may well have particularistic interests of its own—especially when, as in the present era, leadership rests in a group of states that is from a global perspective fairly homogenous. We do not know under what conditions such a system of international organization might produce truly public as opposed to more private benefits. Indeed, differential capacity to organize collectively becomes an important power resource for states pursuing interests that are public to their group but private from other states. Again, the quality of collective action cannot be evaluated without a better understanding of the implied distribution of benefits.

Thus how much asymmetry is beneficial to whom and under what circumstances is as fundamental an issue for political economy as it has been for the study of international conflict. Hegemonic stability theory suggests a way of bringing these different branches of international relations together into a common theoretical focus. The question of when hegemony—whether by a single state or by a condominium of states—will be benevolent, coercive but still beneficial, or simply exploitative cuts across subfield boundaries. There can be no single neat answer to that question, and the virtues of asymmetry will vary across different issues according to their various properties including the potential for collective action. The common presumption of recent analyses that hegemony is widely beneficial rests on such special assumptions that it should be rejected. Viewed as a beginning rather than as a reliable conclusion about international politics, however, the theory of hegemonic stability and its limitations may provoke us toward a better understanding of the bases of international cooperation.