The discussion about inputs for state power clearly underscores the fact that few—if any—such elements exist in raw “natural” form. Rather, these inputs are actually “intermediate goods,” that is to say, resources created by prior societal or state actions with an eye to being incorporated in the production of still other “final goods.” While the nature of the final goods is invariant in the realm of international politics—effective military instruments—the paths to their production may vary depending on the state-society structures of the country that produces them. A country with a strong society–weak state structure might seek to produce these intermediate goods mainly in order to produce commercial goods demanded by its civil society. A country with a strong state–weak society structure, in contrast, might concentrate on these intermediate goods simply in order to maximize the production of military instruments that enhance its national power in the international arena. Since the framework for measuring national power adopted here does not privilege one pattern of state-society relations or another, it does not matter how effective military capability is produced. It could be produced either indirectly, as a by-product of commercial endeavors (as in the case of countries with a strong society–weak state structure), or it could be produced directly (as in the case of countries with a strong state–weak society structure). Because effective military capability can be produced so long as a minimally effective state or a minimally effective state-society complex exists, the analytical task now consists of describing what exactly the predicates of these terms actually are.
This section of the framework, therefore, focuses on identifying and analyzing the mechanisms that enable countries to first produce the required inputs discussed above and then to convert these inputs into tangible, usable, national power in the form of effective military forces. As illustrated in Figure 9, it seeks to describe both those elements which motivate a country to produce the intermediate and final goods identified above and those variables which depict the levels of state and societal performance necessary if these intermediate and final goods are to be produced efficiently.

A country’s ability to effectively produce these goods in the postindustrial age is seen to invariably derive from three factors: (1) the external constraints emerging from the international system; (2) the infrastructural capacity of its governing structures, “the state”; and (3) the ideational resources embedded in its state-society complex. Each of these variables will be analyzed in turn.

EXTERNAL CONSTRAINTS

All countries—nominally—have a choice about whether to acquire effective military capabilities. In practice, however, a country’s freedom to choose is constrained by many factors, especially “structural” ones which refer to a country’s spatial and hierarchic location in the international system. As Karen Rasler and William R. Thompson put it, “Political actors are free to make choices, but their choices are constrained by many factors.”

Figure 9—Factors Affecting National Performance
shaped by the structures and history they and their predecessors have made.”¹ The historical record of international politics suggests that countries that fail to acquire effective military capabilities are threatened by a loss of security and autonomy, so not surprisingly, state managers invariably concentrate on developing the most effective military instruments possible either by exploiting the resources of their civil society or by producing these resources directly. The fate that befell 19th century China provides a good illustration of what can happen if a state ignores structural constraints.

The pressures on survival that emanate from the international system are thus the starting point for understanding how external pressures constrain countries to acquire effective military capabilities. The international system is no doubt a complex and multifaceted environment best described as a self-help system in which countries are concerned first and foremost with their survival.² In addition to self-help, however, the system has other disconcerting characteristics. It is characterized by: impure anarchy, which implies that entities vary in size and effective capabilities; the uncertainty of intentions, which implies that countries are never quite sure of the true objectives pursued by their competitors; the presence of varying growth rates, which implies that today’s pygmies may become tomorrow’s giants and vice versa; and uncertainty about the possibility, effectiveness, and durability of alliances, which implies that today’s friends either may not remain friends or may not be very effective in providing for a common defense. In such an environment, where there is uncertainty about the level of effective protection available over time as well as about the future capabilities of other competitors, countries will experience varying degrees of insecurity as a result of the constantly shifting power relationships in the international system.³

²Waltz, Theory of International Politics, pp. 107, 127.
³This argument relating to the logic of domination, and those in the following six paragraphs, is amplified in Ashley J. Tellis, The Drive to Domination: Towards a Pure Realist Theory of Politics, unpublished Ph.D dissertation, The University of Chicago, 1994.
Each country will, therefore, seek to reduce this insecurity to the maximum degree possible—either through external balancing or internal growth or both—and this implies that it will attempt to increase its military capability to the maximum extent over and above that possessed by others. But because the military capabilities of countries constantly change, thanks to shifts in internal growth rates and/or balancing alignments, the struggle to reduce insecurity inevitably translates into a restless drive to continually strengthen one’s own power capabilities while simultaneously enervating those of others. This dynamic persists because a country can be completely safe only when it is superior and not equal to or weaker than its competitors. As a result, while external balancing may appear as the necessary behavior of weaker countries designed to ensure security in the first instance, maintaining balances cannot be the structure-engendered imperative sufficient to ensure durable national security in perpetuity.

This conclusion may be further elaborated in the following way: In a competitive environment, where security is finite and where safety is a function of possessing a differential advantage in relative military power, a strategy of ensuring balances alone—that is, being merely strong enough to equalize another entity’s power—cannot suffice. Such equalization of power inevitably provokes mutual anticipatory violence; it puts a premium on quickly developing strategies that produce victory even in the absence of superior numbers; and it inevitably results in the unavoidable elimination of some competitors in the short run. Since no country prefers to be such an eliminated competitor, it is obvious that none will be content with equalizing balances to begin with. Even if the phenomenon of mutual anticipatory violence (together with its disastrous consequences for some) is momentarily overlooked, it is evident that equalizing power as a strategy of guaranteeing survival is just as, if not more, problematic over the long run. This is because a country can never be certain that the present capacity to harm possessed by its competitors will not increase over time, thanks to either internal growth, external alignments, or external conquests. If such potential increases in coercive capacity do in fact accrue to another country diachronically, it would create a situation where both the scarce resources available systemwide and the military protection possessed by a particular country will decrease at some foreseeable point in the future. Given
this possibility, no country can be fully reassured simply by the pos-
session of equalizing military capabilities today.

More important, however, no country can be fully reassured even if it
has military capabilities superior to those of its competitors, because
in a situation defined by uneven international growth (whether
accruing from internal development, external alignments, or external
conquests) and uncertainty about where and when such growth
takes place, countries would fear that their present superiority and,
by implication, their future security could be at risk at some eventual
point in time. As a result, both equalizing another’s power and being
presently superior to another does not guarantee the future security
that all countries, which are “global” maximizers, necessarily seek.

This global maximization of security can be ensured only if a country
can be stronger than other countries all the time, or in other words,
only when a country enjoys permanent superiority over others. Even
though such permanent superiority may be unattainable, given that
uneven international growth is the norm in international politics, the
structure of security competition nonetheless condemns every coun-
try to attempt seeking it. This quest for permanent superiority ac-
quires particular saliency because seeking anything less may entail
elimination—an unacceptable alternative because every rational
egoist, both isolated individuals and organized entities like countries,
fears above all, in Hobbes’ words, that “terrible enemy of nature,
death, from which [it] expect[s] both the loss of all power, and also
the greatest of all bodily pains in the losing.” Given the unpalatable
choice between the worst outcome of elimination and the lesser but
still highly repellent outcome of subjugation (or the loss of auton-
omy), it is no surprise to find that each country—in an effort to avoid
both choices—continually strives to increase the margins of available
power relative to others. That is, each country tries to maximize its
own protective capabilities at the expense of others at every moment
in time either by eliminating or subjugating or subordinating as
many of its competitors as it presently can, all while continuously

4The notion of “global” maximization essentially refers to the desire of agents to
maximize certain values not across space but across time. “Global” maximization,
thus, refers to intertemporal maximization in contrast to “local” maximization, which
is oriented to maximizing certain values at a given point in time.

attempting to increase its internal growth to the maximum possible level. Every country—whether strong or weak—therefore seeks to dominate the international system where and while (and to the extent) it can, simply in order to preemptively forestall the possibility of being decisively disadvantaged with respect to security during some future period. The structure constrains this behavior; what simply differs is how it is carried out. The strong, because they can, strive to dominate alone. The weak, because they must, attempt to either ward off domination by others or seek to dominate themselves through transitory mutual collaboration.

The logical necessity of striving to dominate thus derives essentially from the fact that domination promises a greater degree of protection and autonomy when shifts in protective and coercive capabilities are constantly occurring throughout the international system at uneven and unpredictable rates. Nicholas Spykman, for example, captured this insight succinctly in the following terms:

The truth of the matter is that states are interested only in a balance which is in their favor. Not an equilibrium, but a generous margin is their objective. There is no real security in being just as strong as a potential enemy; there is security only in being a little stronger. There is no possibility of action if one’s strength is fully checked; there is a chance for a positive foreign policy only if there is a margin of force which can be freely used. Whatever the theory and rationalization, the practical objective is the constant improvement of the state’s own relative power position. The balance desired is the one which neutralizes other states, leaving the home state free to be the deciding force and the deciding voice.6

Similarly, Robert Gilpin, corroborating this argument further, notes that structural necessity “stimulates, and may compel, a state to increase its power; at the least, it necessitates that the prudent state prevent relative increases in the power of competitor states.”7

This conclusion, it must be admitted, is derived primarily from a pure theory of conflict where countries, being treated essentially as


7See Gilpin, War and Change in World Politics, pp. 87–88.
“billiard balls” without any historical or locational attributes, are seen to be in incessant competition with one another. In the real world of international politics, however, the vast majority of countries are usually not actively involved in the contentious struggle for order-production witnessed at the core of the international system. While these countries certainly struggle to dominate their local environments in order to continually assure security over time, these struggles go unnoticed for the most part, since they do not affect either the course or the defining outcomes in international politics. These latter developments are conditioned primarily by the actions of the great and the near-great powers, and these entities no doubt deserve the most attention in any analysis of national power, in part because all potential challengers to the United States for global hegemony would come from within these two categories. The conclusion about the universal propensity of all countries to dominate, however, serves as a cautionary reminder against any easy assertion of “strategic exceptionalism” in international politics: while most national actions will never be significant from the perspective of the global system, these actions could indeed have very consequential results if one or more of the currently less well-endowed countries were to dramatically increase their national capabilities at some point in the future.

It is important to recognize, therefore, that the universal structure-constrained dynamic of attempting to dominate brings in its wake two important effects.

First, it results in a pattern of isomorphic behavior, that is, countries are forced to behave similarly with respect to the challenges they face in the production of adequate security. This similarity of response is a product of the pervasive constancy of the constraining structure, and it represents a specific manifestation of the isomorphic pattern identified by organizational theory. Isomorphism explains why organizations, although they perform a myriad of different functions, tend to be alike in form and practice. As Paul Di Maggio and Walter Powell observe, “the theory of isomorphism addresses not the psychological states of actors but the structural determinates of the
range of choices that actors perceive as rational or prudent."8 Isomorphic behaviors are especially likely to occur in realms that are highly structured, where individual entities are subjected to the same environmental conditions.9 Thus, it is not surprising that a similarity of responses from their constituent units is often seen in competitive realms such as the market and in the international political system.10 But these similar responses, it must be noted, have two distinct but related dimensions: "What" is to be done, meaning the kind of response appropriate to the situation, is regulated entirely by the rational calculating nature of the entities that populate the international system. Since every action, however, has both logical and empirical components, individual countries may often need knowledge of others’ successful performance if they are to increase their power adequately. "How" things are to be done, therefore, may be learned or imitated, especially in an environment where information about the "choice of techniques" is either costly to acquire or is imperfectly distributed. Some facets of similar national behaviors (especially those relating to knowledge-related issues connected with the choice of techniques) may, therefore, be attributed to "learning" in international politics. But such "learning" is less an example of "socialization," at least understood as "some kind of training through which . . . [an entity] . . . is led to internalize norms, values, attitudes, roles, knowledge of facts, and know-how that will make up a kind of syllabus designed to be achieved later on, more or less mechanistically,"11 than it is a manifestation of "optimization," where the "observed uniformity among [entitative behaviors], derive[s] from an

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9Ibid., p. 219.

10As Hannan and Freeman observe, "Isomorphism can arise from purposeful adaptation of organizations to the common constraints they face or because nonisomorphic organizations are selected against." Michael T. Hannan and John Freeman, "The Population Ecology of Organizations," *American Journal of Sociology*, Vol. 82, No. 5 (1977), pp. 929-964.

11Boudon and Bourricaud, op. cit., p. 357.
evolutionary, adopting, competitive system employing a criterion of survival, which can operate independently of individual motivations.”12

Second, the drive to dominate forces countries to restructure their domestic political arrangements and their state-societal investment patterns and allocation decisions to maximize the production of those intermediate and final goods necessary for the production of adequate national power. This effect is highlighted powerfully by the “second image reversed” perspective in international relations theory, which posits a linkage between the international system’s structural constraints and a state’s domestic structure. Charles Tilly’s famous aphorism, “War made the state, and the state made war” neatly captures the concept.13 In his historical work, Tilly has showed how the need to protect against external danger compelled countries in early modern Europe to develop administrative and bureaucratic structures to maintain, supply, and finance permanent military establishments. But there is more to it than that: other historical case studies have suggested how the creation of effective military power, especially that connected to great power emergence, actually reflects a country’s internal adjustment to the international system’s structural constraints.14 The German historian Otto Hintze elaborated on this point by observing that the way in which countries are organized internally often reflects “their position relative to each other and their overall position in the world” and that “throughout the ages pressure from without has been a determining influence on [the] internal structure” of countries.”15 Hintze’s discussion of

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Prussia-Germany and England is illustrative. The domestic, political, and economic systems of both these countries developed dissimilarly, in large part because each was affected differently by international pressures. Maritime England, for example, was far more secure relative to continental Germany. But, as is true otherwise, Prussia-Germany and England were very much alike in other crucial respects. That is, both countries organized their state apparatus for war and trade in order to maximize their security in a competitive international environment.

The structural pressures emanating from the international system, therefore, function as the primary motivating influence that causes countries to increase their national power. By forcing countries to attempt domination merely in order to preserve themselves over time, the structure of international politics constrains them to become more sensitive to the character of their resource endowments and military capabilities as well as to the nature of their internal state structures. But because the international system is not composed of equal-sized countries, the intensity of systemic pressures will not be felt evenly among its constituent parts. The larger countries, the more important countries, and the strategically located countries will feel the pressures of structural necessity more than others in large part because they have greater assets to protect or because they possess certain resources that others covet. For these reasons, these countries will devote relatively disproportionate attention to their national power even though the pressure to dominate as a prudent method of ensuring national survival affects all countries in the international system.

The challenge therefore now consists of being able to translate this notion of external pressure into components that are measurable at least in an estimative, if not in a quantitative, sense. Taking cues from the discussion above, these pressures, illustrated in Figure 10, can be assessed along three broad dimensions: the nature of the external threat facing the country, the nature of its state interests, and the nature of its political aims.

16Hintze, “Military Organization and the Organization of the State.”
Since fear is a powerful incentive for countries to increase their national power, countries that are threatened by others—or perceive that they are threatened—are likely to be highly motivated to increase their resources and their military capabilities necessary to enhance national survival. The extent of this motivating fear deriving from external threats can be judged by assessing (i) the number and relative size of the direct challengers or rivals facing the country; (ii) the extent of external support for any internal challenges facing the country; (iii) the extent of any direct sources of friction, like territorial disputes or ideological conflicts; and (iv), the extent of any competitive arms-racing that the country in question may participate in.

Since countries with expanding interests also have strong incentives to acquire or increase their national power, discerning a country’s interests would also provide a way to assess the motivating effects of external pressures. The nature and extent of a country’s interest could be judged along the following lines: (i) its geographic location and the extent of its defensive perimeter, with location identifying its geopolitical value and its defensive perimeter indicating both the areas it must actively defend and those it has an interest in; (ii) the extent of its strategic natural resources (and possibly its composition of trade), these variables indicating whether it has resources that may be coveted by others as well as the extent of its external dependency; (iii) the extent of and commitment to its natural diaspora, indicating the extent of the critical political commitments it may have to service in extremis; and (iv) the relative rate of growth of its projectible military power and its economic strength, with the former
variable indicating the increased risk of conflict with others and the latter suggesting the growing stakes and interests in the international distribution of power, prestige, and wealth which will eventually be defended by means of military instruments.

Since countries with revisionist political aims also have strong incentives to increase their national power, assessing the nature of a country’s political aims also contributes to providing a more complete picture of the external pressures facing a state. Here it is useful to discern whether a country is pursuing the goal of (i) securing radical changes of the established international order through force, or (ii) recovering irredentist claims, or (iii) promoting ideological proselytization. If a country appears to be preparing to use force to alter the geopolitical status quo for any of these reasons, it will in all likelihood not only want to increase its national power but actually want to ensure that its military forces are “ready to go” and have the capabilities to prevail over its likely opponents.17

INFRASTRUCTURAL CAPACITY

War and “state building” are inextricably linked phenomena. The presence of external threat has always been a potent factor driving the consolidation of countries, the rise of great powers, and the internal expansion of state power. External pressures are important because they affect a state’s incentives to develop the political capacity to extract and mobilize assets from its society to support its external policies. It is no surprise, therefore, that research generally indicates that the greater the external pressures, the more highly mobilized a state is likely to be. The more highly a state mobilizes, the greater its ability to penetrate society and to extract wealth from the country at large.18

The impact of external constraints, however, is only half the story. The state still must frame and implement internal policies that will invest it with the political capacity to extract wealth from society. Whether the state in fact is able to acquire this political capacity depends, in large part, on the role of national leadership and institutions. Indeed, as Paul Y. Hammond observed, the question of how much the state should extract from its internal political and economic system to pursue its external goals is both crucial and fundamental. The answer to this question is shaped not merely by the availability of physical resources. Indeed, for most countries, physical resource availability, per se, is seldom a limiting factor. This is especially true in the postindustrial age, when the value of physical resources relative to other inputs has dropped considerably. More important than the availability of physical assets, therefore, is the state’s political capacity to extract wealth from its society in order to develop the comprehensive resource base necessary for a productive economic system. The inability of some states to both adequately extract wealth from their societies and transform that wealth into intermediate goods that can be used to produce effective military instruments gives rise to “the paradox of unrealized power.” The political performance of the state, therefore, functions as the crucial link between potential and effective power, and the discussion in this section focuses entirely on understanding how the political performance of the state ought to be conceptualized and measured.

In discussing issues relating to state performance, it is important to reiterate and amplify the distinction between “country” and “state” drawn earlier. The former term, it must be understood, is essentially iconic and describes an aggregated entity that has spatial dimen-


Jaggers, op. cit., p. 29.


sions, physical resources, population, and governing institutions. The latter term, in contrast, is narrower and, far from being iconic, actually encodes directive capacity since it refers specifically to the governing institutions that preside over the spatially extended entity otherwise labeled the “country.” All discussions involving the term “state,” therefore, refer expressly to the capability of governing institutions and must not be misconstrued as simply another nominalistic expression for “country.”

While the distinction between “country” and “state” is therefore critical, there is little doubt that the latter term is itself “a messy concept,” since it embodies several distinct, though related, elements: (1) differentiated institutions run by its own personnel; (2) central political control of a distinct political territory with political relations radiating outward from the seat of national authority to the rest of its domain; (3) a monopoly of authoritative, binding rule-making; and (4) a claimed monopoly on the legitimate use of coercive force. These differentiated facets notwithstanding, the state ultimately can be understood as a territorially grounded “coercion-wielding organization” that seeks to defend its territory from external threat while simultaneously suppressing challenges to national authority that emanate from within.

Within the territory over which the state presides is society (sometimes called civil society). Society comprises both organiza-

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26Nettl, op. cit., p. 564.
tions and actors, for example: individuals, classes, ethnic and religious groups, villages, and “strongmen.” In this environment, the state constantly seeks to acquire (or, if it has acquired, to maintain) the exclusive power to impose the “rules of the game” on society. As Joel Migdal observes:

> These game rules involve much more than broad constitutional principles; they include the written and unwritten laws, regulations, decrees, and the like, which state officials indicate they are willing to enforce through the coercive means at their disposal. [The] rules encompass everything from living up to contractual commitments to driving on the right side of the road to paying alimony on time. They involve the entire array of property rights and countless definitions of the boundaries of acceptable behavior for people.27

But if the state is weak, the social environment over which it presides will resist all its attempts at imposing the rules of the game. The state, in such circumstances, may be unable to impose the kind of social control that results in “the successful subordination of people’s own inclinations of social behavior or behavior sought by other social organizations in favor of the behavior prescribed by national rules.”28

If the state either cannot or will not impose social control of this sort, it will find itself locked in a struggle with other societal actors for rule-making primacy:

> These struggles are not over precisely which laws the state should enact or how the state’s laws or constitution should be interpreted; these, after all, are decided within state organs, legislatures, and courts. Instead, these struggles are much more fundamental, reaching beyond marginal deviance and beyond the formal roles of any existing political institutions in the society. These struggles are over whether the state will be able to displace or harness other organizations—families, clans, multinational corporations, domestic enterprises, tribes, patron-client dyads—which make the rules against the wishes and goals of state leaders.29

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28Ibid., p. 22.
29Ibid., p. 31.
States that are unable to attain effective social control at this fundamental level will have difficulty in extracting and mobilizing the resources needed to support the country’s external policy, especially those policies mandated by the constraints of international politics which revolve around the imperative to dominate for purposes of assuring security. Indeed, as Mann notes, “a prime motivation for state leaders to attempt to stretch the state’s rule-making domain within its formal boundaries, even with all the risks that has entailed, has been to build sufficient clout to survive the dangers posed by those outside its boundaries, from the world of states.” The interplay between the state and society is thus crucial for understanding whether a particular country will be able to mobilize its resources effectively and convert them into usable military power. As Kugler and Domke convincingly argue,

The foundation of power in the global system is the relationship between state and society. Governments acquire the tools of political influence through the mobilization of human and material resources for national action. However, this linkage is usually overlooked in the literature of international politics, because power politics and the system structure perspective seldom deal with changes in domestic structures and their impact on the global system.

So to assess whether the state is likely to be successful in extracting and mobilizing societal wealth in order to produce the resources necessary to create effective military power, one must be able to analyze the relative distribution of power between the state and society. Here, the standard distinction between “strong” or “weak” states in relation to the degree of social control they exercise over society may be misleading on two counts. First, state capabilities in relation to society are dynamic, not static. This implies that “gaining, exercising and maintaining state capacity is an extremely complicated matter, in which there . . . [is] . . . a perpetual dialectic between the state

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30Ibid., p. 21.


seizing and being granted authority."33 State and societal capabilities vis-à-vis one another will wax and wane over time, and all analyses of state-society relationships must therefore be sensitive to the transitory character of the existing internal national balances of power. Second, often it is not sufficient to say that the state is strong in relationship to society, because state power is usually uneven across policy areas.34 Because a state may be strong with respect to some functional areas but weak in some others, it is necessary to specify the functional areas in which the state is strong, or at the very least it is important to investigate whether the state is minimally effective in the key area of concern to this analysis: national security. Bearing these two considerations in mind, the following discussion will attempt to capture the nature of state-society relations in terms of the concept of "infrastructural" capacity.

The infrastructural power or capacity of a state may be summarized as deriving from the dynamics between state and society over issues of "self-motivation" or purpose. Infrastructural capacity is the power that enables a state to manage, cope with, or otherwise transform internal and external stress in support of its goals.35 Consequently, infrastructural capacity is internal: it is the potential of a state to unilaterally motivate itself to develop its resources toward its goals, and Mann defines it as "the capacity of the state to actually penetrate civil society and to implement logistically political decisions throughout the realm."36 The character and extent of a state’s infrastructural power is critical for the production and transformation of resources that allow it to both dominate the cycles of economic innovation and develop the requisite hegemonic potential in the form of effective military capabilities such that a state with greater infrastructural capability will be better equipped to develop these foundations of national power in comparison to a state with

34Theda Skocpol, "Bringing the State Back In: Strategies of Analysis in Current Research," in Evans, Rueschemeyer, and Skocpol (eds.), Bringing the State Back In, p. 17. As Krasner notes, "There is no reason to assume a priori that the pattern of strengths and weaknesses will be the same for all policies." Krasner, op. cit., p. 58.
35Mann, op. cit.
36Mann, op. cit., p. 189.
less infrastructural capability. Greater infrastructural power thus translates into greater economic and military capability which, in turn, translates into greater national power. As illustrated in Figure 11, a state’s infrastructural capacity is manifested along two broad dimensions.

Self-Control

The first dimension of infrastructural capacity is the ability of the state to define its goals. This ability, which can be termed self-control, is often overlooked or assumed away since it is usually supposed that countries are rational, unitary actors with purposive goals that are both easily recognized and consistently pursued. Moreover, it is assumed all too easily that there is a consensus among state managers charged with the pursuit of these goals. In theory, therefore, countries are often simply assumed to have self-control. What is assumed in theory, however, is often not evident in reality. In prac-

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37It should be noted, however, that infrastructural power, an internal power to shape its destiny, is distinct from a state’s power relative to other states. Such relative power also bears on the way a state develops resources, and this dynamic is addressed under the rubric of external constraints.

38Self-control, or the power to set goals, is not the same as the power that determines the content of the goals a state sets. This distinction is important because it suggests that effective state capacity requires at least two different kinds of capability: the ability to define goals, and the ability to define the content of those goals in a manner conducive to the predicates of power in the postindustrial age. The ability to define the content of the goals in a manner commensurate with the postindustrial age draws more on ideational resources than on infrastructural capacity, and will be discussed in a later section.
Figure 12—“Self-Control” and Illustrative Indicators

tice, the interactions between the two spheres of state and society are generally quite disorderly, and together they are not necessarily predisposed to controlled goal-setting. Further, the state itself generally consists of numerous, graded hierarchies rather than a single locus of decisionmaking and leadership. And while the boundaries of the state vis-à-vis society are obvious in theory, in practice these boundaries too are subject to the pressure of societal persuasion in the face of changes in state strength. Finally, societal pressure groups also have disparate, often contradictory, goals in themselves. The end result of all these factors is that the impulses contributing to the definition of national goals do not necessarily, or even frequently, converge. Given all of this, a state’s ability to recognize and articulate goals for itself should not be taken for granted in any serious analysis of national power.

Extent of elite cohesion. The extent of a state’s capacity for self-control therefore merits independent analysis, and this requires an understanding of the sources of that control. Since this variable refers to the ability to engage in effective goal-setting, it must almost by definition be rooted in the structures, framework, and processes of societal decisionmaking. More specifically, the societal decision-making context most relevant to the capacity for self-control is the public sphere of politics, since the very existence of a “national project,” or a set of specific goals and objectives, presupposes the
acquiescence, if not the approval, of the most powerful sector of society. This implies that the state’s capacity for self-control is inexorably a function of the coherence exhibited by its political elite, an entity that can be defined as those individuals or groups who possess varying degrees of either high traditional status, economic influence, administrative power, or coercive capacity.

The existence of a consensus among state elites would indicate a greater likelihood of goal-setting success, while stark divisions among elites would indicate either unstable goals or an inability to pursue national goals normally associated with the accouterments of power. The existence of such a consensus, however, does not in any way imply the absence of personal or social competition among elites. Elite competition is a staple of political life and will exist in any society. So long as the competition is about access to power and not about fundamental national goals, a state may be said to possess the requisite measure of self-control. Even competition about national goals may be useful, if it is renewing as opposed to destructive. That is, competition about goals that takes place in an orderly fashion with the intent of bringing about a societal consensus for certain kinds of investments connected with producing national power is emblematic of self-control, in contrast to a competition that involves a struggle for increased rents by certain “distributional coalitions” that bear little relevance to the objective of enhancing national power. Therefore, so long as state managers have a fairly coherent view of what is required for national power or are at least willing to debate the requirements for national power through ordered political processes, the state in question may be deemed to exhibit self-control.

The relative cohesion of the governing elite, thus, remains the first dimension of a state’s capacity to control its destiny, at least as far as effective goal-setting is concerned. Moreover, the more cohesive an elite is, the more committed it would be to the effective execution of its decisions. Thus, greater elite cohesion results in greater self-control, which in turn results in an enhanced ability to set goals, which finally results in an increased capacity to augment national power. How can the relative cohesion of the political elite be evaluated? In principle, this can be done in multiple ways, but all require qualitative judgments by analysts familiar with the domestic politics of a given country. Specific indicators here include the consistency
of the ideology and rhetoric issuing from key elite actors to the public; the internal organizational and social linkages between the state managers and elite; the nature, durability, and effectiveness of higher political institutions; and the robustness of shared norms among key members of the regime and the social bases of their support.

Relative power of societal groups. While the extent of elite cohesion remains a key variable affecting the ability of states to set goals, the second dimension of self-control pertains to the relative power of various societal groups within a country. The nature of societal groupings within a country is critical to self-control because it speaks to the issue of national cohesion and, more specifically, the ability of state managers and their supporting elites to mobilize the masses in support of certain strategic policies aimed at enhancing national power. A lack of cohesion deriving from the existence of deep-seated social cleavages rooted either in class, religious, linguistic, ethnic, or regional fissures undermines the state’s mobilization capabilities in three ways. First, internal fragmentation compromises the state’s legitimacy. Unlike competition between political interest groups, which the state can resolve by carrot (economic inducements) and stick (coercion) tactics, ethnic, religious, and linguistic divisions in particular “tend to be diffuse and all-embracing rather than instrumental and therefore respond less readily to state policy.”39 Also, the existence of such cleavages undercuts the state’s claim to represent the “universal particularism” of society’s norms and interests.40

Second, a lack of cohesion due to ethnic or religious cleavages can weaken the state’s ability to project power externally by compelling it to divert resources from national security to internal security.41 Third, the fissures that exist in society generally may be reflected in the state’s military forces. This serves to reduce unit cohesion and

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40 Ibid.

41 Stephen Peter Rosen, Societies and Military Power: India and Its Armies (Ithaca: Cornell University Press, 1996), pp. vii–ix. As Rosen observes, “In terms of offensive power, internal social divisions can increase the amount of military power needed to maintain internal domestic order, reducing the surplus of military power that can be projected abroad.”
morale, and it produces an overall reduction in the effectiveness of the state’s military forces.\textsuperscript{42}

So while the ideal condition—from the perspective of effective self-control—is one where no serious social cleavages exist in a country, it is unrealistic to expect such a reality in the empirical world of politics. \textit{All} countries have social cleavages of one sort or another, each with varying degrees of seriousness. When examining a state’s capacity to effectively set goals, then, it is more important to focus on whether the cleavages in question actually impede the ability of state managers to make the requisite decisions associated with acquiring or increasing national power. Toward that end, it is important to examine three distinct sets of issues relating to the social structures of a given country. First, it is necessary to establish the extent and pattern of structural cleavages simply in order to paint a “social map” of the country’s patterns of political, economic, and social interaction. Second, the strength of existing state managers must be discerned at two levels: (i) the extent of support state managers can garner from certain privileged elites in society, and (ii) the extent of power held by the state managers and their supporting elites vis-à-vis other mobilized social groups in society who may seek national goals different from those being currently pursued. Third, the existence of other latent groups, who may share affinities based on class, religious, linguistic, ethnic, or regional divisions, must be discerned. Their potential for mobilization must be assessed and the consequences of their mobilization for the future of the national goals associated with the pursuit of power must be analyzed.\textsuperscript{43}

If, when the constellation and depth of intrastate divisions are thus assessed, it is found that the balance of power sufficiently favors state managers (and their supporting elites), it may be concluded that the state as an institution has the requisite self-control in that it is capable of setting certain goals and pursuing them effectively without any debilitating hindrance from other social competitors within the country. This, of course, presumes that there is sufficient coherence

\textsuperscript{42}Ibid.

\textsuperscript{43}For an extended discussion of mapping patterns of political closure, see Ashley J. Tellis, Thomas S. Szayna, and James Winnefield, \textit{Anticipating Ethnic Conflict} (Santa Monica, CA: RAND, MR-853-A, 1997).
among state leaders and their social bases of support themselves, but if such exists, then a favorable social balance of power is all that is required for the possession of self-control understood as the capacity to effectively set certain goals and pursue them.

Social Control

The ability to make a decision or set a goal is not the same as the ability to take action on that decision or to actually fulfill the goal. Social control is the second kind of power in the domain of infrastructural capacity, and it identifies the sources that speak to a state’s capacity to implement its goals. Specifically, social control refers to the kind of power through which the state translates its goals into goal-oriented action. This power is called social control because, as Migdal argues, the ability of the state to actually take goal-oriented action rests upon maintaining a political, legal, and normative order. The power that facilitates social control issues from three sources: penetration, extraction, and the regulation of social relations.

Penetration. Penetration is a way of describing the extent to which a state’s authority is extended throughout society in a nonrepressive sense. Penetration is a source of social control and infrastructural capacity because it indicates the extent of state legitimacy. The degree to which a society regards its state as legitimate is crucial for effective national performance. Legitimacy is “the justification upon which authority is based and rule rendered ‘rightful.’”

Although the state has coercive power over society, its ability to mobilize individuals and resources efficiently is much greater when society cooperates with the state rather than resisting it. When the state enjoys legitimacy, society tends to freely give the state authority to perform its crucial tasks like defense against external threat, maintenance of internal security, provision of collective goods, and supervision of the economy.

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The legitimacy of the state derives from two basic sources. First, there is the factor of performance. The state is in the business of providing society with two crucial collective goods: security from external threat and domestic security. States have also come to assume various welfare and economic functions. If the state does well at these tasks, it is likely to be accorded the presumption of legitimacy by society. However, if the state’s legitimacy is based solely on performance, its legitimacy is hostage to performance failures. Hence, legitimacy based solely on performance is brittle and may not endure. The second, more securely rooted basis of legitimacy is normative. Legitimacy in this sense reflects the fact that the state has a moral authority to rule because the political arrangements it represents embody the values and interests held either universally within a country (that is, as Reinhard Bendix put it, a legitimate state is a form of “universal particularism”\footnote{For discussions of the concept of legitimacy, see Reinhard Bendix, \textit{Kings or People: Power and the Mandate to Rule} (Berkeley: University of California Press, 1978); Max Weber (trans. and intro. by H. P. Secher), \textit{Basic Concepts in Sociology} (Secaucus, NJ: Citadel Press, 1962); Dolf Sternbeger, “Legitimacy,” in David L. Sills (gen. ed.), \textit{International Encyclopedia of the Social Sciences}, Vol. 9 (New York: Crowell Collier and Macmillan, 1968).}) or by elites who through the
“fabric of hegemony”\textsuperscript{47} successfully create the foundations for universal consent to the domination of a particular class. The loss of legitimacy, or the lack thereof, does not mean the state will collapse. As Timothy J. Lomperis notes, the state can rule without legitimacy but cannot rule well: “If it has legitimacy, as challenges arise, a regime can invoke willing obedience, acts of loyalty, and deeds of self-sacrifice.”\textsuperscript{48}

For these reasons, any useful assessment of national power must account for the legitimacy of the state, and penetration is a useful inferential measure of legitimacy because it encodes the degree of a population’s relative acceptance of the state. The state’s penetration of society precedes and in fact makes possible its extraction of resources from society.\textsuperscript{49} Penetration thus represents the dynamic interaction between the state and its population, and this relationship has been operationalized by one scholar in the following way:\textsuperscript{50}

\[\text{PENETRATION} = \frac{\text{extension of state authority throughout society}}{\text{state susceptibility to external shocks}}\]

This formula is intended to convey the idea that both the extent of state authority and the extent of state flexibility must be incorporated into the notion of penetration, which ultimately derives from the density of the interface between the state and its population. Thus, the greater the proportion of people who directly interface with the state, the greater the degree of state penetration. From the perspective of measuring infrastructural capacity, this is meant to imply that


\textsuperscript{48}Lomperis, op. cit., pp. 33, 55. As Skocpol notes, when the state lacks legitimacy, its ability to maintain itself with a degree of stability hinges on the ability of its coercive organizations to “remain coherent and effective.” Theda Skocpol, \textit{States and Social Revolutions: A Comparative Analysis of France, Russia, and China} (Cambridge: Cambridge University Press, 1979), p. 32.


\textsuperscript{50}Snider, op. cit. (1987), p. 327.
greater state penetration results in greater social control, which in turn represents an enhanced ability to implement goal-directed action, which finally results in a greater capacity to augment national power.

How can penetration in these senses be evaluated? In principle, it can be evaluated by measures that capture the extent of direct interaction between governments and society. This can be either through formal bureaucratic rational-legal institutions or through autocratic forms of government where the discretionary power of the executive is based heavily on interpersonal claims. In any event, the manner in which a state raises its financial resources becomes the best indicator of its level of penetration vis-à-vis society. As Skocpol argues, “a state’s means of raising and deploying financial resources tells us more than could any other single factor about its existing (and immediately potential) capacities to create or strengthen state organizations, to employ personnel, to coopt political support, to subsidize economic enterprises, and to fund social programs.”

Empirical studies have suggested several different measures of penetration, all linked by their common focus on the state’s fiscal powers vis-à-vis society. In countries that have legal-rational institutions, the ratio of taxes on international trade and foreign transactions as a percentage of total government revenue has been identified as the most useful indicator of authority because, as Snider puts it, “direct taxes are relatively more difficult to collect than indirect taxes because they require more effective infrastructural power. Taxes on international trade and transactions are the easiest to levy because relatively little infrastructural power is needed to collect them.” This logic suggests a second related measure of penetration, namely, the ratio of direct to indirect taxes in a given country. Both measures together would indicate the extent of state strength: strong states, that is, states with greater authority, should be able to collect a higher level of taxes from direct levies domestically as opposed to weaker

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51 Skocpol, “Bringing the State Back In,” p. 17.
states, which would rely more on trade and indirect taxes as a percentage of total revenue.  

While the structure of taxation provides a useful indicator of the extension of state power throughout society, the state’s susceptibility to external shocks (which is another element of penetration) requires another type of measure, though also one derived from the tax system. This measure of flexibility consists of examining the ratio of nontax revenues to the taxes on international trade and transactions or even more simply as the ratio of nontax revenues to indirect taxes. Such a measure is necessary because the greater the proportion of taxes coming from international trade, the greater a state’s susceptibility to shocks emanating from the international system. In such a situation, the flexibility enjoyed by the state can be captured by the extent of its domestic nontax revenues which would allow state managers to buffer society against the negative effects of external shocks. Focusing on nontax revenues also provides the additional benefit of having an indicator of penetration that is more suited to countries which, lacking bureaucratic structures of the legal-rational kind, are managed by more or less autocratic forms of government. The extent of nontax revenues here measures “the wider discretionary flexibility” associated with such forms of government by providing “an indication of [such] governments to provide services to their population [or to pursue other national goals] in the face of their susceptibility to external pressures.” Stronger states, understood as states with greater flexibility, would therefore have a higher percentage of nontax revenues to international trade revenues or indirect taxes in comparison to weaker states.

**Extraction.** Extraction is another crucial manifestation of social control. It is a measure of the state’s ability to gain the resources it needs to achieve its goals through the labor, participation, and cooperation of society. In a different way it too is a measure of legitimacy, but its importance here derives primarily from its being a critical

53 This is because, as Snider notes, “direct taxes require a more developed capacity to make the state’s presence felt in the event of noncompliance than other forms.” Snider, op. cit. (1987), p. 328.
54 Ibid.
55 Ibid.
measure of the state’s ability to garner societal wealth in the context of pursuing national power, particularly as evidenced by its commitment to produce, first, those intermediate goods necessary for the creation of actionable knowledge and, finally, the military instruments that enable a country to dominate in the arena of international politics. As Kugler and Domke have argued,

The most capable [states] extract and allocate a larger portion of available resources for war purposes. Accordingly, analyzing the flow of revenues from the societal to the [state] resource pool provides an effective measurement of the political component of power . . . [particularly because the evidence suggests that] . . . the [usual] winners of war are those who have the resources and the political capacity to mobilize and maintain a war effort.56

The ability of a state to extract the wealth it needs from society, thus, turns out to be an important component of its ability to attain certain political goals because, other things being equal, the greater the extractive capacity, the greater the state’s ability to pursue the acquisition of the most modern military instruments available. At a preliminary level, therefore, the argument about the relationship between extraction and infrastructural capability might be said to take the following form: greater extractive capacity makes for greater social control, which in turn reflects a greater ability to implement goal-oriented action, which finally produces greater levels of national power.

How can the state’s capacity for extraction be measured? The best measure derives from the fiscal system, this time focused on the level of revenue rather than on the character of the tax structure. As Snider argues,

Taxes are a direct indicator of government presences. Few government activities impinge upon the lives of most members of society or depend as heavily on popular support or fear of punishment as taxation. Very few government operations are pursued as relentlessly or avoided as vigorously. The differentials in energy that governments must exert to collect taxes from societies with comparable

resource bases is one observable manifestation of a state’s attempts to implement its own objectives against resistance from society.\textsuperscript{57}

For that reason, Kugler and Domke and others have focused on developing various measures of a state’s political capacity for extraction that, without all the refinements, essentially boil down to the ratio of the revenues a state actually extracts divided by the predicted values of what it could extract \textit{compared to other states with a similar resource base}. Establishing such a benchmark does not require measuring the extractive capability of all comparably situated countries: rather, a small sample of the most important countries enjoying comparable GNP, or a small sample that includes the most important competitors or rivals of the country in question, ought to suffice.

This indicator, it must be noted, is essentially a comparative indicator between countries. Such a comparative indicator is essential because, contrary to the preliminary argument offered earlier, extremely high levels of extraction via taxes can be achieved only at the price of both losing the flexibility to raise revenues further and, more important, creating deleterious economic consequences that ensue when states appropriate \textit{too great a share} of societal wealth. If the latter in fact occurs, the national economy may actually be weakened as high tax burdens stifle private innovation, investment, and entrepreneurship. In some circumstances, therefore, a country could become less powerful externally to the degree that the internal extractive capacity of the state actually increases. To accommodate this phenomenon of diminishing returns to increasing extraction (among others), there can be no unique measure of desirable extraction, simply comparative measures of how efficient some states are relative to others in the same (or similar) income category. For the same reason, the levels of penetration and extraction must be measured simultaneously, because decreasing penetration in the face of increasing extraction may actually indicate an incipient legitimacy problem that may eventually decrease the infrastructural power of the state.

\textbf{Regulation of social relations.} The final locus of social control is the ability of the state to regulate social relations. The way or extent to

\textsuperscript{57}Snider, "Comparing the Strength of Nations," op. cit., p. 466.
which a state can control the relationships between members of its society will become a source of infrastructural power by providing a state with the leverage to prevent its goals from becoming proxy to special interests. This dynamic between state and society taps into a source of power that penetration and extraction do not. Whereas penetration is a dynamic between state and society indicating whether a state is legitimate enough to define societal goals, and extraction is a dynamic between state and society indicating the ability of the former to translate legitimacy into real actions oriented toward carrying out certain policies that promise to increase national power, the regulation of social relations represents a dynamic between state and society that indicates the ability of the state to control the agenda once goal-oriented action has been implemented. The regulation of social relations thus functions as a gauge of the state’s ability to achieve the goals it has sought.

The regulation of social relations is an important aspect of social control because state policies could still be subverted even after the state effectively sets its goals and acquires the necessary resources—both in terms of legitimacy and wealth—to pursue them. Such subversion could occur thanks to the intervention of various special interest groups that attempt to appropriate the extracted resources in a manner other than the one the state had intended. Some goal may thus be eventually attained, but perhaps not the one that had been intended, set, and pursued by the state. The infrastructural capacity of the state, therefore, is also affected by the struggle for control between state organs and various powerful social groups. For this reason, the state’s capacity to regulate the social relations within the realm must also be assessed as a part of the scrutiny of its infrastructural capacity, and Migdal has suggested that the most appropriate measure here is one that centers on the ability of the state to compel citizens to follow its rules and participate in state-sanctioned institutions. In operationalizing this principle, Migdal himself suggests measuring the number of voters as a percentage of society, the level of school enrollment, or the known or acknowledged instances of bribery in public life.

While the general principle is appropriate, the measures of social regulation suggested by Migdal are problematic because, as he himself acknowledges, such indicators tend to measure penetration much more than social relationships. For example, he points out
that it does little good in assessing regulation of social relations to know that a state has a huge number of police or military personnel on its payroll, since the state’s level of coherence may be so low that most security officers effectively take their orders from outside it, from those with rules quite different from the ones espoused by state leaders. Also, a number of indicators suggested by him do not distinguish effectively between social and material resources: for example, population size, GDP, and state abilities to extract or employ those resources. Consequently, he suggests school enrollment data because it reflects the variability of states in using control to mobilize the population into participating in state institutions and rules.

These measures should be amended, however, to capture a single reality: How successfully has the state enrolled people in carrying out its proclaimed missions? This implies that the best test might be one that measures the coherence between the declared policy of the state and the orientation of its fiscal instruments. More specifically, testing for the “fit” between the pattern of tax breaks, subsidies, and penalties with respect to national policy provides a good indication of how powerful the state may be vis-à-vis powerful social groups (including those that might support the state) after certain national goals are framed and the resources collected to pursue them. Tax breaks, subsidies, and penalties that are at variance with the proclaimed objectives of the state would suggest that state organs are in fact hostage to powerful special interests. That is, no matter how well they can articulate their interests and garner the resources necessary to pursue those interests, they still have some difficulty in implementing their preferred course of action at the level of actual policy.

There is no doubt that articulating these interests itself is the product of societal pressure, but that is something that normally occurs in the process of goal-setting or what this framework has termed “self-control.” The notion of regulating social relations, however, attempts to measure whether a state—after having articulated its interests—can still keep them from being subverted by coalitions that may have an interest in frustrating their execution. The argument here, then, is intended to suggest that greater regulative capacity on the part of the state results in increased capacity for social control, which in turn
results in an increased ability to implement goal-oriented action, which finally results in a high ability to augment national power.

**IDEATIONAL RESOURCES**

The infrastructural capability of the state represents an important component of national performance. That is, the state’s ability to penetrate society, extract resources from society, and regulate social relations within society all interact to determine whether it can adequately respond to the pressures to dominate emerging from the international system. Infrastructural capability, however, simply describes the *material* components necessary for an adequate state response to the issue of national power. It does not describe whether the state will be able to convert its control over society into both resources, which are the intermediate goods or “inputs,” and effective military capabilities, which are the “outputs” or ultimate manifestations of national power. Accomplishing this conversion process adequately requires an additional element—ideational resources—and this element, which represents the third dimension of the transformative level, refers to the capacity for both instrumental and substantive rationality. Ideational resources, consequently, are “intangible capabilities” that derive from the “problem-solving” ability and the “value system” of a given country; unlike infrastructural capability, which emerges from the dynamics between state and society, ideational resources remain a characteristic of the polity taken as a whole.

Although the source of a country’s “problem-solving” ability and “value system” cannot be discerned in any essentialist sense, it is possible to argue that ideational resources are for practical purposes constituted by the interaction of state, society, and the international system. Structural constraints emanating from the international system generally impel states to maximize their power, which in turn should condition state managers—through instrumental reason—to place a premium on the pursuit of national wealth and military capability.\(^{58}\) Whether the state managers actually do so, however,
Figure 14—Understanding Ideational Resources

hinges in part on “the availability and (even more problematically) the appropriate use of sound ideas about what the state can and should do to address [political] problems.”

Further, whether the state has the organizational structures to act on these ideas becomes equally relevant: in fact, the proof of substantive rationality at the national level will often be found in “the fit (or lack thereof) between the scope of an autonomous state organization’s authority and the scale and depth of action appropriate for addressing a given kind of problem.”

The issue of whether a country possesses the requisite ideational resources for the production of national power then boils down to whether it is objectively well adapted to the goals that it must attain if it is to both survive and flourish in the international system. As illustrated in Figure 14, this concern, in turn, can be decomposed into two broad questions: (i) Does the country exhibit a high level of instrumental rationality, understood as the ability to adequately relate means to ends? This question can be examined at the level of both elite and mass, but a scrutiny at the latter level is more productive here because it captures the “problem-solving” orientation of the populace as a whole rather than the capability of any privileged subgroup within the country. (ii) Does the country exhibit a high level of substantive rationality, understood as a national commitment to the pursuit of wealth and the acquisition of power? This characterization of substantive rationality derives directly from the

59Skocpol, “Bringing the State Back In,” p. 15.
60Ibid.
constraints imposed by the international system on any given country, and it allows for a scrutiny of both the instrumental rationality of elites as evidenced through the organizational structure of the state and the incentives it offers as well as the character of state ideology and the nature of societal organization within a country.

The answers to these two questions are clearly important because of their substantive effect on the pursuit of national power. As Heyman suggests, certain kinds of problem-solving “thoughtwork” are better suited to certain goals than others. It is in this transition from a mental disposition and a guideline for setting goals and responding to opportunity, obstacles, and ambiguity that the problem-solving orientation and the value system of a country becomes a resource that matters for the potential to enhance national power. Both instrumental rationality understood as problem-solving orientation and substantive rationality understood as the value system of a country will therefore be analyzed in turn.

**Instrumental Rationality**

If instrumental rationality is considered as an ideational resource that is valuable for the production of national power, it becomes relevant at three different levels of decisionmaking. At the first-order level, it forces decisionmaking entities, be they individuals or states, to answer the question, “What is to be done?” To answer this question, this level of instrumental rationality confronts actors with the need to define the objectives they wish to pursue from among the infinite possibilities facing any entity at a given point in time. The choice of objectives here will be conditioned both by the situational constraints facing the agent as well as the agent’s own preferences, irrespective of where they may be rooted. At the purely instrumental level of rationality, the reason for choosing one objective over another is irrelevant. All that is required is that the agent choose one goal from among the myriad alternatives and pursue it more or less consistently.

Once this first-order question is satisfactorily addressed, the second-order level of instrumental rationality interjects itself: this consists of compelling decisionmaking entities to answer the question, “How is it to be done?” Answering this question has both logical and empirical components. The logical component simply seeks to ensure that
agents understand the “grammar” of their situation and act accordingly, whereas the empirical component requires agents to become aware of the numerous substantive components that define the difference between an inadequate and an adequate response to their situation: these include understanding the material constraints that may be facing the agent, the kinds of technical knowledge that may be required to address the problem, and the possible need for specific implements essential to the task at hand. This second level of instrumental rationality—which forces entities to answer the “How is it to be done?” question—inevitably confronts agents with the fact that any rational response may involve alternative pathways that arise because the available means to even certain ends are afflicted by uncertainties and constraints of various kinds.

Consequently, the third-order level of instrumental rationality appears at this juncture, and this involves forcing decisionmaking entities to answer the question, “Which is the dominant solution?” Addressing this issue requires agents to identify the various alternative solutions predicated by the question “How is it to be done?” and rank order them after their multiple ambiguities and tradeoffs are delineated. When these ambiguities and tradeoffs are assessed in the light of the agent’s own available and potential resources, his attitudes to risk, and the consequences of potential counteractions by others, some decision paths may turn out to be more attractive than others. In such circumstances, it may even be possible to find one decision path or solution—“the dominant solution”—that outranks

Figure 15—Instrumental Rationality and Illustrative Indicators

agents understand the “grammar” of their situation and act accordingly, whereas the empirical component requires agents to become aware of the numerous substantive components that define the difference between an inadequate and an adequate response to their situation: these include understanding the material constraints that may be facing the agent, the kinds of technical knowledge that may be required to address the problem, and the possible need for specific implements essential to the task at hand. This second level of instrumental rationality—which forces entities to answer the “How is it to be done?” question—inevitably confronts agents with the fact that any rational response may involve alternative pathways that arise because the available means to even certain ends are afflicted by uncertainties and constraints of various kinds.

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all others either in terms of the expected benefits it promises or the depth of risk it minimizes. In other circumstances, dominant solutions may be unavailable, as the problem in question may not be “strictly determined” in the sense of game theory.

Whether or not a problem has a dominant solution, the three-step process associated with instrumental rationality remains a critical resource for being able to “solve” any problem, including ones associated with the production of national power. Because this process, in different forms, came to constitute the core of the Western scientific and intellectual tradition, it has allowed Western states and societies to derive enormous advantages in the production of national power. This is because it remains not only the best embodiment of universal reason—so far—but also happens to personify the most efficient path to modernity, and to technological progress in particular: by allowing for “the slow boring of hard boards”\(^6\) it has, if political history since 1500 AD is any indication, made possible the kind of sustained, purposeful activity that can confront obstacles and undertake acts of transformation in the world.

The first issue, from the perspective of analyzing the ideational resources that make for national power, then consists of assessing the extent to which any country exhibits the kind of “methodical thinking”\(^6\) that makes effective problem solving and political rationalization possible. The best evidence for such a phenomenon at the national level will be found in the institutions of socialization that involve mass education. It is at this level that the emphasis placed by the polity on the acquisition and transmission of methodical thinking, especially in the form of an effective problem-solving orientation, can be best discerned. Accordingly, the most useful indicators of embedded instrumental rationality will be found in the school system, particularly at the secondary level. If a national-level assessment is desired, however, it is important first to acquire data on enrollment and attainment rates, especially at the secondary level. The secondary level is critical because primary education con-


sists mainly of transmitting knowledge rather than training individuals in the art of problem solving associated with the notion of methodical thinking. Problem solving no doubt takes place consistently at the tertiary level, but tertiary education is generally relatively exclusive and is for the most part available to a relatively small fraction of the overall population. Consequently, enrollment and attainment rates at the secondary level provide the best quantitative indicators about the extent of the opportunities available for transmitting the techniques of methodical thinking within a country. Lower enrollment and attainment rates would suggest lesser exposure to the instruments of rationalization, while higher rates would suggest just the opposite.

Besides the enrollment and attainment rates at the secondary level, however, other more specific indicators are required. These consist primarily of three variables: teaching methodology, curriculum time, and nature of national examinations. The indicators relating to teaching methodology should focus on assessing whether the mode of instruction emphasizes the acquisition of received wisdom in the form of “facts” or focuses on inculcating problem-solving techniques and encouraging creativity in general. The indicators relating to curriculum time should focus on assessing the time spent on science and mathematics relative to other subjects in the curriculum, on the premise that science and mathematics represent the problem-solving disciplines par excellence. The indicators relating to the national examination system should focus on assessing whether the national examinations place a premium on regurgitating facts or whether they emphasize analysis and creativity. It is possible that little international data exists on these variables. If so, such assessments will have to rely mainly on expert appraisal or reputational evaluations, limited though they may be as methods of assessment. Evaluating the level of embedded instrumental rationality in a country is a tricky exercise at the best of times, and therefore the indicators suggested above must be viewed mainly as a “first cut” at this difficult problem.

**Substantive Rationality**

The second dimension of ideational resources consists of substantive rationality. Issues of substantive rationality are generally avoided by social scientists because the fact-value distinction and the notion of
value neutrality together are often presumed to require an abdication of judgment with respect to the ends pursued by any decision-making entity. Fortunately, this problem can be avoided entirely here because the nature of the external pressures described earlier clearly suggest what is substantively rational for any country in the international system: pursuing a corporatist commitment to the production of wealth and power so as to be able to respond successfully to the structural constraints to dominate in international politics. The necessity to engage in an evaluation of rationality in general and substantive rationality in particular is also motivated by the desire to capture an unregulated source of transformation that is not easy to characterize and is not accounted for by either infrastructural power or external constraints.

Consider, for example, a state that has strong infrastructural power and is buffeted by international conditions that would lead it to develop both a strong resource base and a powerful military, yet fails to do so. In such a situation, what is likely to have happened is that in spite of favorable internal and external dynamics, the state may simply have a set of goals that don’t cohere with the power required by the international system, especially as manifested in the post-industrial age. It may possess instrumental rationality because that is, at least at some level, a calculative ability natural to all human
beings and social organizations (to the degree that the latter are composed of rational agents). But it may not possess substantive rationality understood as a corporate commitment to the production of wealth and power, either because it is dominated by insular and rapacious elites, or because it possesses otiose decisionmaking organs, or because it is supported by a cultural framework that is either indifferent to, or does not actively support, national power expansion. If such a country exists, it is possible to argue that its failure to ultimately develop national power is rooted not in the absence of international pressures or infrastructural power but rather in the weakness of its ideational resources, particularly as manifested in the realm of substantive rationality.

As Amilcar Herrera has demonstrated in the context of his inquiry into why states with equal resources have had variable success in building a productive high-technology economy, the intellectual model of society to which elites overtly or implicitly subscribe affect how science and technology, for example, have developed. The importance of ideational resources, particularly in the form of substantive rationality, thus becomes clear in the case of Latin America, where enormous amounts of aid and skills contributed by international organizations and the industrialized countries for science and technology development produced, after three decades of sustained effort, little in terms of movement toward developing modern, capable, scientific societies. So unless this dimension is included in the account of national performance, the intangible resources that affect the production of inputs and their transformation into military capability will escape analysis.

Understanding the extent of substantive rationality within a country, therefore, requires an assessment of how closely national organizations comport to the ideal of power- and progress-oriented rationality and how effectively they embody a "conscious human effort to enlarge material power." The objective here is to discern whether

countries have institutions and structures that allow them to pursue processes relevant to the production of national power:

- institutions which can define the basic objectives of state managers;
- institutions which can define criteria of choice to translate the basic objectives into an objective function to be used operationally for choosing the optimum technology and technique;
- institutions which can define the preparation of a menu of technological and technical alternatives;
- institutions which can identify and respond to the objective conditions that constrain or facilitate the choices made by planners.\(^6^6\)

Not surprisingly, the role of the state turns out to be critical in this regard, and it often requires state managers to intrude upon the activities of “civil society.”\(^6^7\) The state must be able to set goals, obtain the resources to achieve those goals, and encourage nonstate actors in society (for example, business enterprises, social classes) to cooperate in the attainment of the state’s aims. Obviously, the degree of state intrusiveness will vary depending on the nature of the country’s economic and political systems. The sphere of state control is less in a liberal democratic market system than in a nondemocratic command economy. Nevertheless, even in liberal democratic market economies, the state’s role is much greater than is commonly thought. As Robert Gilpin has pointed out, even in market economies the state has a broad array of instruments it can use to directly and indirectly affect the behavior of social actors. Some of these instruments are monetary policy, tax policy, fiscal policy, building of communications and transportation infrastructure, support for education, and subsidization of research and development.\(^6^8\)

\(^{66}\)This framework is inspired by the discussion in Shigeru Ishikawa, “A Note on the Choice of Technology in China,” in Cooper, op. cit., p. 162.

\(^{67}\)The discussion in the following paragraphs is based on Rueschemeyer and Evans, “The State and Economic Transformation.”

The state’s role is to set goals and priorities, and to commit the resources needed to implement its policies. And it needs to communicate these goals and priorities to, and gain assent from, society. The state has the task of creating the assumptions and expectations that will serve as the basis for a common effort throughout society. The state uses legal constraints and material inducements to impose on society its concept of substantive rationality. To be maximally effective, these legal constraints and material inducements need to be institutionalized in state organizations. Thus, the keys to developing substantively rational policies and norms with respect to the state’s pursuit of wealth and power are to be found in the state’s bureaucratic-administrative apparatus and legal system.

Though simply stated, the dynamics of substantive rationality are actually subtle, because they involve a dialectical process between the state and society. The state, in the first instance, sets the attainment of wealth and power as its preeminent policy objective and through ideological organs seeks to mobilize national support in pursuit of this objective. The first indicator of substantive rationality, therefore, would be state ideology or evidence of a deliberate, public commitment to the production of wealth and power, particularly in the form of acquiring modern science and technology. Having formulated this objective, however, the state cannot by itself generate the economic and technological resources to achieve its desired ends. These resources are generated by other social actors (firms, entrepreneurs, research laboratories, individuals, etc.) but guided by the state whenever necessary. Occasionally, the state itself will undertake such resource-generation activities, especially in areas critical to national security. The second indicator of substantive rationality, therefore, is the existence of a state structure oriented to the production of wealth and power: this would be manifested by (i) the existence of expert bureaucracies that identify the desired capabilities sought by the state; (ii) the routine use of public finance instruments, especially the national budget, to procure, subsidize, or provide incentives for the production of desired capabilities; and (iii) the existence of public-sector undertakings aimed at directly producing capabilities otherwise beyond the capabilities of civil society. Beyond motivating societal actors and occasionally substituting for them, the state must use its institutionalized powers of coercion and persuasion to cause social actors in general to behave
in ways that will create the means the state requires to achieve its ends, and this may include both creating and sustaining a competitive socioeconomic system as well as manipulating cultural norms to emphasize personal achievement. This is not an easy task. And states that have the infrastructural power to generate effective military capabilities may nevertheless fail because they lack the institutionalized, bureaucratic machinery to impose a coherence at the level of substantive rationality on society. In any event, the third indicator of substantive rationality would therefore be the existence of a competitive socioeconomic system and the prevalence of cultural norms that emphasize achievement. The former would include, for example, the existence of institutions that preserve private property rights, enable effective nonviolent dispute resolution, and provide sufficient public safety and political order.