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The Political Economy of the Resource Curse

[Michael L. Ross](#) *

Terry Lynn Karl. *The Paradox of Plenty: Oil Booms and Petro-States*. Berkeley: University of California Press, 1997, 342 pp.

Jeffrey D. Sachs and Andrew M. Warner. *Natural Resource Abundance and Economic Growth, Development Discussion Paper no. 517a*. Cambridge: Harvard Institute for International Development, 1995, 49 pp.

D. Michael Shafer. *Winners and Losers: How Sectors Shape the Developmental Prospects of States*. Ithaca, N.Y.: Cornell University Press, 1994, 272 pp.

It is the devil's excrement. We are drowning in the devil's excrement.

--Juan Pablo Pérez Alfonso, Founder OPEC

We are in part to blame, but this is the curse of being born with a copper spoon in our mouths.

--Kenneth Kaunda, President of Zambia

All in all, I wish we had discovered water.

--Sheik Ahmed Yamani, Oil minister, Saudi Arabia

How does a state's natural-resource wealth influence its economic development? For the past fifty years, versions of this question have figured prominently in debates over dependency theory, economic dualism, a proposed New International Economic Order, East Asia's success, and Africa's collapse. Since the late 1980s, economists and political scientists have produced a flood of new research that bears on this question. There is now strong evidence that states with abundant resource wealth perform less well than their resource-poor counterparts, but there is little agreement on why this occurs.

At first glance, the role of resource wealth in economic development looks like a question of dwindling importance. In 1970, 80.4 percent of the developing world's export earnings came from primary commodities; **[End Page 297]** by 1993 it had dropped to 34.2 percent. But most of this drop was caused by the fast growth of manufactured exports in East Asia and a handful of Latin American states. Three-quarters of the states in sub-Saharan Africa and two-thirds of those in Latin America, the Caribbean, North Africa, and the Middle East still depend on primary commodities for at least half

of their export income. ¹ For these countries the "resource curse" is an urgent puzzle.

In this article I review efforts by both economists and political scientists to explain how the export of minimally processed natural resources, including hard rock minerals, petroleum, timber, and agricultural commodities, influences economic growth. ² I first summarize the evidence for a resource curse and review new research on the four most prominent economic explanations for the curse: a decline in the terms of trade for primary commodities, the instability of international commodity markets, the poor economic linkages between resource and nonresource sectors, and an ailment commonly known as the "Dutch Disease."

I then review efforts to explain the political aspects of the resource curse--why resource-exporting governments seem to manage their economies so poorly. Most explanations fall into one of three categories: cognitive explanations, which contend that resource booms produce a type of short-sightedness among policymakers; societal explanations, which argue that resource exports tend to empower sectors, classes, or interest groups that favor growth-impeding policies; and state-centered explanations--including recent books by D. Michael Shafer and Terry Lynn Karl--which contend that resource booms tend to weaken state institutions.

In the third and final section, I discuss two other explanations for the curse that might be fruitfully explored, but which have received little attention. The first explanation would attribute the curse to state-owned enterprises, which typically govern resource extraction in developing states. The second suggests that a state's inability to enforce property rights may directly or indirectly lead to a resource curse. **[End Page 298]**

From the 1950s to the 1970s, the question of resource wealth was at the center of debates between mainstream development scholars and their Marxist and non-Marxist critics. Since then, the study of resource wealth and development has grown less ideological and more empirical, and the quality of the empirical work has improved sharply. Yet with the ideological stakes lowered, research on this topic has grown lamentably fragmented: economists and political scientists seem to be unaware of each others' contributions, and political scientists are often divided by their area specialties. One purpose of this article is to better acquaint scholars with each others' work, and to show how recent studies from a wide range of subfields can cast light on the special problems of resource exporters.

A second aim is to compare the approaches of economists and political scientists to this issue. Since the 1950s economists have continued to investigate a small number of powerful explanations for the resource curse, employing better data sets and increasingly sophisticated statistical tools. Some of their findings are incomplete and unsatisfying; still, they contain significant results.

Political scientists, by contrast, have produced scores of explanations for the resource curse and an equal number of case studies, yet have rarely tried to test their theories with either well-selected comparative cases or large-N data sets. Their reluctance to test almost certainly reflects the obstacles that political scientists commonly face in the developing world, where data can be poor, missing, or prohibitively costly to obtain. It may also reflect, however, a disregard for the practice of hypothesis testing. Whatever its origins, the absence of hypothesis testing has had two lamentable consequences: there has been little accumulation of replicable findings on the policy failures of resource exporters; and absent the need to render their theories testable, many scholars have neglected tasks that would help refine and sharpen their arguments--carefully defining their variables, specifying the domain of relevant cases to which their arguments apply, and framing their causal arguments in generalizable, and falsifiable, terms. The ultimate result has been a widening gap between our improved understanding of the economic predicament and our still weak understanding of the political predicament of states that rely heavily on commodity exports.

Is There a Resource Curse?

A casual glance at growth rates across the developing world, with stagnation in resource-rich Africa and rapid growth in resource-poor East **[End Page 299]** Asia, seems consistent with the notion of a resource curse. But how strong is the evidence?

Until recently, most of the evidence for the resource-curse hypothesis came from states that export either hard-rock minerals or petroleum. Nankani showed that from 1960 to 1976 the developing world's leading hard-rock mineral exporters had a per capita gdp growth rate of 1.9 percent, half the rate of a control group of nonmineral states.³ A 1984 study of thirty states in sub-Saharan Africa found a negative correlation between economic performance and the share of hard-rock minerals in total exports.⁴ According to a study sponsored by the World Bank, during the 1971-83 boom years, both major oil exporters and major hard-rock mineral exporters performed less well than their resource-poor counterparts; Auty later confirmed these findings.⁵ Davis, however, disputed these results, arguing that between 1970 and 1991, the twenty-two developing states most dependent on minerals exports performed just as well as nonmineral states.⁶

The most comprehensive study to date, however, now paints a gloomier picture. Jeffrey D. Sachs and Andrew M. Warner in *Natural Resource Abundance and Economic Growth* examine ninety-seven countries over a nineteen-year period, using regression analysis to measure the impact of mineral and other resource exports on gdp growth. Their study shows that states with a high ratio of natural resource exports to gdp in 1971 had abnormally slow growth rates between 1971 and 1989. The correlation remained significant even after the authors controlled for a wide range of growth-related variables, including initial per capita income, trade policy, investment rates, region, bureaucratic efficiency, terms-of-trade volatility, and income distribution.⁷ What accounts for this effect? **[End Page 300]**

Economic Explanations for a Resource Curse

In the early 1950s most development economists suggested that resource abundance would help the "backward" states, not harm them. Developing states were thought to suffer from imbalances in the factors of production: most had surpluses of labor, but shortages of investable capital. States with abundant natural resources could most easily overcome these capital shortfalls, thanks to both their ability to export primary commodities and their attractiveness to foreign investors. Their governments would also find it easier to collect revenues and hence provide public goods.⁸

But a minority of scholars--most of them structuralists--raised three objections to development strategies based on resource exports. First, Prebisch and Singer argued that primary commodity exporters would suffer from a decline in the terms of trade, which would widen the gap between the rich industrialized states and the poor resource-exporting states.⁹ Second, other scholars noted that international commodities markets were subject to unusually sharp price fluctuations. States that relied on commodity exports would find these fluctuations transferred to their domestic economies, making government revenues and foreign exchange supplies unreliable and private investment prohibitively risky.¹⁰ Finally, a third group of skeptics argued that resource industries were unlikely to stimulate growth in the rest of the economy, particularly if foreign multinationals dominated resource extraction and were allowed to repatriate their profits instead of investing them locally.¹¹ **[End Page 301]** Resource exporters would be left with booming resource enclaves that produced few "forward" and "backward" linkages to other parts of the economy.¹²

Since the 1950s, economists have made a sustained effort to test these arguments, particularly the claims that developing states faced a decline in their terms of trade and are harmed by export instability. Recent studies have settled some of these claims but also raised new puzzles.

In the 1960s and 1970s, research on the terms of trade produced conflicting results. For some observers, the 1972 Club of Rome report, *The Limits to Growth*, and the OPEC oil shocks implied that the terms of trade for primary commodities would improve in the long run.¹³ Encouraged, the leading exporters of bauxite, copper, hardwood timber, and phosphate explored new bids to restrict global supplies. For a time, resource-rich developing states seemed to hold a privileged slot in the international division of labor.

Since the early 1980s, however, the terms of trade for most primary commodities have tumbled. Most of this drop has been caused by the rising volume of commodity exports, a symptom of the debt crisis and structural adjustment programs of the 1980s; the collapse of international commodity agreements; and after 1989, the fall of the centrally planned economies of Eastern Europe and the former Soviet Union. ¹⁴ **[End Page 302]** The 1997-98 Asian financial crisis reduced the demand for commodities and sent prices lower still.

Until the late 1980s, research on secular trends in the terms of trade remained at an impasse, due in part to poor data quality. ¹⁵ Since 1988, the improvement of data sets and the use of more sophisticated methods for identifying long-term trends has led to new research. ¹⁶ Recent studies now agree that the aggregate terms of trade for primary commodities have declined since at least the beginning of the twentieth century; estimates of the rate of decline range from 0.1 percent to 1.3 percent per annum. ¹⁷

At the same time, studies by Easterly et al., Barro and Sala-i-Martin, and Mendoza have shown that the terms of trade are robust determinants of economic growth. ¹⁸ So it may seem that a decline in the terms of trade for primary commodities can account for much of the resource curse. A closer look, however, raises some nagging questions.

Most studies of the terms of trade have used composite indices to measure changes in commodity prices. A recent study by Cuddington instead looks at changes in the terms of trade for twenty-six commodities *separately* between 1900 and 1983. Only five commodities had significant negative trends; five others had positive trends; and sixteen were trendless. Three of the five with declining terms of trade (wheat, maize, and hides) are almost exclusively exported by advanced industrialized states; the supply of a fourth (palm oil) is dominated by **[End Page 303]** Malaysia, one of the developing world's few high-growth commodity exporters. ¹⁹ The terms-of-trade effect may be statistically robust at the global level, but it is still elusive at the case-study level.

The second concern of the skeptics--that unstable commodity markets would harm resource exporters--has also been a topic of renewed interest among economists. Scholars agree that the export earnings of the poorest states, with the highest concentrations of commodity exports, are exceptionally unstable; but they disagree over whether this instability is harmful. Since the mid-1960s, studies have consistently found that export instability produces unusually *high* levels of private investment, as exporters try to buffer themselves against future price shocks. ²⁰ The result, according to Knudsen and Parnes's influential *Trade Instability and Economic Development* (1975), was that export instability paradoxically produced higher economic growth. ²¹

More recent research, however, suggests that export instability either harms economic growth or has no impact at all. ²² Yet even studies that find it retards growth have so far been unable to link export instability to the resource curse. Lutz, for example, found a negative correlation between export instability and output growth for a large sample of developing and developed countries, but he found no measurable effect for a subgroup of primary commodity exporters. ²³ Two independent efforts to link export instability to economic performance in sub-Saharan Africa, the poorest and most commodity-reliant set of states, produced contradictory findings: Gyimah-Brempong found a negative correlation, while Fosu found no significant effect at all. ²⁴ According to **[End Page 304]** Sachs and Warner, commodity exporters suffer from anomalously slow growth even after controlling for the impact of export volatility.

The third argument against commodity exports--that they generate little growth in other sectors of the economy--faded from view in the 1970s, as the governments of developing states took increasingly strong measures to capture the economic rents that were once repatriated by foreign multinationals. In the 1950s, virtually every major hard-rock mineral and petroleum firm in the developing world was foreign-owned; by 1976 virtually all had been nationalized. ²⁵ According to some versions of dependency theory, nationalization would finally settle the problem of linkages. ²⁶

Since the 1970s, research on linkages has decreased sharply, yet the problem of linkages has persisted. Fosu's study of seventy-six developing states found that growth in commodity exports between 1967 and 1986 had a negligible effect on the performance of the nonexport sector.²⁷ The persistence of the linkage problem may, in part, be due to efficiency constraints on export diversification.²⁸ But it also hints at an undiagnosed policy failure: governments appear to have the capacity to foster linkages, yet have commonly failed to do so.

Though the terms of trade and linkage arguments imply that developing states receive too little revenue from their resource exports, a fourth and more recent explanation for the resource curse dwells on the opposite problem: that a boom in resource exports can produce economic stagnation through an effect known as the Dutch Disease. In the early 1980s, the Dutch Disease looked like a promising explanation for the ailments of resource exporters. More recent research suggests, however, that it is less common in developing states than originally thought, and that governments can usually offset its impact, should they feel it necessary.

Journalists sometimes use the term "Dutch Disease" to refer to all **[End Page 305]** economic hardships associated with resource exports.²⁹ More formally, however, it describes the combined influence of two effects that commonly follow resource booms. The first is the appreciation of a state's real exchange rate caused by the sharp rise in exports; the second is the tendency of a booming resource sector to draw capital and labor away from a country's manufacturing and agricultural sectors, raising their production costs. Together these effects can lead to a decline in the export of agricultural and manufactured goods and can inflate the cost of goods and services that cannot be imported (the nontradable sector).³⁰

Empirical studies now suggest that the Dutch Disease may be less common in developing states and more easily counteracted by governments than initially thought.³¹ Gelb's study of seven oil exporters during the 1971-83 boom found that only four showed a shift of labor and capital away from their agriculture and manufacturing sectors and toward their resource sectors. Other studies have found that the manufacturing sectors of most mineral economies are unharmed by export booms, though their agricultural sectors often suffer.³²

A careful look at the Dutch Disease model helps explain why it fits many developing states poorly. The model assumes that an economy's capital and labor supplies are fixed and fully employed before a boom begins. Under these conditions, a booming resource sector should draw capital and labor away from agriculture and manufacturing, thus raising their production costs. Yet developing states often have labor surpluses, and their resource booms draw in foreign capital and labor, offsetting any local scarcities.³³ The Dutch Disease model also assumes that domestic and foreign goods are perfect substitutes; if this assumption is eased--reflecting the fact that manufacturers in developing states often import intermediate goods, which become cheaper when **[End Page 306]** the exchange rate appreciates--then the Dutch Disease may not damage the manufacturing sector's competitiveness.³⁴

Each of these four economic effects can create hardships for resource exporters. Yet to explain why these hardships lead to persistently slow growth--the resource curse--we must also explain why governments fail to take corrective action. Governments play an exceptionally large role in the resource sectors of almost all developing countries and, at least in theory, have the policy tools to mitigate each of these hardships: they can offset a steady decline in the terms of trade by investing in the productivity of their resource sectors and by diversifying their exports; they can buffer their economies against the vicissitudes of international commodity markets by using commodity stabilization funds and careful fiscal policies; they can use their commodity windfalls to promote upstream and downstream linkages; and they can counteract the Dutch Disease by maintaining tight fiscal policies, temporarily subsidizing their agricultural and manufacturing sectors, and placing their windfalls in foreign currency to keep their exchange rates from appreciating.

In fact, when economists actually carry out case studies, they commonly discover the importance of government policy as an intervening variable. As Neary and van Wijnbergen suggest,

In so far as one general conclusion can be drawn [from our collection of empirical studies] it is that a country's economic performance following a resource boom depends to a considerable extent on the policies followed by its government. . . . [E]ven small economies have considerable influence over their own economic performance. ³⁵

The failure of states to take measures that could change resource abundance from a liability to an asset has become the most puzzling part of the resource curse. **[End Page 307]**

Political Explanations for the Resource Curse

Over the last several years, a new round of books and articles has explored the role of politics in the problems of resource exporters. Most of these studies reflect the recent effort to build a positive political economy of development that explains why the economic performances of developing states vary so widely. ³⁶

This larger effort entails a search for generalizable theories of policy failure--the proclivity of states to adopt and maintain transparently suboptimal economic policies. Theories of policy failure can be sorted into three groups: cognitive theories, which blame policy failures on the shortsightedness of state actors; ³⁷ societal theories, which cite the pernicious influence of privileged classes, sectors, client networks, or interest groups; ³⁸ and statist theories, which fault a state's institutional strength or weakness--its ability to extract and deploy resources, enforce property rights, and resist the demands of interest groups and rent seekers. ³⁹

Political explanations for the resource curse can be divided along similar lines. Cognitive, societal, and statist approaches to the resource curse each take resource windfalls (or rents) as their independent variable and economic stagnation as their dependent variable. Cognitive theories suggest that windfalls produce myopic disorders among policymakers; societal theories argue that windfalls empower social groups that favor growth-impeding fiscal or trade policies; and statist approaches suggest that windfalls can weaken state institutions that are necessary to foster long-term economic development.

Unlike economic explanations, political explanations for the resource curse are rarely tested, either quantitatively or with well-selected qualitative case studies. The absence of careful testing has had two major consequences: scholars have been unable to produce a cumulative body **[End Page 308]** of knowledge about the policy failures of resource exporters; and with no apparent need to place their theories in testable form, their arguments are often left underspecified--with nebulous variables, ambiguous domains of relevant cases, and fuzzy causal mechanisms.

Cognitive Explanations

Cognitive approaches suggest that resource wealth causes a type of myopia among public or private actors. This notion has a distinguished history, appearing in the major works of Machiavelli, Montesquieu, Adam Smith, and John Stuart Mill. It was perhaps rendered most vividly in *Six Books of a Commonwealth* by Bodin, who explains that

men of a fat and fertile soil, are most commonly effeminate and cowards; whereas contrariwise a barren country makes men temperate by necessity, and by consequence careful, vigilant, and industrious. ⁴⁰

In the 1950s and the 1960s, development scholars often suggested that resource rents can induce either myopic sloth, or paradoxically, myopic exuberance in policymakers. On the one hand, Wallich and Levin argued that the development path of sugar-exporting states was distorted by a "sugar mentality" that led to lax economic planning and insufficient diversification. Nurske and Watkins, on the other hand, suggested that resource rents lead to irrational exuberance, producing a "get-rich-quick mentality" among businessmen and a "boom-and-bust" psychology among

policymakers, marked by bouts of excessive optimism and frantic retrenchments.⁴¹ As interest in the resource curse has swelled, so has the implication that easy wealth leads to either paralysis or shortsighted euphoria among policymakers.⁴²

Despite its widespread use, there are several problems with the cognitive approach. The first and least important is that it transgresses the rationality assumptions that most analysts follow.⁴³ A second and more serious problem is that it is usually deployed in an ad hoc manner, rather than as part of an explicit and testable theory--for example, a theory that links variations in state revenues to variations in the cognitive skills of policymakers. **[End Page 309]**

The third problem is that there is little evidence that policymakers collectively fall into wealth-induced stupors. On the contrary, careful case studies, including those carried out by Shafer and Karl, typically describe state actors who are well-informed about the perils of resource booms but whose behavior is highly constrained by political pressures and institutions.⁴⁴ Policymakers who are unprepared to manage their newfound wealth are invariably blanketed with advice from the World Bank and other international organizations.⁴⁵ Moreover, if resource wealth led to widespread cognitive failure, we might expect to see a similar affliction in the private sector. Yet there is strong evidence that private actors in developing states react to price shocks far more rationally than their governments, even when they have less information.⁴⁶

Cognitive approaches offer an appealingly simple way to explain why governments fail to diversify their export bases and fail to maintain fiscal discipline in the face of export instability and the Dutch Disease. But until social scientists explicitly formulate and test these claims, it will be difficult to take them seriously.

Societal Explanations

Societal approaches suggest that resource booms enhance the political leverage of nonstate actors who favor growth-impeding policies.⁴⁷ **[End Page 310]** These arguments are used most frequently to explain why the resource-rich states of Latin America fell behind resource-poor East Asia in the 1970s and 1980s. Scholars have often compared the timely decisions of the South Korean and Taiwanese governments to move away from import-substituting industrialization (ISI) and adopt vigorous export-promotion strategies with the self-defeating efforts of the Latin American governments to maintain ISI policies long after they became counterproductive. A diverse set of scholars--including Auty, Mahon, Ranis, and Wade--all trace Latin America's reluctance to discard ISI to its greater resource wealth. Though each author tells a slightly different story, they all suggest that Latin American manufacturers and workers who enjoyed subsidies from the resource sector stopped their governments from dropping ISI policies. South Korea and Taiwan, however, had little resource wealth and hence fewer groups that profited from ISI; as a consequence, they found it easier to move toward export promotion.

Societal explanations may work in these cases, but can they be generalized? There are three reasons to be skeptical. First, most of these authors rely on the same five cases (South Korea, Taiwan, Mexico, Colombia, and Brazil) to illustrate their arguments. It is not obvious why they select these states since the states differ in many respects beyond resource wealth. Nor is it clear that the same logic can explain slow growth in a larger set of cases. Second, most societal explanations suggest that the curse of slow growth comes from trade barriers, which protect the winners of resource booms. But Sachs and Warner found only a weak correlation between resource exports and trade barriers. At most, they conclude, resource-induced protectionism might account for one-third of the resource curse. Finally, societal arguments work best when nonstate actors have first claim on any resource rents. Those cases, however, are exceptional. In almost all developing countries, minerals and timber are owned by the state, which has first claim on the resource rents; developing states also tend to capture windfalls from agricultural commodities through marketing boards and commodity stabilization funds.⁴⁸ In theory, resource wealth should strengthen the state's leverage over societal actors by giving the state a nontax revenue cushion that can insulate it from interest-group pressures and finance **[End Page 311]** payoffs to government opponents. Why then

should a resource boom produce a decline in the quality of state policies?

State-Centered Explanations

If policymakers are rational and the behavior of societal actors is held constant, it becomes difficult to explain why resource exporters should respond so poorly to their predicament. This may be why most state-centered explanations for the resource curse are actually hybrids, using a mix of cognitive, societal, and institutional arguments to explain how resource rents might damage a state's ability to promote economic growth. Theories of the rentier state are by far the most common version, while recent books by Shafer and Karl offer new state-centered approaches.

Theories of the rentier state contend that when governments gain most of their revenues from external sources, such as resource rents or foreign assistance, they are freed from the need to levy domestic taxes and become less accountable to the societies they govern. Scholars of the Middle East developed the rentier-state approach to explain both the lack of democratic pressures on and the poor development records of the region's oil exporters; others have now applied this approach to the commodity-exporting states of sub-Saharan Africa. [49](#)

Theories of the rentier state come in different forms and emphasize different causal links between resource rents and poor economic governance. Mahdavy, who first advanced the rentier-state concept, argues that resource rents make state officials both myopic and risk-averse: upon receiving large windfalls, he suggests, governments grow irrationally optimistic about future revenues and "devote the greater part

of their resources to jealously guarding the status quo" instead of promoting development. [50](#) Shambayati suggests that rentier states face little social pressure to improve their economic policies, since their low taxes and generous welfare programs discourage opposition groups from mobilizing around economic issues. [51](#) Others take a more institutional **[End Page 312]** approach. Chaudhry suggests that rentier states develop poor extractive institutions and therefore lack the information they need to formulate sound development strategies. Anderson argues that rentier states adopt policies that are exceptionally risk-averse, favoring "egalitarian current consumption" over development policies "that while furthering social and economic transformation, risk provoking social conflict." [52](#)

All these arguments have at their core two nonobvious claims: first, that states are revenue satisficers, not revenue maximizers; and, second, that when a state's demand for revenue diminishes, so will the soundness of its economic policies. These theories conversely imply that states that are revenue-poor and tax their populations more heavily will adopt sounder economic policies and have better growth records. While they are not self-evident, these claims, or perhaps more qualified versions of them, can certainly be tested. Like societal theories, rentier theories have been applied only to a handful of states. But while societal theories have been applied to a small set of states that shows variance on both an independent variable (resource wealth) and a dependent variable (policy outcomes), theories of the rentier state have been applied only to states identified ex ante as rentier states, leaving little variation on an independent or dependent variable. A more careful selection of cases and better efforts to control for the Dutch Disease and other economic effects, may produce more insightful tests of the rentier-state hypothesis.

Both Shafer and Karl, in their recent books, develop ambitious new state-centered explanations for the ailments of commodity exporters; both argue that resource abundance tends to weaken state institutions; and both attempt to test their claims with cases that show variation on their independent or dependent variables. Each book falls short of its ambitious goals due to a combination of conceptual ambiguity and methodological weakness. Both, however, provide important clues about the resource curse.

In *Winners and Losers: How Sectors Shape the Developmental Prospects of States*, Shafer treats the resource curse as part of a larger mystery: why the economic performances of developing states vary so widely. According to Shafer, the economic characteristics of a state's leading export sector provide much of the answer. Previous scholars have argued that the characteristics of an economic

sector will influence both the **[End Page 313]** policy preferences of the sector's firms and the ability of these firms to overcome collective action problems and press their demands on the state. ⁵³ Shafer's innovation is to take sectoral analysis one step further, arguing that a leading sector's characteristics also influence the institutional capacity and autonomy of the state itself.

Shafer suggests that when an export sector has a small number of large firms, high barriers to entry and exit, and greater asset-specificity--such as many minerals industries--it will have greater difficulty coping with international market fluctuations and will be more prone to seek government help. Since the small number of firms makes collective action easier, these "inflexible" sectors tend to place exceptionally strong demands on the state for protection during adverse market swings.

At the other extreme, when a leading export sector is composed of many small firms, has low barriers to entry and exit, and has less asset-specificity--such as light manufacturing or peasant agriculture--the sector is better able to adjust on its own to international market fluctuations. With a larger number of firms, these "flexible" sectors are more likely to face barriers to collective action and are less prone to demand protection from the state.

Up to this point, Shafer's argument closely follows the earlier work of Frieden and Paige; it then takes a provocative turn, suggesting that a leading sector's flexibility or inflexibility influences the autonomy and capacity of the state that governs it. Shafer argues, on the one hand, that when a state governs an inflexible leading sector, it tends to develop "specialized tax authorities to tap the huge, concentrated revenue streams such sectors produce, and specialized agencies to monitor, regulate, and promote the activities of these few critical firms" (p. 13). But governing an inflexible sector also has perverse effects on the state, "discourag[ing] leaders from developing institutions to address non-leading-sector needs" (p. 37). As a result, these states fail to "establish institutions to tax, monitor, regulate, or promote other sectors" (p. 14) of the economy. Since monitoring and regulating these inflexible sectors is complex, the government tends to develop close ties with inflexible **[End Page 314]** firms. These ties force the state to erroneously conflate the narrow short-term interests of the leading sector with the broader long-term interests of the nation (p. 14).

On the other hand, when a state has a flexible leading sector, it is more likely to develop "deeply penetrating tax authorities . . . and flexible, general-purpose agencies to monitor, regulate, and promote the diverse activities of firms throughout the country" (pp. 13-14). These stronger bureaucratic institutions, combined with weaker demands from the private sector, produce a state that places the national interest above the short-term interests of the leading sector and can better advance the nation's position in the international division of labor.

Parts of Shafer's causal logic seem frail. He claims that the flexibility or inflexibility of leading sectors is caused by the characteristics of the products themselves: coffee farming requires little capital and has small economies of scale, thereby producing flexible sectors; tea is more efficiently grown on large plantations, producing inflexible leading sectors. But many products are compatible with widely varying industrial and social structures: coffee may be flexible in Costa Rica, but inflexible elsewhere, due to differences in class structures and landholding patterns. ⁵⁴ It is also hard to see why the presence of an inflexible leading sector should prevent a state from developing "institutions to address non-leading-sector needs" (p. 37) and, conversely, why states with flexible leading sectors tend to "promote the diverse activities of firms throughout the country" (p. 14). Still, the book's arguments might be seen as fodder for testing.

Shafer's overambitious selection of case studies, however, weakens his argument. To test his argument, Shafer selects four cases that vary by sector, region, income, population, and regime type: Zambia (whose leading export sector is copper); South Korea (light manufacturing); Sri Lanka (plantation tea); and Costa Rica (smallholder coffee). Shafer explains he selected these four cases "because of the centrality of a single sector in their economies and the importance of the core commodity they produce in international trade" (p. 16). Yet these minimal criteria define a large set of possible cases, and Shafer offers no rationale for selecting these four.

By choosing cases that vary along virtually every possible dimension, Shafer may be trying to maximize his theory's generality--its applicability **[End Page 315]** to the broadest possible range of

states. But as Sartori pointed out long ago, social scientists must often make tradeoffs between a theory's generality and its validity--its ability to accurately account for puzzling cause-and-effect relationships. To achieve his desired generality, Shafer has been forced to leave his variables loosely defined. The result is a theory with an impressive level of generality but a disappointing level of validity--a classic case of "conceptual overstretch." ⁵⁵

Most of the stretching occurs in Shafer's dependent variable, "development outcomes," which he leaves undefined. Zambia and South Korea may be obvious cases of respectively failed and successful outcomes, but what about Sri Lanka and Costa Rica? Shafer treats Sri Lanka (with its inflexible tea sector) as a failure and Costa Rica (with its flexible coffee sector) as a success. Yet according to the World Bank, between 1965 and 1990 Sri Lanka's annual per capita gnp growth rate was more than double Costa Rica's, contradicting Shafer's argument. ⁵⁶ Without a well-defined dependent variable, Shafer's theory has little validity: it is impossible to know what it does and does not explain.

Still, Shafer's innovative use of sectoral analysis contains a powerful argument about the resource curse. Many minerals industries in developing states are characterized by high asset-specificity, large sunk costs, and high concentration; Shafer shows how difficult these types of industries are to govern, due to both their vulnerability to international market swings and their ability to demand assistance from the state. Shafer's most ambitious claim--that inflexible leading sectors produce weak state institutions, and flexible leading sectors produce strong ones--is not persuasive. A more carefully designed study, however, may find some merit in this argument.

Karl's *The Paradox of Plenty: Oil Booms and Petro-states* also uses a hybrid approach, assembling cognitive, societal, and state factors to explain why the 1973-74 and 1978-79 oil booms led to economic stagnation and political turmoil in many oil-exporting states. Like Shafer, Karl suggests that the characteristics of a country's leading export sector tend to influence the state's capacity to promote economic development.

Karl's theory of states and sectors is eclectic and multifaceted and draws intermittently on the concepts of the rentier state, wealth-induced **[End Page 316]** myopia, rent seeking, collective action, dependency theory, and class analysis. Her central claim is that

dependence on petroleum revenues produces a distinctive type of institutional setting, the petro-state, which encourages the political distribution of rents. Such a state is characterized by fiscal reliance on petrodollars, which expands state jurisdiction and weakens authority as other extractive capabilities wither. As a result, when faced with competing pressures, state officials become habituated to relying on the progressive substitution of public spending for statecraft, thereby further weakening state capacity. (p. 16)

Karl is strikingly confident about her argument's validity, suggesting that

the normal stuff of politics--changes in regimes and the particularities of governments, parties, or leaders--pales in explanatory power beside the decision calculus created by this framework. (p. 227)

Does her evidence support this claim? Karl's multipronged theory is not easy to test: she advances so many overlapping arguments and invokes so many undefined concepts that it is hard to tell what her evidence does or does not support. Some parts of her framework plainly contradict her evidence. For example, she draws on institutionalist variants of the rentier-state model to argue that oil revenues tend to weaken states by encouraging them to allow their "extractive capabilities [to] wither" (p. 16). Yet *The Paradox of Plenty* later notes in passing that the oil booms of the 1970s had little effect on the non-oil taxes of the major oil exporters (p. 201). She also suggests that resource wealth can produce cognitive disorders among state officials, who become "habituated" to fiscal policies that weaken state capacity, fall prey to a "rentier psychology," and suffer from bouts of "petromania" (pp. 16, 57, 66-67). Yet her case studies are almost wholly populated by state officials who respond to oil booms with self-interest and cunning.

Other facets of Karl's arguments, however, are convincingly backed by her case studies. She suggests that when states receive large windfalls, they try to do too much too soon, leaving the government administratively overextended; they are also targeted by rent seekers. At the moment when the windfall makes careful long-range planning essential, these two effects weaken the state, a claim well-illustrated by her fascinating study of Venezuelan oil politics, which takes up almost half of *The Paradox of Plenty*.

Yet many parts of the Venezuelan case remain enigmatic. Why did Carlos Andrés Pérez, Venezuela's president during the first oil boom, reverse his conservative windfall policies and engineer an ill-advised **[End Page 317]** boom in fiscal spending, despite a surprising absence of pressure from below (p. 118)? Why did fiscal spending rise even faster than revenues? And which aspects of the Venezuelan case are common to the larger set of oil exporters?

Karl's four brief studies of Algeria, Iran, Indonesia, and Nigeria give her a chance to answer this final question. Karl has chosen a "most different" strategy for her cases, selecting states that differ along many dimensions but share a common explanatory variable, large oil windfalls, which presumably led to similar outcomes. But here *The Paradox of Plenty* runs into trouble. Like Shafer, Karl leaves her dependent variables, along with her intervening variables, ambiguous. Karl variously describes her intervening variables as the "structuration of choice" (p. 189), "properties of stateness" (p. 190), and "degrees of petro-stateness" (p. 196); she suggests that these explain why petro-states suffer from "disappointing political and economic outcomes" (p. 44), "economic decline and regime destabilization" (p. 17), and "arbitrary, irrational, and volatile" economic policy-making (p. 190).

Since she does not define these terms, we cannot tell whether these five states suffered from a "strikingly similar structuration of choice" (p. 189) and similarly "disappointing" outcomes. Previous studies of these and other petroleum exporters suggest that their responses to the oil boom varied widely.⁵⁷ Of her five cases, Venezuela endured the largest "boom effect," yet it outperformed the rest of Latin America in gnp growth, employment growth, infant mortality, life expectancy, and education (pp. 195, 234-35). Why was this outcome "disappointing?"

The vagueness of Karl's framework also detracts from her other major claim: that oil booms produce political instability. Karl finds it significant that between 1974 and 1992, four of the five states experienced some degree of political instability (pp. 193-95). But it is not evident that these five have been less stable than any comparable group of developing states over the same nineteen-year span, or that the seven petro-states she excluded from her sample were affected by the same level of instability, raising the problem of selection bias. Despite its large "boom effect," Venezuela remained one of Latin America's most politically stable countries; in fact, Venezuela's impressive democratic legacy is commonly attributed to the abundance of its oil revenues, which funded payoffs to rival constituencies. Once again, it is not obvious what disappointing outcome Karl is trying to explain. **[End Page 318]**

The Paradox of Plenty is filled with promising clues about the politics of the resource curse, most importantly about how the 1973-74 and 1978-79 oil booms paradoxically weakened the institutions of the Venezuelan state. But Karl's abundance of hypotheses and the richness of the Venezuela case study also make the book frustrating. Like its subjects, *The Paradox of Plenty* is filled with squandered opportunities for advancement.

Other Directions: Parastatals and Property Rights

There is no shortage of other explanations for the resource curse that deserve greater scrutiny. Ascher's intriguing *Why Governments Waste Resources* argues that natural resources suffer from exceptionally poor governance, since state officials can easily manipulate their use to meet unpopular, controversial, or illegal objectives.⁵⁸ Hartwick, Panayotou, and Vincent imply that resource exporters often suffer because the investments they must make to offset the effects of impending resource depletion are counterintuitively large.⁵⁹ Wood and Berge suggest that manufacturing sectors have greater growth potential than primary production sectors due to faster technical progress and more scope for learning-by-doing.⁶⁰ The growing theoretical literature on rent

seeking may help explain why state officials adopt economically perverse policies in the wake of resource booms. ⁶¹

Two other explanations, which have so far received little attention, are also promising. One is that much of the resource curse has been caused by the state's ownership of resource industries. From the 1950s to the mid-1970s, many foreign-owned resource firms were nationalized, **[End Page 319]** a move that had at least three harmful consequences for many developing states. Foreign multinationals had previously served as buffers against export instability; without them the governments and economies of developing states have become more exposed to international market shocks. ⁶² State ownership may have also "softened" the budget constraints of resource-exporting governments, producing fiscal laxity and a tendency to overborrow. ⁶³ And parastatals are exceptionally inefficient and often deprived of funds they need to improve productivity.

It may be no coincidence that in Shafer's two examples of development failure, the leading export sectors (copper in Zambia, tea in Sri Lanka) were owned by the state and egregiously mismanaged, while in the two cases of success the leading sectors (textiles in South Korea, coffee in Costa Rica) were privately held and well-managed. ⁶⁴ If part of the resource curse is due to state ownership, privatization could offer a simple solution.

A second promising approach might link the resource curse to the failure of states to enforce property rights. This could take two possible forms and would only apply to a subset of relatively poor and unstable resource exporters. First, both economic decline and resource dependence might be independently caused by poorly enforced property rights. When the enforcement of property rights is exceptionally weak, manufacturing firms should find it difficult to operate since the risk of lost investments cannot be offset by normal profit margins. But resource extraction can still proceed, since firms earning resource rents can afford to pay criminal gangs, private militias, or nascent rebel armies for the private enforcement of their property rights while still earning a normal profit. The result is a state that grows slowly, and where resource extraction, by default, forms a large proportion of all commercial activity. ⁶⁵ In this first scenario, the correlation between slow growth and heavy resource exports is spurious: both are the result of poorly enforced property rights.

If one important assumption is relaxed, however, the outcome grows more worrisome. In the above scenario, criminal gangs and private **[End Page 320]** militias are treated as exogenous: the decision of resource firms to hire them has no influence on their strength, prevalence, or behavior. But in settings where the rule of law is already weak, the presence of resource firms may help these groups form (or enable preexisting groups to expand) by giving them lucrative opportunities for extortion. Just as the presence of monopoly rents tends to foster rent-seeking behavior, the presence of resource rents may foster the rise of extralegal organizations that seek out "protection rents." ⁶⁶ If the growing strength of these groups further inhibits the state's ability to enforce property rights impartially, then the rise of nonresource firms would become less likely. The result would be a violent form of the resource curse, in which the rise of resource industries indirectly leads to further destabilization of property rights and hence the decline of nonresource industries.

These dismal scenarios may help explain why resource extraction has often flourished in states or regions where the rest of the economy, and the rule of law, have largely broken down: in large sections of Cambodia, Colombia, Congo-Kinshasa, Congo-Brazzaville, Nigeria, Cameroon, Liberia, Sierra Leone, and Mozambique. ⁶⁷

Conclusion

Much of the variance between resource and nonresource exporters can almost certainly be tied to international economic factors, including a decline in the terms of trade for primary commodities and the instability of commodity markets. We still know little, however, about the politics of the resource curse--why resource-exporting governments respond perversely or ineffectively to these and other hardships. Over the past two decades, the gap has widened between our understanding of the economics and our understanding of the politics of resource exporters.

The disparity between strong cumulative findings on economic questions and weak noncumulative findings on political questions is partly due to the failure of political scientists to test their own hypotheses. **[End Page 321]** The dearth of hypothesis testing in political science may reflect the high costs of doing primary research in the developing world; it may also reflect the peculiar incentives of the subfield of comparative development, which tends to reward the production of "new" theories but to disdain the testing of existing ones. Whatever its source, the absence of hypothesis testing has hindered the contributions of political science to the study of the resource curse. More subtly, it has enabled political scientists to produce theories that are unworkably vague. In recent years, the field of comparative politics has shown greater concern for methodological rigor. This review underscores the importance of this new trend.

Twenty-seven of the thirty-six states in the World Bank's most troubled category--severely indebted low-income countries--are primary commodity exporters. For these and scores of other states, insights into the sources of the resource curse could have far-reaching consequences. Further progress will depend, in part, on the ability of political scientists to test their hypotheses with greater methodological care; on their willingness to place their theories in testable form, even when they cannot be tested; and on the proclivity of both economists and political scientists to pay closer attention to each others' contributions.

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Notes

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1. United Nations Conference on Trade and Development (unctad), *Commodity Yearbook 1995* (New York: United Nations, 1995).

2. I have deliberately omitted the extensive literature on the sociological impact of resource extraction on local communities. Important recent works include: Bradford Barham, Stephen G. Bunker, and Dennis O'Hearn, eds., *States, Firms, and Raw Materials: The World Economy and Ecology of Aluminum* (Madison: University of Wisconsin Press, 1994); Stephen G. Bunker, *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State* (Urbana: University of Illinois Press, 1985); Scott Frickel and William R. Freudenburg, "Mining the Past: Historical Context and the Changing Implications of Natural Resource Extraction," *Social Problems* 43 (November 1996); and Nancy Lee Peluso, *Rich Forests, Poor People: Resource Control and Resistance in Java* (Berkeley: University of California Press, 1992).

3. Gobind T. Nankani, "Development Problems of Nonfuel Mineral Exporting Countries," *Finance and Development* 17 (January 1980).

4. David Wheeler, "Sources of Stagnation in Sub-Saharan Africa," *World Development* 12 (1984).

5. Alan Gelb and associates, *Oil Windfalls: Blessing or Curse?* (New York: Oxford University Press, 1988); Richard M. Auty, *Sustaining Development in the Mineral Economies: The Resource Curse Thesis* (London: Routledge, 1993).

6. Graham A. Davis, "Learning to Love the Dutch Disease: Evidence from the Mineral Economies," *World Development* 23, no. 10 (1995).

7. The correlation also remained significant when the records of six oil-rich, slow-growing economies--Saudi Arabia, Oman, Kuwait, the United Arab Emirates, Bahrain, and Iraq--were excluded from the database.

A 1982 study, which controlled for only population and secondary-school enrollment, found that for forty-eight developing states the level of export processing in 1955 was highly correlated with gnp per capita in both 1970 and 1977. See Randall Stokes and David Jaffee, "Another Look at the Export of Raw Materials and Economic Growth," *American Sociological Review* 47 (June 1982). An earlier study by Jacques Delacroix, using a cruder measure of export processing, produced negative results. See Delacroix, "The Export of Raw Materials and Economic Growth: A Cross-National Study," *American Sociological Review* 42 (October 1977).

8. See, for example, Jacob Viner, *International Trade and Economic Development* (Glencoe, Ill.: Free Press, 1952); W. Arthur Lewis, *The Theory of Economic Growth* (Homewood, Ill.: R. D. Irwin, 1955); Joseph J. Spengler, ed., *Natural Resources and Growth* (Washington, D.C.: Resources for the Future, 1960). The most ardent support for resource-based development strategies came from economists identified with the staple theory of growth, which grew out of Harold A. Innis's studies of the Canadian fur and cod industries, and Douglass C. North's early work on economic growth in the western U.S. Proponents of the staple theory suggested that economic development in backward areas commonly begins with resource booms that draw in labor and capital. As the booms proceed, the profits of this core resource sector are reinvested in local infrastructure and value-added industries, producing a diversified pattern of growth. See Innis, *Essays in Canadian Economic History* (Toronto: University of Toronto Press, 1956); North, "Location Theory and Regional Economic Growth," *Journal of Political Economy* 63 (April 1955); and Melville H. Watkins, "A Staple Theory of Economic Growth," *Canadian Journal of Economics and Political Science* 29 (May 1963).

9. Raul Prebisch, *The Economic Development of Latin America and its Principal Problems* (Lake Success, N.Y.: United Nations, 1950); Hans W. Singer, "The Distribution of Gains between Investing and Borrowing Countries," *American Economic Review* 40, no. 2 (1950). Economist Jacob Viner was appalled by Prebisch's argument, referring to it as "mischievous fantasies, or conjectural or distorted history, or at the best, mere hypotheses relating to specific periods and calling for sober and objective testing." Viner (fn. 8), 61-62.

10. Ragnar Nurske, "Trade Fluctuations and Buffer Policies of Low-Income Countries," *Kyklos* 11, no. 2 (1958); Jonathan V. Levin, *The Export Economies: Their Pattern of Development in Historical Perspective* (Cambridge: Harvard University Press, 1960).

11. Albert O. Hirschman, *The Strategy of Economic Development* (New Haven: Yale University Press, 1958); Robert E. Baldwin, *Economic Development and Export Growth: A Study of Northern Rhodesia, 1920-1960* (Berkeley: University of California Press, 1966); and Levin (fn. 10).

12. While liberal and radical structuralists largely agreed on the problems of resource exports, they split over how to rectify them. Moderate structuralists favored a strong role for the state to buffer developing economies against international price shocks; to capture the economic rents that were repatriated by multinationals and to invest them in other sectors of the economy; and, for some, to use tariffs and quotas to promote import-substitution industrialization. Some also favored international commodity agreements to stabilize or improve the terms of trade for resource exporters; see Prebisch (fn. 9) and Hirschman (fn. 11).

The radical structuralists, who became identified with dependency theory in the 1960s and 1970s, were far less sanguine; they argued that capitalist governments in developing states would be unable to take the measures proposed by moderates as long as these governments were dominated by local elites who shared the class interests of the foreign multinationals. See Paul A. Baran, "On the Political Economy of Backwardness," *Manchester School of Economics and Social Studies* 20 (January 1952); Andre Gunder Frank, "The Development of Underdevelopment," *Monthly Review* 18 (September 1966); and Fernando Henrique Cardoso and Enzo Faletto, *Dependency and Development in Latin America* (Berkeley: University of California Press, 1979).

13. According to economist John P. Lewis, the Club of Rome report "froze the attention of the public-affairs community of the world as nothing had before. It knocked the underlying assumption . . . of the classic development program into a cocked hat." Lewis, "Oil, Other Scarcities, and the Poor Countries," *World Politics* 27 (October 1974), 69. See also Donella H. Meadows, Dennis L.

Meadows, Jorgen Randers, and William W. Behrens III, *The Limits to Growth* (New York: Universe Books, 1972).

[14.](#) According to Eduardo Borensztein and Carmen M. Reinhart, from 1980 to mid-1993 real non-oil commodity prices dropped by 42 percent, reaching their lowest level in over ninety years. Borensztein and Reinhart, "The Macroeconomic Determinants of Commodity Prices," *imf Staff Papers* 41 (June 1994). On the collapse of international commodity agreements, see Christopher L. Gilbert, "International Commodity Agreements: An Obituary Notice," *World Development* 24, no. 1 (1996).

[15.](#) John Spraos, "The Statistical Debate on the Net Barter Terms of Trade between Primary Commodities and Manufactures," *Economic Journal* 90 (March 1980); and Stephen R. Lewis Jr., "Primary Exporting Countries," in Hollis Chenery and T. N. Srinivasan, eds., *Handbook of Development Economics* (New York: Elsevier Science Publishers, 1989).

[16.](#) Enzo R. Grilli and Maw Cheng Yang, "Primary Commodity Prices, Manufactured Goods Prices, and the Terms of Trade of Developing Countries: What the Long Run Shows," *World Bank Economic Review* 2 (1988).

[17.](#) This conclusion appears to vindicate the Prebisch-Singer hypothesis--though, ironically, long after dependency theory has fallen out of favor among political scientists. See Andrew Powell, "Commodity and Developing Country Terms of Trade: What Does the Long Run Show?" *Economic Journal* 101 (November 1991); Hans Singer and Jerker Edström, "The Impact of Trends and Volatility in Terms of Trade on gnp Growth," in Machiko Nissanke and Adrian Hewitt, eds., *Economic Crisis in Developing Countries: New Perspectives on Commodities, Trade, and Finance* (New York: Pinter Publishers, 1993); Michael Bleaney and David Greenaway, "Long-Run Trends in the Relative Price of Primary Commodities and in the Terms of Trade of Developing Countries," *Oxford Economic Papers* 45 (July 1993); and David Sapsford and V. N. Balasubramanyam, "The Long-Run Behavior of the Relative Price of Primary Commodities," *World Development* 22, no. 11 (1994).

[18.](#) William Easterly, Michael Kremer, Lant Pritchett, and Lawrence Summers, "Good Policy or Good Luck? Country Growth Performances and Temporary Shocks," *Journal of Monetary Economics* 32 (October 1993); Robert J. Barro and Xavier Sala-i-Martin, *Economic Growth* (New York: McGraw-Hill, 1995); and Enrique G. Mendoza, "Terms-of-Trade Uncertainty and Economic Growth," *Journal of Development Economics* 54 (December 1997).

[19.](#) John T. Cuddington, "Long Run Trends in 26 Primary Commodity Prices," *Journal of Development Economics* 39 (October 1992); unctad (fn. 1).

[20.](#) Alasdair I. MacBean, *Export Instability and Economic Development* (London: George Allen and Unwin Ltd., 1966); Odin Knudsen and Andrew Parnes, *Trade Instability and Economic Development* (Lexington, Mass: Lexington Books, 1975); Augustin Kwasi Fosu, "Primary Exports and Economic Growth in Developing Countries," *World Economy* 19 (July 1996); David Dawe, "A New Look at the Effects of Export Instability on Investment and Growth," *World Development* 24, no. 12 (1996); and Atish R. Ghosh and Jonathan D. Ostry, "Export Instability and the External Balance in Developing Countries," *imf Staff Papers* 41 (June 1994).

[21.](#) Knudsen and Parnes (fn. 20).

[22.](#) The conclusions of these studies are sensitive to the way they measure export instability. See Jere R. Behrman, "Commodity Price Instability and Economic Goal Attainment in Developing Countries," *World Development* 15, no. 5 (1987); Gerald Tan, "Export Instability, Export Growth and gdp Growth," *Journal of Development Economics* 12 (February/April 1983); Cristián Moran, "Export Fluctuations and Economic Growth," *Journal of Development Economics* 12 (February/April 1983); Singer and Edström (fn. 17); and Dawe (fn. 20). A model developed by Mendoza (fn. 18) predicts that terms-of-trade instability will reduce social welfare, regardless of its effect on growth.

[23.](#) Matthias Lutz, "The Effects of Volatility in the Terms of Trade on Output Growth: New Evidence," *World Development* 22, no. 11 (1994).

24. Kwabena Gyimah-Brempong, "Export Instability and Economic Growth in Sub-Saharan Africa," *Economic Development and Cultural Change* 39, no. 4 (1991); and Augustin Kwasi Fosu, "Effect of Export Instability on Economic Growth in Africa," *Journal of Developing Areas* 26 (April 1992).

25. Stephen J. Kobrin, "Foreign Enterprise and Forced Divestment in Idcs," *International Organization* 34 (Winter 1980); David A. Jodice, "Sources of Change in Third World Regimes for Foreign Direct Investment, 1968-1976," *International Organization* 34 (Spring 1980). Several Latin American states, including Argentina, Bolivia, Chile, and Mexico, nationalized hard-rock mineral and petroleum production as early as the 1920s.

26. See fn. 12.

27. Fosu (fn. 20).

28. On the efficiency constraints on export diversification, see Dean A. DeRosa, "Increasing Export Diversification in Commodity Exporting Countries," *imf Staff Papers* 39 (September 1992); Trudy Owens and Adrian Wood, "Export-Oriented Industrialization through Primary Processing?" *World Development* 25, no. 9 (1997). Also see the excellent collection of case studies in Richard M. Auty, *Resource-Based Industrialization: Sowing the Oil in Eight Developing Countries* (New York: Clarendon Press 1990).

29. The name was reputedly coined by the *Economist* in 1977. But the problem itself is much older. Davis (fn. 6) notes that in 1859 economist John Elliot Cairns described the same effect in Australia following the gold rush of the 1850s.

30. W. M. Corden and P. J. Neary, "Booming Sector and De-industrialization in a Small Open Economy," *Economic Journal* 92 (December 1982); J. Peter Neary and Sweder van Wijnbergen, eds., *Natural Resources and the Macroeconomy* (Cambridge: MIT Press, 1986).

31. Some even argue that the Dutch Disease should not be considered a malady at all, since the shift of labor and capital toward booming resource sectors simply connotes a change in a state's comparative advantage. See, for example, Davis (fn. 6).

32. Gelb and associates (fn. 5); Nancy C. Benjamin, Shantayanan Devarajan, and Robert J. Weiner, "The 'Dutch Disease' in a Developing Country: Oil Reserves in Cameroon," *Journal of Development Economics* 30 (1989); Mohsen Fardmanesh, "Dutch Disease Economics and the Oil Syndrome: An Empirical Study," *World Development* 19, no. 6 (1991).

33. Levin (fn. 10); Tan Tat Wai, "Management of Resource-Based Growth in Different Factor Endowment Conditions," in Miguel Urrutia and Setsuko Yukawa, eds., *Economic Development Policies in Resource-Rich Countries* (Tokyo: United Nations University, 1988).

34. Indeed, the model developed by Benjamin et al. (fn. 32) suggests that a resource boom may even lead to the expansion of a developing economy's manufacturing sector. Still, guarding against short-term deindustrialization may be important if a temporary drop in manufacturing output results in a long-term loss of comparative advantage, which may occur if there are industry-specific learning-by-doing effects that are external to the firm. See Kenneth J. Arrow, "The Economic Implications of Learning by Doing," *Review of Economic Studies* 29, no. 3 (1962); Sweder van Wijnbergen, "The 'Dutch Disease'. A Disease after All?" *Economic Journal* 94 (March 1984); Paul Krugman, "The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs. Thatcher," *Journal of Development Economics* 27 (October 1987); and Norio Usui, "Policy Adjustments to the Oil Boom and Their Evaluation: The Dutch Disease in Indonesia," *World Development* 24, no. 5 (1996).

35. Neary and van Wijnbergen (fn. 30), 10-11. Other case studies by economists come to similar conclusions; see, for example, Gelb and associates (fn. 5); Wheeler (fn. 4); David Bevan, Paul Collier, and Jan Willem Gunning, "Trade Shocks in Developing Countries," *European Economic Review* 37 (April 1993); Neil B. Ridler, "The Caisse de Stabilisation in the Coffee Sector of the Ivory

Coast," *World Development* 16, no. 12 (1988); Urrutia and Yukawa, (fn. 33); and Maurice Schiff and Alberto Valdés, *The Plundering of Agriculture in Developing Countries* (Washington, D.C.: World Bank, 1992).

[36.](#) See, for example, Robert H. Bates, "Macropolitical Economy in the Field of Development," in James E. Alt and Kenneth A. Shepsle, eds., *Perspectives on Positive Political Economy* (Cambridge: Cambridge University Press, 1990); Robert H. Bates, ed., *Toward a Political Economy of Development: A Rational Choice Perspective* (Berkeley: University of California Press, 1988); Merilee S. Grindle, "The New Political Economy: Positive Economics and Negative Politics," in Gerald Meier, ed., *Politics and Policymaking in Developing Countries*, (San Francisco: ICS Press, 1991); and Thráinn Eggertsson, "The Old Theory of Economic Policy and the New Institutionalism," *World Development* 25, no. 8 (1997).

[37.](#) For a discussion of cognitive approaches to policy failure, see Dani Rodrik, "Understanding Economic Policy Reform," *Journal of Economic Literature* 34 (March 1996).

[38.](#) See, for example, Robert H. Bates, *Markets and States in Tropical Africa* (Berkeley: University of California Press, 1981); Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities* (New Haven: Yale University Press, 1982); Jeffrey A. Frieden, *Debt, Development, and Democracy* (Princeton: Princeton University Press, 1991).

[39.](#) Anne O. Krueger, "Government Failures in Development," *Journal of Economic Perspectives* 4 (Summer 1990); and Peter Evans, *Embedded Autonomy* (Princeton: Princeton University Press, 1995).

[40.](#) Jean Bodin, *Six Books of a Commonwealth*, ed. and trans. M. J. Tooley (New York: Barnes and Noble, 1967), 5, 1: 565.

[41.](#) Henry C. Wallich, *Monetary Problems of an Export Economy* (Cambridge: Harvard University Press, 1960); Levin (fn. 10); Nurske (fn. 10); and Watkins (fn. 8).

[42.](#) See, for example, Pradeep K. Mitra, *Adjustment in Oil-Importing Developing Countries* (New York: Cambridge University Press, 1994); Auty (fn. 5); and Lawrence B. Krause, "Social Capability and Long-Term Economic Growth," in Bon Ho Koo and Dwight H. Perkins, eds., *Social Capability and Long-Term Economic Growth* (New York: St. Martin's Press, 1995).

[43.](#) Note, however, that the concept of wealth-induced sloth would be consistent with models that treat rational actors as revenue satisficers instead of revenue maximizers.

[44.](#) See, for example, the quotes at the beginning of this article.

[45.](#) For recent examples, see Stephen W. Salant, "The Economics of Natural Resource Extraction: A Primer for Development Economists," *World Bank Research Observer* 10 (February 1995); Panos Varangis, Takamasa Akiyama, and Donald Mitchell, *Managing Commodity Booms--and Busts* (Washington D.C.: World Bank, 1995).

A classic example can be found in Machiavelli's *Discourses*, which prescribes measures to counteract the hazards of wealth-induced sloth: "as for that idleness which (an exceptionally fertile) site invites, one should organize the laws in such a way that they force upon the city those necessities which the location does not impose." Machiavelli, "Discourses on the First Ten Books of Titus Livius," in Peter Bondanella and Mark Musa, eds. and trans., *The Portable Machiavelli* (New York: Penguin, 1979), 173-74.

[46.](#) This is why export volatility is correlated with higher-than-normal savings rates, at least in the private sector; see fn. 20. On the proclivity of private actors in low-income countries to take precautionary measures against income fluctuations, see Robert M. Townsend, "Consumption Insurance: An Evaluation of Risk-Bearing Systems in Low-Income Countries," *Journal of Economic Perspectives* 9 (Summer 1995); and Jonathan Morduch, "Income Smoothing and Consumption Insurance," *Journal of Economic Perspectives* 9 (Summer 1995).

47. Versions of this argument have been offered by Miguel Urrutia, "The Politics of Economic Development Policies in Resource-Rich States," in Urrutia and Yukawa (fn. 33); Gustav Ranis, "Toward a Model of Development," in Lawrence B. Krause and Kim Kihwan, eds., *Liberalization in the Process of Economic Development* (Berkeley: University of California Press, 1991); Gustav Ranis and Syed Akhtar Mahmood, *The Political Economy of Development Policy Change* (Cambridge, Mass.: Blackwell, 1992); Robert Wade, "East Asia's Economic Success: Conflicting Perspectives, Partial Insights, Shaky Evidence," *World Politics* 44 (January 1992); James E. Mahon Jr., "Was Latin America Too Rich to Prosper?" *Journal of Development Studies* 28 (January 1992); Richard M. Auty, "Industrial Policy Reform in Six Large Newly Industrializing Countries: The Resource Curse Thesis," *World Development*, no. 1 (1994); Robin Broad, "The Political Economy of Natural Resources: Case Studies of the Indonesian and Philippine Forest Sectors," *Journal of Developing Areas* 29 (April 1995). Sachs and Warner offer a heterodox version of this argument, suggesting that when states are affected by the Dutch Disease, *lagging* manufacturing sectors will demand compensation in the form of trade barriers and thus produce economic stagnation.

48. Schiff and Valdés (fn. 35).

49. Hussein Mahdavy, "The Patterns and Problems of Economic Development in Rentier States: The Case of Iran," in M. A. Cook, ed., *Studies in Economic History of the Middle East* (London: Oxford University Press, 1970); Hazem Beblawi and Giacomo Luciani, eds., *The Rentier State* (London: Croom Helm, 1987); Eva Bellin, "The Politics of Profit in Tunisia: Utility of the Rentier Paradigm?" *World Development* 22, no. 3 (1994); and Kiren Aziz Chaudhry, "Economic Liberalization and the Lineages of the Rentier State," *Comparative Politics* 27 (October 1994). Applications to sub-Saharan Africa include John Clark, "Petro-Politics in Congo," *Journal of Democracy* 8, no. 3 (1997); and Douglas A. Yates, *The Rentier State in Africa: Oil Rent Dependency and Neocolonialism in the Republic of Gabon* (Trenton, N.J.: Africa World Press, 1996).

50. Mahdavy (fn. 49), 443.

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52. Kiren Aziz Chaudhry, "The Price of Wealth: Business and State in Labor Remittance and Oil Economies," *International Organization* 43 (Winter 1989); and Lisa Anderson, "The State in the Middle East and North Africa," *Comparative Politics* 20 (October 1987).

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54. See Jeffrey Paige, *Coffee and Power: Revolution and the Rise of Democracy in Central America* (Cambridge: Harvard University Press, 1997); and Robert G. Williams, *States and Social Evolution: Coffee and the Rise of National Governments in Central America* (Chapel Hill: University of North Carolina Press, 1994). Shafer acknowledges this problem in his book's final chapter, though I believe it places more strain on his argument than he acknowledges.

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[57](#). See Gelb and associates (fn. 5); Auty (fn. 28).

[58](#). William Ascher, *Why Governments Waste Resources: The Political Economy of Natural Resource Policy Failures in Developing Countries* (Baltimore: Johns Hopkins University Press, forthcoming).

[59](#). John M. Hartwick, "Intergenerational Equity and the Investing of Rents from Exhaustible Resources," *American Economic Review* 67 (December 1977); and Jeffrey R. Vincent, Theodore Panayotou, and John M. Hartwick, "Resource Depletion and Sustainability in Small Open Economies," *Journal of Environmental Economics and Management* 33 (July 1997).

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[62](#). Levin (fn 10); D. Michael Shafer, "Capturing the Mineral Multinationals: Advantage or Disadvantage?" *International Organization* 37 (Winter 1983).

[63](#). Janos Kornai, "The Soft Budget Constraint," *Kyklos* 39 (1986).

[64](#). The World Bank notes that privately owned tea plantations in both Sri Lanka and India are far more productive and profitable than state-owned tea plantations. See World Bank, *Global Economic Prospects and the Developing Countries* (Washington D.C.: World Bank, 1996), 51.

[65](#). In fact, when a state poorly enforces property rights to its natural resources, it may *gain* a comparative advantage in international trade; see Graciela Chichilnisky, "North-South Trade and the Global Environment," *American Economic Review* 84, no. 4 (1994).

[66](#). On the concept of "protection rents," see Frederic C. Lane, "Economic Consequences of Organized Violence," *Journal of Economic History* 18 (December 1958). Firms with highly specific assets, such as resource firms, are especially vulnerable to extortion; see Benjamin Klein, Robert G. Crawford, and Armen A. Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," *Journal of Law and Economics* 21 (October 1978).

[67](#). Evidence of a link between resource extraction and extralegal violence can be gleaned from William Reno's intriguing history of the diamond industry in Sierra Leone's Kono District, *Corruption and State Politics in Sierra Leone* (New York: Cambridge University Press, 1995). See also Jonathan C. Brown's fine study of oil firms during the Mexican revolution, *Oil and Revolution in Mexico* (Berkeley: University of California Press, 1992).

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