

Essay

Laws and Codes for the Resource Curse

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The international community assigns a high priority to helping impoverished societies, yet its efforts are currently lopsided. While it spends around U.S. \$ 100 billion on aid and provides over 100,000 UN peacekeepers, to date it has largely neglected the potential of international codes and laws to raise standards of economic governance. This Essay analyzes the potential contribution of such codes and laws to increase the development impact of natural resource revenues. The current commodity booms make this a critical opportunity for assistance. This Essay reviews the evidence on the resource curse and its causes, including a prognosis for the long term consequences of the present commodity booms, concluding that where behavior patterns to stay unaltered the present booms would be a missed opportunity of quite staggering proportions. The Essay then anatomizes the decision process by which valuable natural resources in the territory of the society are harnessed for economic growth that benefits the society, delineating five key decisions and considering, for each, whether past failures were predominantly due to mistakes or to misaligned incentives. Next, the Essay turns to the scope for new international voluntary codes and discusses the potential need for new laws, the national promulgation of which would be coordinated across the OECD analogous to anti-bribery legislation. Such laws are difficult to introduce and so are a last-resort approach for the realignment of incentives.

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I. INTRODUCTION

The international community assigns a high priority to helping impoverished societies, yet its efforts are currently lopsided. While it spends around U.S. \$ 100 billion on aid and the UN provides over 100,000 peacekeeping personnel, to date it has largely neglected the potential of international codes and laws to raise standards of economic governance.¹ This Essay analyzes the potential contribution of such codes and laws to increase the development impact of natural resource revenues. The current commodity booms make this a critical opportunity for assistance.

Developing countries that export resources are currently experiencing booms unmatched since the 1970s. Many of these countries have been impoverished and economically stagnant for decades and the booms constitute extraordinary opportunities for development. The revenues are often large enough to finance transformation, dwarfing aid flows. However, the last global commodity boom of the 1970s largely failed to deliver transformational development. On the contrary, its long-term economic consequences were highly adverse. The failure to harness the booms of the 1970s was the result of poor-governmental decision-making. In many cases, the decision-makers would have arrived at different decisions had they realized their consequences. But these decisions also reflected divergences between the interests of the society and of the decision-maker: the incentives facing the decision-maker were misaligned with the social interest that the decision-maker was empowered to represent. This distinction between mistakes and misaligned incentives is fundamental. It is a guide to the actions that can prevent history from repeating itself. Mistakes are to an extent self-correcting through learning, whereas misaligned incentives require changed incentives. Codes may be helpful in correcting both mistakes and misaligned incentives.

First, where past decisions were mistakes, international codes can be helpful. The typical low-income commodity exporter has remained prone to mistakes in economic policy because the cadre of well-trained decision-makers within the society is still tiny. Adult populations are small, few people get international graduate education, and few that do return to their country; globalization is accelerating the emigration of the highly skilled. Even among this limited pool, few are in positions of influence; the salaries of senior civil servants have been radically eroded. Further, because the adverse consequences of mistakes in managing commodity booms occur only long after the decisions, it is easy for a society to misdiagnose its problems. The typical mistake of the 1970s' booms was to intensify these problems by borrowing and then consuming the proceeds. When

1. See WORLD BANK, WORLD DEVELOPMENT INDICATORS 344 (2007), available at <http://siteresources.worldbank.org/DATASTATISTICS/Resources/WDI07frontmatter.pdf> (discussing aid); Background Note, U.N. Peacekeeping, U.N. Dep't Pub. Info., U.N. Peacekeeping Operations, U.N. Doc DPI/1634/Rev.79 (Feb. 2008), <http://www.un.org/depts/dpko/dpko/bnote010101.pdf> (discussing peacekeeping).

commodity prices crashed, this led to a phase of crisis management termed "structural adjustment." Nigerians, for example, generally see the boom period as the "good times," and blame their current poverty on "structural adjustment." Thus, the process of learning from mistakes can usefully be complemented by external guidance. This is where international codes can be helpful. They get noticed, and they are official status signals that they have been subject to a reasonably rigorous process of scrutiny and assessment and so should be taken seriously. Even when such codes are entirely voluntary, they can change behavior by speeding learning.

Where wrong decisions were the result of misaligned incentives rather than mistakes, the incentives have to be changed. Although in principle, incentives can be changed both by penalties and rewards, in the case of decisions appertaining to resource revenues, the key changes are likely to come from new penalties. This is because the private rewards for socially costly decisions are usually too high to be countered by even higher rewards for good decisions. The terrain of penalties opens up a role for the law. Legal process is not the only means by which penalties can be introduced, but it is likely to be a critical part of solutions.

In Part II, I review the evidence on the resource curse and its causes, including a prognosis for the long-term consequences of the present commodity booms should patterns of behavior stay unchanged. The key conclusion from this section is that, were behavior patterns to stay unaltered, the present booms would be a missed opportunity of quite staggering proportions. The issue under discussion is undoubtedly the single most important issue for the development of the countries now stuck at the bottom of the global economy: the "bottom billion." In Part III, I anatomize the decision process by which valuable natural resources are harnessed for economic growth that benefits that resource-rich society. I delineate five key decisions. For each I consider whether past failures were predominantly due to mistakes or to misaligned incentives. In Part IV, I turn to the scope for new international voluntary codes. Primarily, these address those errors due to mistakes although they can also help to realign incentives. In Part V, I turn to the potential need for new laws, the national promulgation of which would be coordinated across the Organization for Economic Co-operation and Development ("OECD") analogous to anti-bribery legislation. Such laws are difficult to introduce and so are a last-resort approach for the realignment of incentives.

II. THE RESOURCE CURSE AND ITS CAUSES: THE EVIDENCE

The "resource curse" refers to the tendency for many low-income commodity exporters to experience slower economic growth than countries that are less well-endowed with resources. The resource curse is evident from particular situations, such as Nigeria since the discovery of oil; but as a general proposition about commodity-exporting countries it has been more controversial.² Counterexamples to Nigeria, such as the rapid

2. Richard M. Auty, *Introduction and Overview*, in *RESOURCE ABUNDANCE AND ECONOMIC*

growth of Botswana since the discovery of diamonds, demonstrate that the resource curse is not inevitable. Despite being landlocked and largely a desert, Botswana has had one of the most rapidly growing economies in the world.³ Further, there was an apparent discrepancy between two different types of general (that is, statistical) evidence on the resource curse. The main general evidence came from a study by Sachs and Warner, which showed, using cross-section comparisons, that resource riches were damaging.⁴ Cross-sections essentially compare the overall experience of one country with another. Economists have, however, come to doubt such evidence where it is used to investigate processes that occur over time, because it is easy to misattribute to temporal processes what are in reality underlying differences between countries.⁵ Evidently, the resource curse is such a country-specific process: resources are discovered and this produces various changes, which eventually damage the economy. These ubiquitous suspicions of cross-section analysis appeared to be confirmed in the case of the resource curse through *time series* analyses by Deaton and Miller⁶ and Raddatz.⁷ Time series analysis relies upon before-and-after situations in each country and so is therefore better suited to temporal processes such as the resource curse. They found that the consequences of a commodity boom looked on average to be entirely benign on various economic criteria.⁸ However, an acknowledged limitation of their method was that it could only investigate the first few years following a boom. My own recent work with Benedikt Goderis has reconciled this apparently conflicting evidence.⁹ Using the statistical technique of co-integration we are able to analyze both the short-term and the long-term effects of commodity booms using data for virtually every country in the world, and spanning the period 1970-2003. Our results confirm that in the first few years, price booms benefit the overall economy.¹⁰ However, after about twenty years the effects are often highly adverse. Simulating the current commodity booms in the fourteen major African commodity exporters, we find that the long-term effect is a reduction in output relative to the counterfactual by around twenty-five percent.¹¹ The resource curse is a

DEVELOPMENT 6 (Richard M. Auty ed., 2001).

3. WORLD BANK, WORLD DEVELOPMENT INDICATORS 190 (2007), available at <http://siteresources.worldbank.org/DATASTATISTICS/Resources/WDI07frontmatter.pdf>.

4. Jeffrey D. Sachs & Andrew M. Warner, *The Curse of Natural Resources*, 45 EUR. ECON. REV. 827 (2001).

5. Paul Collier & Benedikt Goderis, *Commodity Prices, Growth, and the Natural Resource Curse: Reconciling a Conundrum* (Univ. of Oxford, Dept. Of Econ., Working Paper No. WPS/2007-15, 2007).

6. Angus S. Deaton & Ronald I. Miller, *International Commodity Prices, Macroeconomic Performance, and Politics in Sub-Saharan Africa* (Princeton Stud. Int'l Fin., Study No. 79, 1995), available at <http://www.princeton.edu/~ies/IES.Studies/S79.pdf>.

7. Claudio Raddatz, *Are External Shocks Responsible for the Instability of Output in Low-Income Countries?*, 84 J. DEV. ECON. 155 (2007).

8. *Id.*

9. Paul Collier & Benedikt Goderis, *Prospects for Commodity Exporters: Hunky Dory or Humpty Dumpty?*, 8 WORLD ECON. 1 (2007).

10. *Id.*

11. *Id.*

reality.

The adverse long-term effects are confined to price booms in non-agricultural commodities. One explanation for this is that agricultural booms accrue predominantly to farmers who usually use their windfalls sensibly. In contrast, non-agricultural booms usually accrue predominantly as government revenue. The current commodity booms are non-agricultural, and we investigate whether such booms inevitably lead to the resource curse or are themselves contingent. We find that they are contingent upon initial conditions of governance: above a threshold level there is no resource curse.¹² Thus, for example, Norway has been able to benefit from its oil not only in the short-term but has harnessed the revenues for long-term growth. Our measure of governance is taken from the International Country Risk Guide, a commercial rating agency. On this measure, the threshold level below which the resource curse sets in is approximately equivalent to the governance standards of Portugal in the mid-1980s. At that time, Portugal was still suffering the aftermath of the chaotic transition from dictatorship and consequently suffered sub-par governance relative to the rest of Europe. Unfortunately, almost all of the current commodity booms in low-income countries are occurring in environments where governance is below this threshold. This emphasis upon the importance of governance in the management of resource rents is consistent with a recent analytic literature which models the political economy of the resource curse.¹³

Governance is, however, multifaceted, and, in one important respect, it has manifestly improved in resource-exporting countries since the 1970s. Following the collapse of the Soviet Union, there was a wave of democratization. As a consequence, these resource-exporting countries are now more democratic. With Anke Hoeffler, I have investigated whether democracy improves the economic performance of resource-exporters.¹⁴ We find that, whereas in other economies democracy has such an effect, in the resource-exporters performance is significantly worse. In effect, instead of democracy disciplining the decision process, the resource revenues undermine the democratic process.¹⁵ We decompose democracy

12. *Id.*

13. See Rabah Arezki & Frederick van der Ploeg, Can the Natural Resource Curse Be Turned Into a Blessing? The Role of Trade Policies and Institutions (International Monetary Fund, Working Paper No. WP/07/55, 2007) (examining conditions under which resource booms can lead to increases in rent-seeking activity); Jean-Marie Baland & Patrick Francois, *Rent-Seeking and Resource Booms*, 61 J. DEV. ECON. 527 (2000). See generally Roland Hodler, *The Curse of Natural Resources in Fractionalized Countries*, 50 EUR. ECON. REV. 1367 (2006) (predicting that natural resources lower incomes in fractionalized countries and increase income on homogenous countries); Halvor Mehlum, Karl Moene & Ragnar Torvik, *Institutions and the Resource Curse*, 116 ECON J. 1 (2006) (showing that the adoption of a more open trade policy reduces the resource curse); James A. Robinson, Ragnar Torvik & Thierry Verdier, *The Political Foundations of the Resource Curse*, 79 J. DEV. ECON. 447 (2006) (exploring political incentives created by resource endowments to understand presence of a resource curse).

14. Paul Collier and Anke Hoeffler, Testing the Neocon Agenda: Democracy, Resource Rents and Growth (unpublished manuscript), available at <http://users.ox.ac.uk/~econpco/research/pdfs/TestingTheNeoconAgenda.pdf>.

15. *Id.*

into two facets: electoral competition and checks and balances. The economic damage done by democracy comes from electoral competition and is offset if checks and balances are sufficiently strong. The instant democracies of the 1990s have electoral competition without checks and balances because the latter are much more difficult to establish. As Iraq and Afghanistan demonstrate, elections can be introduced rapidly in any society because they are brief events, and the incentives for parties to participate are strong. In contrast, effective checks and balances are continuous processes, and since their purpose is to limit power, the powerful have little incentive to build them. An implication of this is that the wave of democratization has not yet improved governance to the level at which the incentives of decision-makers would be aligned with the interests of citizens. Other approaches to the improvement of governance within low-income resource-exporting countries are thus likely to be critical to whether history repeats itself.

III. MISTAKES AND MISALIGNED INCENTIVES: FIVE KEY DECISION POINTS

The dismal outcome of commodity booms to date reflects either mistakes or misaligned incentives, and in principle, either of these could predominate in poorly governed countries. To analyze these two possibilities, I focus on five decisions that are jointly critical in harnessing a commodity boom for broader growth across the economy.

A. Decision 1: Negotiating the Resource Extraction Contract

In developing countries, resource extraction rights are invariably vested in the government.¹⁶ Because governments lack the organization, skills and capital to undertake extraction themselves, it is appropriate to sell these rights to resource extraction companies. The first critical decision is how these sales should be conducted.

The government has one major advantage: it is usually the monopoly seller of the nation's resources. The exception is where rebel organizations control some of the national territory and in effect compete with the government in selling rights. For example, this was for many years the situation with respect to Angolan diamonds. When Jonas Savimbi, the head of the Angolan rebel organization, was killed, an event which marked the end of divided control of the nation's resources, the stock price of resource extraction companies doing business in Angola fell on the New York market by four percent.¹⁷ Asset holders recognized that the move to

16. The American treatment of property rights over resource extraction is wholly exceptional. In America the ownership of land confers the ownership of any resources found under the land. In virtually all other countries extractable resources are regarded as the property of the state. Typically, private companies purchase these rights through a combination of pre-extraction lump sum payments such as 'signature bonuses' and royalty payments on the flow of resources actually extracted, the terms of which can be varied from time to time.

17. Massimo Guidolin & Eliana La Ferrara, *Diamonds Are Forever, Wars Are Not: Is Conflict*

monopoly would worsen the bargaining position of companies and that this would more than offset any material benefits of peace.

However, the government also has two major disadvantages: it has less information than a resource extraction company as to the likely value of extraction rights, and it has a more severe agency problem. The former generates mistakes, whereas the latter generates misaligned incentives. As a first step in reducing the information asymmetry, the government can invest in a geological survey, so that the uncertainty over the value of the rights is reduced. When good geological information is available, the next and key step is an auction. An auction reveals value through competition among informed companies: the government itself does not need to know the value of the asset it is auctioning. The most celebrated instance of the benefits of auctioning rights is the sale of the rights to the third generation mobile phone network in the United Kingdom. The British Treasury was about to sell the rights in a negotiated deal for £2 billion when it was persuaded to rely upon an auction instead. The auction revealed a price of £20 billion.¹⁸ If the British Treasury can so radically underestimate value, it is evident that the typical African ministry of finance does not have the core competence to negotiate satisfactory deals. The amount of information revealed by an auction depends both upon the details of its design and the integrity with which it is conducted.¹⁹ I address this issue below.

The agency problem facing governments arises from the fact that the power to determine deals is delegated to some agent of government, typically the minister of industry or the president, who might have a different objective from that of the society. Resource extraction companies thereby have the opportunity to arrive at a deal which is personally rewarding for both the government agent and the company at the expense of the society. Again, auctions are potentially the solution to this agency problem. Auctions, however, can be easily gamed. To prevent this, auctions would need to meet certain specified standards, and adherence to these standards would in turn need to be monitored through a process of international certification.

Currently, many African governments are entering into packaged deals, usually with China, that combine resource extraction rights with construction contracts.²⁰ Such packaging has some organizational advantages and is entirely compatible with an auction process: the auction can specify that the government wants the package. Resource extraction companies would then team up with construction companies and, potentially in conjunction with their national aid agencies, submit a joint bid. An advantage of this is that bids would then be comparable.

Bad for Private Firms?, 97 AM. ECON. REV. 1978, 1978 (2007).

18. John Kay, *Cloud Cuckoo Land's Costly Logic*, FIN. TIMES, May 1, 2000, at 11.

19. For a discussion of a design appropriate for a resource auction, see Peter Cramton, *The Design of Auctions*, in *ESCAPING THE RESOURCE CURSE* (Jeffrey Sachs & Joseph Stiglitz eds., 2007).

20. See, e.g., Chen Aizhu & Lindsay Beck, *Chinese-African Summit Yields \$1.9 Billion in Deals*, WASH. POST, Nov. 6, 2006, at A17.

B. Decision 2: Design Features of the Contract

The second critical decision concerns the specification of the rights that the government proposes to sell. Extraction rights have three key dimensions: their duration, the tax regime that will be applied, and the credibility of these commitments. The third of these dimensions is the core of the matter.

Because the government is sovereign, it can change the terms of any deal that it strikes. This gives rise to a “time-consistency” problem: the inability of the government to commit induces extraction companies to discount its offer. The problem is far more acute for governments that start with a weak reputation. This is normal across Africa. In this case, if the government reneges, it suffers only a small loss of reputation. The problem is particularly severe where no geological survey is available or planned, so that the subsequent value of any rights to prospect for minerals will change contingent upon discoveries. The government cannot credibly commit to refrain from changing the terms of the deal should the company strike lucky, and so the value of such a strike will be heavily discounted by the company in the price it is prepared to pay for the right to prospect.

Nevertheless, the approach usually urged by international financial agencies in such situations has been to encourage governments to offer long-term contracts, and then, should companies strike lucky, to advise governments not to renege on their terms.²¹ The intention is that governments should gradually build their reputations to a point at which their commitments would be credible. Such advice seems to be seriously mistaken in two respects.

First, governments with poor reputations that offer long-term contracts for highly speculative outcomes will only receive offers that include a heavy discount for the likelihood that they will renege. In effect, the company works on the assumption that the contract will be changed. If, subsequently, the government fails to change the contract, it hands the company a windfall in relation to the expected return. Conversely, if the government indeed reneges on the contract, it incurs a loss of reputation, which would not have occurred had it not made the commitment. The alternative is for the government to offer for sale only rights that extend over a limited time horizon. It can further reduce the need to renege on a contract by designing its tax system so as to be heavily geared to the level of rents. Thus, fixed-fee royalties should be avoided. Taxation should start only above some threshold world price at which the firm is making normal profits and rise steeply as the price increases above that threshold. Both features reduce the incentive for the government to renege on the contract should the company strike lucky. They thereby increase the confidence of the company that the terms of the contract will be respected, and so reduce the discount that is built into its offer.

21. For example, the post-conflict government of Sierra Leone entered into resource extraction contracts extending for up to seventeen years. Interview with Ahmad Tejan Kabbah, former President of Sierra Leone, in Freetown, Sierra Leone (Jan. 21, 2007).

However, the key reason why this common advice is ignored is that the incentives for governments already tempt them to offer contracts with horizons that are too long and tax regimes that are too generous. By designing contracts in this way, governments increase current revenues at the expense of revenues in the future, when the current group of ministers may not be in power. This misalignment of incentives is at its most acute in transitional governments, which are common in post-conflict situations. For example, the transitional government of the Democratic Republic of the Congo knew that many of its members would be out of government after the post-conflict elections, scheduled for 2006. In the preceding three years, long-term rights to mineral extraction were sold off under a very generous tax regime. During 2006, mineral exports are estimated to have been around U.S. \$ 200 million whereas royalty payments received into the government budget were a mere U.S. \$ 86,000. The prices at which these rights were sold were inevitably heavily discounted by the lack of credibility of the regime's commitments. Similarly, while it was still a rebel organization, the current government of Congo Brazzaville is believed to have sold the French oil company, Elf, the long-term right to oil at a heavily discounted price in return for financial support in its subsequently successful military struggle. Analytically, these sales of extraction rights were equivalent to incurring international debt at very high interest rates, something that would not have been permitted by the international community.

The appropriate specification of the rights to be sold thus depends upon political as well as geological considerations. While a mine might have a natural life of thirty years it will often be economically disadvantageous for the society to sell extraction rights that extend over such a long time horizon. It may be preferable to incur the extra transaction costs implied by rights that are shorter than the natural life of the investment.

C. Decision 3: Transparency in Revenues

The third critical decision is the degree to which revenues are scrutinized. Until the Extractive Industry Transparency Initiative (EITI), which began in 2002, revenues paid to governments by resource extraction companies were usually confidential.²² This lack of disclosure gave rise to two abuses: one by companies, and the other by government officials.

Most revenue-receiving governments have little capacity to scrutinize whether payments by companies are fully compliant with tax regimes. However, once payments are made public, companies are potentially exposed to a greater degree of scrutiny and are more likely to be voluntarily compliant. Government officials abuse the lack of disclosure by improperly diverting to personal uses payments, which should properly

22. Extractive Indus. Transparency Initiative, EITI Summary, <http://eititransparency.org/eiti/summary> (last visited May 16, 2008).

accrue to the government budget. Indeed, the key impetus for the EITI was evidence from the IMF that some U.S. \$ 2 billion in oil revenues that should have accrued to the Angolan budget were missing. The scrutiny of government by citizens depends upon information. This is exemplified by the results of the decision of the Nigerian Federal Government to implement the EITI at the level of the thirty-six states within the federation, which among them receive half of the oil revenue.²³ The Federal Ministry of Finance decided to publish in the newspapers the monthly oil revenues sent to states and handled by state governors. On the day of first publication, newspaper circulation in Nigeria spiked: citizens wanted to hold their officials accountable. The benefits of the EITI already extend beyond Africa: it has substantially improved the management of resource revenues in Russia and central Asia.²⁴

An even more fundamental abuse of resource revenues is when they do not accrue to the government in any form, but are instead paid by companies directly to rebels, who control part of the national territory. This was, for example, the case for many years with diamonds sold by the very large Angolan rebel organization, UNITA, headed by Jonas Savimbi.²⁵ The international community took notice of this problem at around the same time as the establishment of the EITI, through the Kimberley Process, a voluntary system of certification of the provenance of diamonds.²⁶ This process has already proved highly successful in curtailing rebel access to the world diamond market, and the effectiveness of its scrutiny is steadily increasing. The system is also being considered for a few other high-value commodities, such as coltan.

The opacity of resource revenues and their theft by rebel groups are not mistakes. Evidently, they are the result of misaligned incentives: opacity and theft benefit those who misappropriate resource revenues.

D. Decision 4: the Aggregate Savings Decision

By far the most important decision point concerns the proportion of resource revenues that should be saved. Resource extraction is a depletion of an asset, and so needs to be offset by asset accumulation out of income. This implies that the savings rate out of resource revenues should be radically higher than that out of more sustainable sources of income. This difference in savings rates in turn affords major scope for mistakes. There are two distinct time frames that need to be taken into account in reaching the savings decision: one long-term, and the other medium-term.

The long-term time frame concerns depletion. The extraction of non-

23. Olusegun Adeniyi, Revenue Disclosure in Nigeria, *available at* <http://eitidev.forumone.com/UserFiles/adeniyispeech.pdf>. *See also* Nigeria, Candidate Country, <http://eittransparency.org/Nigeria> (last visited May 16, 2008).

24. Interview with Eric Bergof, Chief Economist, European Bank for Reconstruction and Development, in Budapest (Aug. 29, 2007).

25. Guidolin & La Ferrara, *supra* note 17, at 1986.

26. *See, e.g.*, Kimberley Process, Frequently Asked Questions, http://www.kimberleyprocess.com/faqs/index_en.html (last visited Apr. 7, 2008).

agricultural natural resources depletes the stock of the asset. To maintain the overall value of assets, some of the resource depletion should be offset by an accumulation of other assets. The proportion that should be saved depends upon the likely length of life of the resource and upon the likely rate of return on investment relative to the rate of return earned by leaving the resources in the ground. But, in general, a significant proportion of revenues from resource extraction will need to be saved in order to avoid overall depletion of assets.

The medium-term time frame concerns the price cycle of the commodity. The world prices of commodities have a long record of substantial fluctuation. While there is nothing so predictable as a genuine "cycle," there are periods when prices are sufficiently out of line with their long-term average level that it is reasonable to expect a degree of reversion towards the long-term mean. There are good reasons why a government might try to smooth its expenditures rather than simply let expenditure track these extreme fluctuations in revenue. Volatility in expenditures gives rise to inefficiencies. For example, during periods of high expenditure, commitments are made to rather low-return investments, which can then only be financed during periods of low expenditure through deep cuts in investments, which should have been prioritized.

Both offsetting depletion and smoothing the price cycle require the government to save part of the revenue from resource extraction. This decision to save is subject to a further "time-consistency" problem. Consider the decision of a prudent finance minister whether to save revenue. The saving necessarily defers the spending decision to the future, a time when the minister responsible is likely to be different. If this future finance minister is also prudent, then no issue arises. However, consider the consequences if the future finance minister is "populist." Populism is the term used to describe politicians who attempt to build support by advocating strategies that are superficially appealing but too simplistic to be viable—a political stance which is likely to be common when the electorate has little education.

The hallmark of such strategies is to sacrifice the future for the present. The liquid assets accumulated through saving the resource revenues are thus vulnerable to the political strategy of converting them rapidly into consumption. In this case the revenues saved by the prudent finance minister are simply handed to the populist finance minister to spend. Let us suppose that not only do prudent finance ministers prioritize savings more highly than populist ministers, but that the quality of their spending is higher. Thus, the prudent finance minister faces a dilemma. If there is a significant risk that there will be a future populist finance minister, then the current prudent finance minister may reasonably decide that the best course of action is not to save the revenue, even though savings would otherwise be warranted. This is a form of time inconsistency problem because future governments would be better off if only they could tie their hands, renouncing the freedom of a future populist minister to misspend the savings of the current prudent minister. If they renounced this

freedom, the prudent minister would save and this would make a future government better off, whether or not the minister was populist. But if the future government retains this freedom, then it cannot benefit from it. Evidently, a future government cannot itself renounce its freedom because it does not yet exist. However, the present government can act on behalf of the future government by establishing a fiscal constitution. By this I mean a constitutional provision that enshrines some basic principles of the savings decision, curtailing the freedom of a future populist minister of finance to deplete assets.

In the absence of a fiscal constitution, the decision of a prudent finance minister not to save windfall resource revenues is not necessarily a mistake. Rather, it is the consequence of misaligned incentives. Several resource-rich governments have now recognized the need to realign incentives by introducing a fiscal constitution. For example, the governments of Chile and Nigeria have both recently enacted such provisions to handle the depletion and price swings of their commodity exports, copper and oil respectively.²⁷ Constitutions can always be overturned. However, the process of overturning them is both public and slow. These obstacles might well be sufficient to deter a populist minister from even attempting to deplete assets: by definition, a populist finance minister is in a hurry. In making the populist option more difficult, the fiscal constitution also reduces the returns to becoming a populist minister of finance and thereby makes populism less likely.

E. Decision 5: the Public Investment Decision

Having determined the proportion of resource revenues to be saved, the government must then decide which assets to acquire. Specifically, it must decide how much of the savings should be held abroad and, for the savings invested domestically, which investments should be chosen. There are two distinct reasons for saving abroad. One is that those savings intended to smooth consumption over the price cycle need to be held in liquid form so that they can be depleted during the unpredictable periods of low prices. Hence, they have to be held in foreign financial assets. Domestic financial assets, though liquid at the level of an individual holding, are merely claims on illiquid investments within the society and so cannot in aggregate be liquidated. In addition, at some point the return on domestic investment is liable to drop below that available on world markets and at this point it is better to hold savings temporarily abroad

27. See Remi Babalola, *Improving Fiscal Coordination Between the Federal and State Government* (Oct. 3, 2007), http://www.fmf.gov.ng/portal/uploads/files/DFID_fiscal%20responsibility%20bill.pdf (discussing fiscal responsibility legislation in Nigeria); Heather Walsh & James Attwood, *In Chile, the Richest Latin American Country, Government Approval Has Dropped*, INT'L HERALD TRIB., Nov. 7, 2007, available at <http://www.iht.com/articles/2007/11/06/bloomberg/bxcopper.php> (discussing the resulting pressures of populism in Chile).

until conditions within the economy permit them to be switched into domestic investment. This is termed "absorptive capacity." The rate of return on domestic investment is influenced by many factors. Particularly pertinent is that during savings-driven investment booms, returns are driven down by both the congestion at the planning stage and rising construction costs at the implementation stage. It is usually more efficient to stretch the domestic investment of the savings generated by a commodity boom over a longer period than the commodity boom itself.

Complementing these macroeconomic considerations about absorptive capacity are microeconomic concerns about the selection of public investment projects. For a project to be satisfactory it should meet two criteria: honesty and efficiency. These aspects of the project need to be assessed prior to approval. An effective public investment process should thus subject all proposed projects to these two tests. Dishonesty in public investment procurement is a massive problem in resource-rich countries. The minimal defense against it is to require all projects to be subject to competitive tendering. Since it is easy to subvert competitive tendering, as with auctions, there needs to be some scrutiny of the process backed by certification that the tendering process meets reasonable standards. For example, a common way in which competitive tendering is subverted is when public officials in charge of procurement agree in advance with a particular firm that once it has been awarded the contract the government will change the specification in such a way as to warrant re-pricing. A contract to build schools might be recalled in order to change the design of the buildings and the alterations accepted at a price higher than is warranted. While there is indeed a genuine need to be able to adjust contracts, since the adjustments are not re-tendered, there is scope for abuse and so the process needs to be policed. Honesty is not enough. Some of the most egregious public investments of resource revenues would have been disastrous even if their implementation had been completely honest because they were foolishly conceived. The defense against this process has to be technocratic: the likely rate of return on projects has to be estimated in an impartial manner, with only those projects that offer returns over some threshold set around the rate of return on assets held abroad being approved. This was in essence the decision process that enabled Botswana to convert diamond revenues into record growth.²⁸ The evaluation of public investment projects is standard in developed countries, but it is also a process that is readily gamed. Because future returns are inevitably hypothetical, it is invariably feasible to manipulate estimates to suit political demands. Hence, again there is a need for scrutiny and certification of the process.

The tendency to use the revenues accruing during commodity booms for surges in poorly selected public investment is, to an extent, a mistake. However, it also reflects misaligned incentives. Whenever public procurement processes and the scrutiny of rates of return are weak, there are large personal gains to be had from maximizing the current flow of

28. Charles Harvey, *Botswana: Is the Economic Miracle Over?*, 1 J. AFR. ECON. 335 (1992).

public investment projects. Indeed, since many of the kickbacks accrue upon commissioning the project, there is an incentive to commission far more projects than can be implemented, resulting in the common spectacle of projects that stand uncompleted for many years while new ones start up around them. Thus, the core problem is less a matter of mistakes than of misaligned incentives.

IV. THE ROLE OF VOLUNTARY CODES

Recall that our starting point is the current commodity boom against the backdrop of the dismal history of the resource curse. History must not be repeated, but it will be repeated unless there is an appropriate combination of learning to correct past mistakes, and institutional innovation to correct misaligned incentives. I now consider to what extent voluntary codes can be useful in facilitating both learning and the realignment of incentives.

Manifestly, voluntary codes can be powerful instruments. The EITI and the Kimberley Process are both important examples of how voluntary codes can improve resource extraction. The former has demonstrated that it is possible by voluntarism to increase financial transparency, and the latter that it is possible to regulate the trade in commodities. To what extent can this approach usefully be extended?

Voluntary codes have power for four core reasons. Their basic rationale is informational. The code simply codifies good practice and thereby informs governments as to what is generally considered sensible. The codification helps to distinguish this particular advice from the babble of advice, often contradictory, to which governments are subjected. Governments can respect codified advice because they infer that it has been subject to thorough and impartial analysis. For instance, in banking, voluntary international standards are already so well developed that they can be taken for granted. The Basel Standards, generated under the auspices of the Bank for International Settlements and periodically revised by agreement, guide the international banking industry as to prudential somewhat imperfect standards.²⁹ Standards of prudential banking exist, whereas those for resource extraction do not, not because the banking industry is an easier sector in which to get agreement, but because the absence of such standards could produce systemic dangers with enormous costs for important governments. While the costs of the absence of standards in the management of natural resource revenues are also enormous, they are borne by people without the power of international action.

The informational role, however, is probably not the most potent aspect of codes. Even though in all badly governed resource-rich societies there are reformers anxious to critique poor policies, the reformers

29. BANK FOR INTERNATIONAL SETTLEMENTS, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS: A REVISED FRAMEWORK (2004), available at <http://www.bis.org/publ/bcbs107.pdf?noframes=1>.

themselves face a coordination problem: each voice for reform is also, often inadvertently, a voice for self-promotion. Reform is a highly politicized process and so it is part of the struggle for power. Thus, due to personal rivalry, it is often difficult for reformers to coordinate around an agreed set of objectives. A code has the advantage of providing a neutral goal around which reformers can rally. It is both easier to get pressure for adoption and easier to defend, once adopted, than any personalized reform. The Nigerian reforms of 2003-2006 provide a good illustration. When Ngozi Nkonjo-Iweala became Minister of Finance in Nigeria in 2003, despite the oil boom, the Federal Government was running a fiscal deficit.³⁰ She rapidly turned the budget into surplus, but recognized that such surpluses needed to be institutionalized into a savings rule. Otherwise, her fiscal prudence would merely transfer to some imprudent successor, the prospect of which in the Nigerian context was not inconsiderable. In the absence of any international guidelines she devised her own standards and attempted to enshrine them in domestic legislation. Unfortunately, the resulting Fiscal Responsibility Bill provoked major opposition on constitutional grounds and failed to get enacted during the term of office of President Obasanjo. Indeed, in 2003, a year prior to the end of his term, the President removed Dr. Nkonjo-Iweala from her position. For the present, the rule continues to be observed, but its status remains informal. It is, in effect, "the Ngozi rule," yet she is no longer even a resident of Nigeria.³¹ While the rule may yet become anchored in legislation, it would surely be more robust were it to have the force of an international standard like the EITI, which Dr. Nkonjo-Iweala also adopted.

Voluntary codes also provide a norm for the coordination of external pressure. Adherence to the EITI rapidly became a condition for some donor assistance; powerful financial incentives need a clear benchmark but not necessarily one that has the force of law. The adoption of the Kimberley Process became a benchmark for NGO pressure. The pressure was first used to induce the governments of diamond-producing nations to sign the standard. Then pressure shifted to strengthening the systems of verification and enforcement.

Perhaps most importantly, codes separate the sheep from the goats. By revealing those governments that are willing to comply with a particular set of standards, they also reveal those that are not. There is a strong incentive for governments not to reveal themselves as being in the latter category. A dramatic instance of this phenomenon was the creation of the Euro, something initially intended so that France could have a common currency with Germany. Once Spain announced that it intended to meet the criteria for membership, Italy and Portugal felt compelled to do the same, which in turn forced the Greek government to meet the criteria. Similarly, the Kimberley Process, though voluntary, has rapidly attracted

30. Bright Okogu & Philip Osafo-Kwaako, *Issues in Fiscal Policy Management Under the Economic Reforms*, in *ECONOMIC POLICY OPTIONS FOR A PROSPEROUS NIGERIA 2003-2007* (Paul Collier et al., eds., 2008).

31. *Id.*

every diamond-producing country in the world. Taking into consideration the five critical decision points discussed in Section III, only the third is currently covered by an international code. Thus, all of the other four have potential for being codified.

One new code could cover the design and conduct of auctions. The rights to oil exploration are now usually, but not invariably, sold through auction. The exceptions tend to be for exploration rights in countries that have not previously had a resource extraction industry, for instance the discovery of oil in Northern Uganda in 2007.³² The most likely explanation is the sheer unfamiliarity of these governments with the oil industry. There is no particular technological reason why non-oil rights of extraction cannot be auctioned using the principles currently applied in the oil industry. The high world price of virtually all minerals ensures that there would be a ready supply of bidders. However, an auction is only as robust as the way in which it is conducted: auctions can be rigged in a variety of ways. Hence, any voluntary code needs to be reinforced by a verification system, just as the Kimberley Process is supported by a verification system. Fortunately, because an auction is a discrete event, it would be far easier to verify than the Kimberley Process, which has to monitor the continuing activity of diamond extraction. International verification would need to be performed by some agency, which might also provide advice on the detailed conduct of the auction best suited for the rights. The verification role could either be assigned to the new EITI agency, thereby expanding its role, or to one of the international financial institutions.

A second code could cover the specification of the time horizon of any extraction rights and some parameters for the tax regime. One important rule of thumb is that rights should not extend beyond the horizon of reasonable political certainty, because otherwise their value will be deeply discounted. A second is that the tax regime should be sufficiently aggressive that the bulk of revenues accrue from taxation, rather than from the initial sale of rights. Otherwise, the government that sells the rights is, in effect, borrowing from future governments at a very high rate of interest. An important specific part of the code might limit the powers of transitional governments to mortgage the future in this way.

A third code could cover the savings rate out of resource revenues. What is required here is guidance rather than legislation. However, this is the single most important step in whether resource revenues are harnessed. Further, the issue is sufficiently complex and subject to populist pressures that decisions are liable to go wrong. Some governments, such as that of East Timor, are attracted to the Norwegian model of financial asset accumulation in its Government Pension Fund,³³ which is surely inappropriate for capital-scarce low-income countries, while others are

32. Interview with Emmanuel Tumusiime-Mutebile, Governor of the Central Bank of Uganda, Government of Uganda, in Kampala, Uganda (Sept. 2007).

33. See *Norway's Sovereign Fund Serving As Model*, WALL ST. J., Nov. 19, 2007, at C7 (discussing efforts to evaluate Norway's sovereign wealth funds, which reinvest the proceeds from the sale state-owned oil and gas assets).

simply failing to save at all.³⁴ What is required are some guidelines linked to analysis undertaken by an authoritative and neutral agency. The analysis would, for example, show how the optimal savings rate is linked to the length of time until the resource is likely to be depleted, and to whether the current world price looks to be above or below that which is expected to prevail. The guidelines introduce the concept of an appropriate savings rate out of depleting resource revenues, and would point to this analysis as a way for both the key decision-makers within the government, and the less well-defined group that would constitute an informed society, to form a judgment on a reasonable range for the savings rate given its particular circumstances. The recent discoveries of oil in Ghana and Uganda hit the national press in each country without being framed by the policy choice with which the society was confronted.³⁵ An international standard could have provided local journalists with a way of posing the key savings issue, which necessarily arose for the society.

A fourth code could cover the procedures for public investment. Unlike the other decision points, the procedures needed for effective investment are not specific to resource revenues. Procedures that, in any case desirable, become critical. Those procedures that concern honesty, most especially competitive tendering for procurement, are routine, although not always observed. When the reforming Nigerian government of 2003-2006 established a unit for competitive tendering of public investment projects under Oby Ezekwesili, the cost of the typical project fell by an astonishing forty to fifty percent.³⁶ While most governments appreciate the case for systems to reinforce honesty in projects, they have less appreciation of the importance and difficulty of efficiency: in order to harness a resource windfall the chosen projects must have a good rate of return. This is a technical matter, requiring a unit, most appropriately assigned to the finance ministries. The technocrats staffing such units would need protection from politicians pressuring to massage expected rates of return in order to flatter those projects that were politically favored. As with auctions, this calls for a system of verification. If assessments were subject to international verification, local technocrats would have a ready defense against illegitimate pressure. The natural place to lodge such a unit would be the World Bank, since the estimate of rate of return on public investment projects is part of its core business.

If these codes are to be promulgated some entity needs to be responsible for them. The precedents for the promulgation of voluntary codes suggest that various approaches can be effective. Many codes of economic behavior have been promulgated by the IMF and are part of its

34. For data on the growth of sovereign wealth funds—state-owned accumulations of financial assets for investment purposes, see Gerald Lyons, *State Capitalism: The Rise of Sovereign Wealth Funds*, 14 L. & BUS. REV. AM. 179 (2007).

35. *Id.*; Interview with Dr. Paul Acquah, Governor of the Central Bank of Ghana, Government of Ghana, in Accra, Ghana (July 31, 2007).

36. Paul Collier & Anke Hoefler, *The Economic Costs of Corruption in Infrastructure*, in TRANSPARENCY INTERNATIONAL, GLOBAL CORRUPTION REPORT 12, 14 (2005), available at http://transparency.org/content/download/4283/26254/file/costs_of_%20corruption.pdf.

annual Article IV consultation process in which all its member-governments are required to participate. The Kimberley Process is run by public-private partnership between the diamond industry, NGOs, and diamond-producing governments. The EITI, which started as an NGO campaign, was first adopted by the British Government. It was then tentatively and temporarily assigned to the international financial institutions and has now become an official international organization headquartered in Oslo. Which agencies would be most appropriate as the codifiers of the four proposed new codes?

It would clearly be both more effective and more practical to lodge the new codes with existing agencies rather than attempt to create new ones. The four codes naturally cluster into two pairs. The first two, on auctions and the specification of mineral rights, are both concerned with transparency in resource revenues. The other two, on the savings decision and the processes of public investment, both concern the conduct of budgets. The first pair is close to the existing mandate of the EITI and would most naturally be situated there. The second pair, concerning budgets, belongs most naturally with the IMF and the World Bank. The IMF is indeed already advising governments on savings out of resource windfalls, and codification would be a sensible development of this work. Similarly, the World Bank routinely undertakes Public Expenditure Reviews, and specific guidelines on processes of public investment for resource-rich low-income countries would again be a natural extension of this work.

Independent international verification and certification are now standard in many areas of economic activity. The new codes would require two distinct systems of verification, one concerning the conduct of auctions and the other the conduct of public investment. The core rationale for each of them is that a government needs to be able to demonstrate to its citizens that it is in compliance with its own stated commitments. The governments that are most in need of this capacity to enhance their credibility are those with poor reputations that are attempting to reform. Hence, the provision of verification and certification is not a quasi-police operation intended to force compliance upon an otherwise recalcitrant government. Rather, it would enable those governments that were genuinely committed to reform to reveal their type. As such governments revealed their type, corrupt governments would be revealed by default, and this would facilitate pressure for change within their societies. Reforming elements would be able to ask why their governments had chosen not to comply with international norms that other governments had adopted.

V. THE ROLE FOR INTERNATIONAL LAW

International law is so difficult to get enacted that it must be used very sparingly. Is there a real need for the promulgation of new international law regarding resource extraction? The one area where new law might be

pertinent is to reinforce the voluntary code on auctions by requiring those resource extraction companies based in the OECD, an international organization for policy coordination and implementation among industrialized economies, to enter into new contracts only through certified auctions of extraction rights. Would this be desirable, and is it feasible? The close analogy to such a law is the anti-bribery laws, which were adopted across the OECD in a coordinated process orchestrated by that body. It was important for these laws to be coordinated since no single country was prepared to disadvantage its own businesses vis-à-vis those of other countries, by enacting a law individually.

What would be the consequences of such a pan-OECD law? One possible consequence would be that the governments of resource-exporting countries would not adopt certified auctions, and as a result, China would capture the pool of resource extraction contracts. However, this is not a likely outcome. Once the law is adopted, a government that decides to sell extraction rights through a non-auction process would know that a key group of potential purchasers would thereby be excluded. In effect, the decision would hand monopsony power to China and thereby manifestly disadvantage the country. It is one thing doing deals with China when the government has many alternatives, and quite another to choose to put oneself in such a disadvantageous position. Obviously, by holding an auction, a government would not in any way preclude selling the extraction rights to the Chinese. Hence, within resource-rich countries, there would be strong pressure to preserve competition for the purchase of resources by adopting auctions.

If, as a result of the legislation, auctions became standard, then the OECD countries would benefit. At present, sales are often conducted in an opaque manner. This is sometimes tantamount to a competition in the degree of corruption that the bidder can countenance, and sometimes a competition in which China can supplement its offer through aid, but OECD companies cannot.

Laws involve penalties for breaches. However, the court-inflicted penalties need not be severe because the power of deterrence in this case is likely to come predominantly from citizens, both as consumers and as employees. No significant OECD-based resource extraction company could afford to acquire concessions for resource extraction through processes, which clearly breached of the law. In effect, much of the power of the law here comes from the information signal conveyed by the detection of a breach. Consumers and employees know to penalize companies that act illegally. Consumers boycott products, employees complain, and, perhaps most importantly, the best potential recruits look elsewhere.

VI. CONCLUSION

The current commodity booms constitute the most important opportunity for development that low-income commodity exporters have

ever had. Yet, if history repeats itself, this opportunity will be missed. In these countries, aid has limited potency: their governments are sometimes already awash with revenue. A neglected type of assistance, which might be more helpful, is the promulgation of voluntary codes and laws specifically designed to improve the economic governance of resource rents. For resource-rich countries, improving economic governance is of the essence. In this Essay, I have suggested how new codes and laws could address both the mistakes and the misaligned incentives that lead inexorably to the resource curse. Difficult as these new codes and laws would be to promulgate, the costs are trivial both relative to the scale of existing development assistance and to the likely beneficial effects.