1. Making Natural Resources into a Blessing rather than a Curse

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There is a curious phenomenon that economists refer to as the "resource curse." It appears that, on average, resource-rich countries have performed worse than those with smaller endowments—quite the opposite of what might have been expected. But not all resource-rich countries have fared the same. Some 30 years ago, Indonesia and Nigeria had comparable per capita incomes, and both were heavily dependent on oil revenues. Today, Indonesia's per capita income is four times that of Nigeria's. Nigeria's per capita income has actually fallen, from US$302.75 in 1973 to US$254.26 in 2002.[1] Both Sierra Leone and Botswana are rich in diamonds. Botswana has had an average growth rate of 5.2 percent between 1974 and 2002,[2] but Sierra Leone has plunged into civil strife over control of its diamond riches. The socioeconomic failures in the oil-rich Middle East are legion.

But even when countries as a whole have done fairly well, resource-rich countries are often marked by large inequality: rich countries with poor people. Two-thirds of the

people in OPEC member Venezuela live in poverty as the fruits of the country's oil bounty go to a minority. Since tax proceeds on oil producers could be used to create a more egalitarian society, one should expect less not more inequality in countries like Venezuela, one of Latin America's largest oil exporters.

These puzzles cry out for an explanation, one that will allow countries to do something to undo the resource curse. Over the past decade, research by economists and political scientists has done much to enhance our understanding of the issues. We understand, in particular, that much of the problem is political in nature. This book is predicated on the belief that wider understanding of the underlying forces can help shape the political processes in ways that will make positive outcomes more likely; that such understanding will lend support to institutional reforms more likely to ensure that the resources will be well used for the benefit of all the people of the country; and that in-depth and balanced coverage by journalists will help limit some of the worst abuses.

There need to be both macroeconomic and microeconomic policies put in place to ensure that the country gets the most for its resources; that the resources of the country lead to increased growth; and that the benefits are widely shared.

Macroeconomic Policies

The most difficult questions facing a producing country include: How fast should the resource be extracted and how should the revenue be used? Should the country increase its cash flows by borrowing? And what institutional reforms should be adopted to ensure that the appropriate macroeconomic decisions are put into place?

The rate of extraction

Resources not extracted today are still around tomorrow—they do not disappear. In fact, it may not make sense to extract natural resources as fast as possible. If a country is unable to use the funds well, it may be preferable to leave the resources in the ground, increasing in value as resources become scarcer and prices increase.[3] A military dictatorship might use the country's resource wealth to repress its population and to purchase arms to fund its favorite wars, so its people may actually be worse off than they would be if the country did not have the resources.

Moreover, the extraction of resources lowers the wealth of a country—unless the funds generated are invested in other forms. Extraction in itself makes the country poorer because resources such as oil, gas, or minerals are not renewable. Once they are out of the ground and sold, they cannot be replaced. It is only the subsequent reinvestment into capital (physical or natural) that can offset the loss of this natural wealth and make the country richer.

Since natural resources are an asset, one should view extraction as simply a portfolio reallocation, converting some of the asset base from the natural resource into another form. A country like Bangladesh, with limited reserves of natural gas, might want to exercise caution when selling its gas, given that there is no other effective way of insuring itself against an increase in the price of energy over the long run.

Borrowing: a word of warning

International banks often contribute to the tendency of petroleum-exporting governments to spend beyond their means. When oil prices are high, they are willing to lend them money to increase their rate of expenditure. However, capital markets are fickle, fair weather friends. When oil prices fall or interest rates rise, the lenders are quick to call in the loans. The bankers' general maxim is that they prefer to lend to those who do not need their money. When oil prices fall, the country needs the money, but it is at that point that the lenders want their money back. That is why capital flows, especially short-term capital flows, tend to be pro-cyclical, exacerbating the fluctuations brought about by the fall in the price of the natural resource anyway.

If the money were well spent by governments on high return investments, yielding a return considerably in excess of the interest rate they have to pay, all of this would be fine. But often it is not. The net increase in investment as a result of the borrowing may be small, typically much less than the amount borrowed. And when the borrowed funds are used to finance domestic expenditures, these expenditures can contribute to the overvaluation of the exchange rate, actually hampering domestic exporters and suppliers through the effect known as Dutch Disease.[4]

Accounting frameworks

Part of the reason that governments often manage their revenues so poorly relates to the widely used standard accounting frameworks. Governments naturally want to show that they know how to manage their economies well. If they can increase their growth rates, they think they are better off. But gross domestic product (GDP) does not provide a true measure of economic well-being. As we have noted, if the country extracts more resources, and the funds are not invested well, the country is poorer, not richer.

Alternative frameworks, sometimes referred to as "green GDP," attempt to more accurately measure sustainable well-being.[5] Just as a firm's accounting frameworks take into account depreciation of its assets, a country's accounting framework should take into account depletion of its natural resources and deterioration of its environment. Just as a firm's accounting frameworks consider assets and liabilities, so should a country's, noting whether there are increases in liabilities (debt) as well as assets. A country that sells off its natural resources, privatizes its oil company, and borrows against future rev-

enues, may experience a consumption binge that raises GDP, but the accounting framework should show that the country has actually become poorer.

Institutional reforms—stabilization funds

International commodity prices are subject to enormous volatility, providing the major motivation for the creation of stabilization funds ("rainy day funds") that allow the smoothing out of expenditures. But such stabilization funds can serve other functions. For instance, they can help ensure that the pattern of expenditures does not give rise to large Dutch Disease problems. By setting aside funds in a separate account, stabilization funds can provide a check against a natural proclivity of governments to spend all of the resources at their disposal; and they can help ensure that the funds are spent on investments, so that the depletion of natural resources is offset by an increase in human and physical capital.

Stabilization funds can also be used to reduce rent seeking. By providing an open and transparent process for determining how the funds are used, stabilization funds can help prevent and diminish the often violent conflicts that have so marked resource-rich countries.

Microeconomic Policies

Governments can undertake a variety of policies to increase the likelihood of obtaining more revenues and of making sure revenues are well spent.

Transparency

Perhaps the most important set of policies are those entailing increased transparency: more information about how the government interacts with those involved in the extraction of the natural resources; the contracts that are signed; the amounts the government received; the amount of natural resource produced; and the uses to which the funds are put. Such transparency reduces the scope for corruption. After all, it is often cheaper for companies to bribe the government of a producing country than to pay market prices for the right to develop a petroleum reserve. Transparency limits the opportunities for corruption. At the very least, questions are raised: why did the government not receive full value for the country's resources?

When the petroleum company BP first proposed making public what it pays to the Angolan government, the government objected.[6] But a number of other producing countries, including Nigeria, have started to require all oil companies to "publish what they pay" and government officials to make public where the money goes.[7]

Auction design

The kinds of contracts that a natural resource–producing country enters into with multinational companies to develop its resources can have a great effect on how much revenue the government subsequently receives. The issue of contracting is a complicated one and is developed more fully in chapter 5.

Some ways of engaging foreign firms may result in markedly reduced competition, and this in turn leads to lower revenues for the government. For instance, "fire sales" where governments make large tracts of oil fields available for commercial development in quick succession are likely to result in lower prices.[8] Even large oil companies have a seemingly limited appetite for risk, and are willing to buy more and more options for exploration (before knowing about the return on leases previously obtained) only at reduced prices.

Allowing one firm to come into a country ahead of others may discourage subsequent competition. A firm that is invited to do initial exploration will benefit from asymmetries of information—that firm will know more about the potential not only of the oil or gas tract it has explored but also have information about neighboring tracts.[9] Even if the government then puts up other tracts for competitive auction, the information asymmetry (as well as the original firm's relationships with officials) will result in less competition and lower revenues for the government. Each of the competitors will know that they are at an informational disadvantage: if they win the auction it is because they bid too much—more than the informed competitor who knows the real value of the field. As a result, the new companies will bid less aggressively.

Governments can organize the bidding for leasing oil tracts in different ways. Bonus bidding requires companies to compete based on how large a bonus they will pay the host government at the start of the contract. Bonus bidding forces producers to pay large amounts up front without knowing either the quantity of the natural resource or the costs of extraction. These risks to bonus bidding may discourage companies from competing. Royalty bidding, where competitors bid on the fraction of the revenues they give to the government as royalties, carries less risk and generates more competition than bonus bidding. Bonus bidding is especially of concern in developing countries, where there is more risk of expropriation, or future governments changing the terms of the contract.[10] As a consequence, royalty bidding may generate more revenue for the government than bonus bidding, due to the lack of significant investment required up front and the lessened risk to companies of major loss should a government later default.

In some places (including the United States), there has been concern that lease provisions lead to premature shutdown of wells or, in other cases, to excessively rapid extraction. The payment of any royalty that lowers the net revenue received may influ-

ence an oil company's decision to shut down a well earlier than necessary.[11] Well-designed contracts thus may have a term that allows, as the oil becomes extracted and the costs of extraction increase, the lowering (or even possibly the elimination) of royalties upon the payment of a fixed amount.

While the details are complicated, the basic point is a simple one: the way a country engages producers can make a great deal of difference. Both in the United States and Europe, the design of auctions for the airwaves used by radio, TV, cell phones, and so forth (the so-called spectrum actions) have had a major effect on enhancing government revenues.[12] Countries should assess their auction processes by looking at the fraction of total natural resource revenues they receive, and comparing these to what other countries with comparable extraction costs and risks receive.

Role of Developed Countries

Resource-rich countries have the primary responsibility for ensuring their governments receive the most that they can for their natural resources and use the funds to improve their long-term well-being. But there are actions that the developed countries and the international community can take to enhance the likelihood of success. The following list is meant to be suggestive, rather than complete.

First, developed countries can put pressure on the oil and natural resource companies to be more transparent, to "publish what they pay." A simple requirement could go a long way: only allowing published payments to be tax deductible.

Secondly, countries can enforce stringent anticorruption and antibribery laws.

Thirdly, secret bank accounts encourage bribery by providing a safe haven. The international financial community has made great strides in stopping the use of secret bank accounts by terrorists, but restrictions on secret bank accounts should be extended to make it more difficult for oil revenues to be funneled through the international banking system, instead of going straight into developing country treasuries.

Finally, the International Monetary Fund should encourage developing countries to establish stabilization funds. This will require it to change its accounting frameworks, which treat increased expenditures out of the stabilization funds, say during a recession, just like any other expenditure and subject the funds to harsh criticism for running deficits, vitiating one of its major benefits. Moreover, the IMF should not put undue pressure on countries to privatize their extractive industries. (In many developing countries, privatization is tantamount to selling the natural resources to foreign firms, since there are no domestic firms with the capital and skills necessary to undertake the task of extraction.) Privatization is only one way of engaging foreign firms in

the extraction of natural resources. There may be alternative ways (contractual arrangements) that generate more revenue for the developing countries.[13]

We have noted that one of the reasons for the resource curse is the conflict to which rent seeking often gives rise. Western governments can try to reduce such conflict by encouraging inclusive democratic processes.

Perhaps even more important is action that the developed world can take to circumscribe the "benefits" that arise from conflict by, for example, extending to other areas the campaign against "conflict diamonds." Much of the revenue goes to the purchase of arms, and arguably restrictions on the sale of arms could also make an important contribution.

There is no simple panacea, no single set of prescriptions that ensures growth and development. But if reforms are adopted by the natural resource–rich countries and by the international community, there is the prospect that the resource curse can be lifted and made a thing of the past. Natural resources can and should be a blessing.