

# Luncheon Address: Resource-Based Growth in Poor Countries and the Role of Central Banks

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Many of the poorest countries on Earth are in the throes of a double-bonanza of high prices for their natural resource exports coupled with new discoveries. Over the next decade, the potential financial flows from resource exports dwarf aid, remittances, and foreign direct investment (FDI), providing an unprecedented opportunity for development.

Directly, high prices disproportionately increase the rents available for governments. While prices may have peaked, Asian growth seems likely to sustain them well above past levels: an aspect of “the new normal.” Indirectly, the high prices have triggered prospecting. Although Africa is considered resource-rich, as of the millennium the value of discovered subsoil assets per square mile was only one-fifth that of the Organisation for Economic Co-operation and Development (OECD). It is unlikely that this is because there is less below the ground: rather, there had been less prospecting. New discoveries are therefore concentrated in Africa and the other neglected, impoverished, and misgoverned parts of the world, such as Central Asia. A reasonable assumption is that new searches will gradually bring discovered subsoil assets up to around the OECD level—a fivefold increase.

However, such high resource revenues are unlikely to be sustainable. Subsoil assets will be depleted: the typical new African oil field is relatively small, and the most efficient extraction technology is for rapid depletion, so that the fields may last only two decades. Further, with long and unpredictable lags, high resource prices trigger innovation, which reduces demand. Hence, while the present resource bonanza is unlikely to evaporate quickly, for most poor countries it is prudent to assume it will last for one generation. The present generation of politicians and public officials therefore shoulders the responsibility for managing a unique opportunity.

To date, resource-rich societies have usually been remarkably bad at offsetting the depletion of natural resources with the accumulation of public capital. Indeed, Bhattacharyya and Collier (2011) find that controlling for per capita income, resource rents significantly and substantially reduce the public capital stock.<sup>1</sup> Evidently, managing resource depletion is politically and technically difficult. I want to suggest how central banks can assist both in the long-term task of converting natural assets into other assets, and in the short-term management of volatility.

### **Central Banks and Asset Accumulation: Sovereign Development Funds**

The long-term task for the society is to offset the depletion of natural assets with the accumulation of other, more productive assets. This is a task for government: in all these countries it has the legal right to the rents on natural assets. Harnessing natural assets for sustained development depends upon a chain of decisions that starts with “upstream” issues, such as discovery and taxation, which do not lie within the domain of central banks. However, central banks are properly concerned with the fundamental “downstream” issues of how government revenues are used. What is the prudent balance between consumption and saving? How should savings be deployed?

Many governments have sought to commit both themselves and their successors to prudent decisions through the creation of a Sovereign Wealth Fund (SWF) and these are now becoming fashionable in the low-income, resource-rich societies. Typically, a SWF has three

sets of rules. One determines the size of the flows going into the fund. A second protects the accumulated stock of its assets from being dissipated. The third rule concerns the composition of the stock, namely foreign financial assets.

Such a rule structure is not appropriate for a poor country. Whereas in a capital-rich country it is better to accumulate foreign than domestic assets, in countries that are chronically capital-scarce the investments should ultimately be domestic. I will therefore propose a variant more appropriate for low-income countries, namely a Sovereign Development Fund (SDF). While the first two rules of SWFs and SDFs are common, instead of holding only foreign financial assets, an SDF has the choice between foreign and domestic assets and this choice is central to its function.<sup>2</sup>

### ***The savings decision***

First, consider the rule for how much revenue should go into the SDF. Until recently, the IMF advocated a highly restrictive policy rule for the use of natural resource revenues known as the bird-in-the-hand rule. This was a variant of Friedman's permanent income hypothesis, according to which all resource revenues should be accumulated into an SWF invested abroad. Only the revenues from this fund should be used for public spending. However, as argued by Van der Ploeg and Venables (2011)<sup>3</sup>, (and now recognized by the Fund), the proposition that all the revenues should be saved and then invested abroad is unsound for a capital-scarce society. They use a standard intertemporal utilitarian framework to show that because the society is currently much poorer than is likely in the future, some (though not all) revenues should be used for consumption, while the rest should be invested domestically.<sup>4</sup> In typical resource-rich, capital-scarce economies, appropriate savings rates out of natural resource revenues might be in the range of 30 percent to 70 percent.

### ***The asset composition decision***

Now consider the rule concerning the balance of the fund between foreign financial assets and domestic assets. Even if the domestic assets held by the fund are financial, these must be backed by investment in real assets, so the distinction between foreign and domestic

assets is equally a distinction between foreign financial assets (which can generally be readily liquidated) and domestic real investment (which cannot be liquidated).

In the long term a typical SDF should be invested predominantly in domestic assets. The reason for this is the obvious one that in a capital-scarce economy, as long as investment is well-done, the returns on it should be higher than investment abroad. There is also a political advantage: because investment in fixed domestic assets is less reversible, it is less vulnerable to future policy change.

Initially, however, an SDF should hold part of its portfolio in foreign financial assets. The country is likely to lack the capacity to invest large resources efficiently. This capacity needs to be built, but it takes time: while it is being built some savings should be parked abroad, being repatriated when it can be used productively.

The building of investment capacity can be thought of as “investing-in-investing.” It has three components. One is the capacity to manage the process of public investment: project design, appraisal and selection, implementation, and ex post evaluation. These are the capabilities assessed by the new Public Investment Management Index of the IMF. The Index provides a useful benchmark to judge improvements, and potentially also can be used in a decision rule as to when the return of public money held abroad is warranted. The second component is to improve the environment for private investment. Public and private investments are complements—for example, roads and trucks—so that the return on either depends upon investment in the other. The environment for private investment is already reasonably well-measured by the World Bank in its annual Doing Business ratings. The government of Rwanda has demonstrated how it is possible to improve performance on this rating very rapidly: Rwanda has now overtaken several European countries. The third component is for policy to reduce the unit cost of capital goods for both public and private investment. Typically in Africa, capital goods are expensive. Structures are costly because construction costs are avoidably high: the market for urban land is restricted, there are impediments to imports of key inputs such as cement, and there has been little training in construction skills. Equipment, though imported, is costly because national markets

are too small to be competitive and trade barriers have inhibited the emergence of regional markets.

Once the economy has a well-functioning financial sector the SDF can also hold claims on it, thereby financing private investment in the real economy. However, as with public investment, rapid increases in public funding are dangerous: in Kazakhstan the bulk of the resource windfall was channeled by the financial sector into an intense and disastrous property boom.<sup>5</sup>

### **Central Banks and the Management of Volatility: Sovereign Liquidity Funds**

In the management of natural resources, the policy clock needs to tick at three distinct speeds. Above, I have discussed the slow tick of depletion and the hopefully somewhat faster tick of investing-in-investing. The final timeframe for managing natural resources is riding the commodity price cycle. For example, Ghana is currently benefiting from the triple bonanza of an oil discovery, surging gold prices, and high cocoa prices, all amplified by capital inflows.

Both in order to smooth public spending and to dampen surges in the real exchange rate, boom revenues need to be parked temporarily abroad. Since this is a very different function from those discussed above, it may well be appropriate to establish a distinct institution to perform it: a Sovereign Liquidity Fund (SLF). In addition to being a vehicle for short-term savings, the SLF may also provide the political protection needed to make hedging viable. In principle, it is more efficient to reduce the scale of revenue shocks through hedging than to protect expenditures through liquid savings. Despite this, hedging is rarely used because it exposes the finance minister to a high probability that in any particular year the cost of the hedge will not be recouped, an outcome that can be exploited by political enemies. By shifting the decision as to the appropriate combination of liquidity and hedging to a constitutionally protected SLF, the political risks of hedging may be reduced.

Even when liquid savings are the preferred approach, the objective should not be literally to stabilize public spending, since the long-term commodity price cannot be known. Chile attempts to

forecast the long-term price based on expert opinion. Another approach, taken in Russia, is to take a four-year moving average of past revenues. This second approach has the advantage of being less exposed to political manipulation. It accepts the reality that commodity price movements are deeply unknowable. For example, in January 2008 the bounds of the 95 percent confidence interval for the 12-month market-based forecast for the world oil price were around \$210 and \$65. Two features of this forecast are equally striking: its range is so wide as to be useless for practical budgeting purposes, and the actual price, at \$37, was far outside it. What is important, therefore, is not to forecast prices as accurately as possible, but to smooth spending through a politically robust policy rule in the face of revenue volatility.

Rather than attempting literally to stabilize public spending, governments should aim to keep rates of change of spending (both increases and decreases) within manageable bounds. Since cuts in public consumption are liable to be politically difficult and socially costly, much of the volatility in spending should be borne by public investment. The more public investment can be varied without damaging its efficiency, the less liquidity is needed. The pertinent calculation is the expected efficiency gain from smoother investment, versus the expected cost of holding low-yielding international assets instead of higher-yielding domestic assets. Public investment can potentially be designed so as to be able to cope with a degree of volatility. A high average level of investment should make fluctuations easier: for example, if investment is on average 30 percent of GDP, a 10-point swing (25-35) is proportionately less drastic than if it averages 20 percent (15-25). Further, in periods of low investment, project preparation can continue so that there is a shelf of projects ready for implementation as financing becomes available.

Since much of the transmission mechanism from natural resource booms onto the real exchange rate runs through public expenditure, if public spending is smoothed (either through hedging or savings), and peaks of spending are on capital goods (much of which are imported), temporary bouts of Dutch disease will be moderated. However, since the rise in commodity prices has been underpinned by

the growth of Asia, much of the increase should be assumed to be long-lasting. Attempts to resist real appreciation through the accumulation of savings abroad are then very costly in a capital-scarce society, especially if compounded by the expensive sterilization of capital inflows. Concerns about competitiveness of the nonresource export sector are better addressed through public investments targeted to reduce costs for exporters (such as transport infrastructure and human capital).

### **Central Banks as Trusted Authority**

Africa has had commodity bonanzas before. This time a chain of decisions must be well-taken repeatedly for a generation. This is the battle currently being waged across resource-rich Africa between reformers and the pressures for plunder. The prognosis is hopeful: take Nigeria, Africa's biggest society and the exemplar of past plunder, where the formidable Ngozi Okonjo-Iweala has just been appointed Finance Minister and super minister for the economy. The last time she was Finance Minister, Dr. Okonjo-Iweala turned the budget around and accumulated large foreign savings. But within five years of her departure, these savings had been dissipated. The lesson from this frustrating experience is that the priority is to build commitment technologies. Such technologies are intrinsically political: rules and norms sustained by popular appreciation.

The fast track to rules is to create institutions administered by public organizations. The rules appropriate for a resource-rich, low-income society are distinctive and so cannot simply be copied from the OECD template: above I have suggested SDFs and SLFs. Central banks, as the foremost public institution with responsibility for long-term economic management, have an evident role in designing these institutions. Indeed, sometimes central banks should also administer them, the Funds being departments under their authority.

But Africa has been a graveyard for institutions: rules have been overridden by the pressures of personal interest. To counter these pressures, institutions need broad public support. Yet small, low-income societies lack the market size to support high-quality information media and so citizens are not naturally well-informed

about economic issues. In such societies central banks therefore have a second role. As trusted public authorities, they are in a position gradually to build a critical mass of economically literate citizens. By a critical mass I mean a group large enough for these key economic decisions to be well-taken. In the OECD, central banks have increasingly communicated directly with ordinary citizens. In Africa, where there are far fewer other sources of trusted economic information, this role is more important but less developed. The aspirations of Africa's central banks need to extend beyond the technocratic. The central banks of the small, low-income, resource-rich societies are not represented at Jackson Hole. But the world's major central banks inevitably set the intellectual frameworks that they follow. The international central banking community can help by legitimizing this dual role: designing rules for the stewardship of natural wealth, and communicating respect for these rules.

Finally, the wider international community has a useful role in setting global standards. The Extractive Industries Transparency Initiative (EITI), launched in 2002, was swiftly adopted in Nigeria by Dr. Okonjo-Iweala, becoming the NIETI. However, while the focus of the EITI on transparency in the reporting of resource revenues was the right place to start, it does not address the savings and investment decisions. The more recent Natural Resource Charter (NRC, [naturalresourcecharter.org](http://naturalresourcecharter.org)) covers the entire decision chain, from discovery through to investing-in-investing. Already adopted by the New Partnership for Africa's Development (NEPAD) as a flagship program, endorsed by the African Development Bank, and supported by international financial institutions, it is designed both for public officials and for citizens. While the EITI and the NRC are voluntary codes, there is also potential for enforcement of more ethical practices in resource extraction: a global extension of the Cardin-Lugar Amendment is surely a priority for the G20.

Africans are well aware of their history of resource plunder. Courageous politicians, responsible central banks, and new international standards must try to make a reality of "this time it's different."

## Endnotes

<sup>1</sup>Bhattacharyya, S., and P. Collier, 2011, "Public Capital in Resource-Rich Countries: Is there a Curse," CSAE Working Paper, Department of Economics, Oxford.

<sup>2</sup>In a low-income country, an SDF could also receive inflows from international aid as well as domestic resource revenues. Potentially, donors could help to reinforce adherence to its rules.

<sup>3</sup>Van der Ploeg, R., and A. Venables, 2011, "Harnessing Windfall Revenues: Optimal Policies for Resource-Rich Developing Countries," *Economic Journal*, 121, pp. 1-30.

<sup>4</sup>In *The Plundered Planet*, (OUP, 2010) I reach a similar conclusion using a non-utilitarian ethical framework. I argue that the present generation has the responsibility of *stewardship* for the management of natural assets: if it uses them up it must pass on other assets of equivalent value. However, if it can invest in assets that have higher yields than natural assets, it can pass on equivalent value without saving all the revenues.

<sup>5</sup>See Collier, P., and A. Venables (eds.) *Plundered Nations?* Palgrave, 2011.

