



No. 2

Petroleum Sector Briefing Note

April 2007

## Oil and Gas: A Blessing or A Curse?

*A “paradox of plenty” and “resource curse” have become two most commonly used phrases to describe the impact of oil wealth on the economies of producing countries. Why does prosperity from oil all too often fail to provide a sustainable base for economic development and poverty reduction? This note summarizes the findings of various studies exploring this question.*

“Americans will be driving cars built by our workers in our modern factories and gasoline made from our oil,” predicted President Pérez of Venezuela in 1979 during the second oil boom, amidst high hopes for economic development and prosperity in major oil exporting countries as world oil prices increased 18-fold in the decade. At first glance, high income from oil production, or any other source for that matter, indeed seems like welcome news in developing countries when there are many pressing basic needs that cannot be met for lack of resources.

But, by the 1980s, the notion that abundant oil, gas, and minerals may be a curse rather than a blessing began to take hold—evidence pointed to economies with plentiful mineral resources doing worse on average than those with few resource endowments. Japan, the Republic of Korea, and Singapore have essentially no natural resources but developed rapidly from the 1960s to the 1990s. The experience of these countries stood in sharp contrast to that of Nigeria. Despite (or some would argue because of) decades of high oil revenues amounting to hundreds of billions of dollars, Nigerians were no richer in 2000 than they were in 1970. Worse, the poverty rate doubled from about 36 percent in 1970 to just under 70 percent in 2000 [1].

For significant oil exporters (as Cambodia could become one day), three characteristics of oil revenues make revenue management extremely challenging even under the best of circumstances.

1. They are extremely volatile (see Briefing Note No. 1 [2]).
2. They are unpredictable.
3. They are large relative to total exports, gov-

ernment revenue, or gross domestic product (GDP).

The sheer size of the income from oil compared to other sources makes the country dependent on oil, but oil prices and hence their revenues fluctuate from one month to the next, subjecting both the government and the economy to rapidly swinging booms and busts. Oil prices are notoriously difficult to predict, so a prudent approach would be to forecast future oil prices conservatively (that is, assume low rather than high prices) and save in times of high oil prices, but the political pressure to spend increases with increasing savings.

Over and above these difficulties, researchers have found other attributes of oil wealth that raise serious concerns for countries with prospects of large inflows of oil revenues. This note summarizes the findings of the studies examining the impact of oil income on economic development.

### Historical Development

The availability of abundant natural resources in the form of fertile land, mineral resources (oil, gas, and minerals), and forestry helped the economic development of many present-day high-income countries in the latter half of the 19<sup>th</sup> century and the first half of the 20<sup>th</sup> century. Their abundance also helped resource-rich developing regions to make important economic gains. For example, Venezuelan GDP per person rose from being a mere 62 percent of the region’s average and ranking 14<sup>th</sup> out of 20 in Latin America at the beginning of the 20<sup>th</sup> century to 184 percent of the regional average and the second highest in 1970 before

the first oil boom. The economic policy and political stability of Venezuela during this period were not much different from those of other countries in the region. What enabled this growth was the discovery of oil in 1914, which led Venezuela to control 13 percent of the world oil market by 1970.

Since the 1970s, however, resource-rich developing countries on average have been growing more slowly than their resource-poor (manufacturing-led) counterparts. Countries rich in natural resources started off being more wealthy than those poor in natural resources, but this ranking was reversed in the 1990s. By 1993 the term “resource curse” had been coined, and *The Paradox of Plenty: Oil Booms and Petro States* was published in 1997 [3]. This book asked why most oil-exporting developing countries had “suffered from economic deterioration and political decay,” and posited that this very disappointing outcome had deep social and political roots. Examples of poor-performing mineral-rich countries include Angola, Bolivia, Nigeria, and Zambia. It is worth remembering, however, that some mineral-resource-rich countries have done well—Botswana, Chile, and Oman among them.

Researchers have noted that resources that are localized—such as oil, gas, and minerals—slow down economic development much more than resources that are widely spread, such as rice and maize. The former are capital-intensive to extract, employ relatively few, and tend to be concentrated in the hands of a small number of firms. A concentrated revenue stream tends to create a politically powerful minority, widen income inequality, foster competition for capturing resource wealth, make it easier to have a non-transparent mechanism of accounting for and distributing resource wealth, and feed corruption. All too often cash transfer using resource wealth from one political interest group to another, rather than the resource wealth’s growth-enhancing potential, becomes the primary consideration. In contrast, when resources generate income for numerous (typically rural) producers and spread the income widely through the economy, government feels more accountable.

## Is the Paradox of Plenty Inevitable?

Many studies have been conducted to examine the reasons for the lackluster performance of resource-rich

developing countries, and to establish whether the slower growth is linked specifically to natural resource abundance, and mineral resources in particular. The investigations to date agree that there is nothing inherent in the extraction of oil and gas that destines a country to deteriorating economic performance. There is always an initial jump in GDP per person after the start of sizable resource extraction, but it is the subsequent economic development (or lack thereof) that has raised serious concerns.

A number of studies comparing resource-rich and resource-poor countries have found that the greater the proportion of GDP or government revenue or total exports coming from mineral resources, the slower the rate of economic growth. This inverse relationship between economic development and the importance of mineral resources has been found to be statistically significant in a number of studies.

Recent research has investigated causality through corruption—that mineral resource revenues worsen governance and lower economic growth through deteriorating governance. One study is quoted here as an illustration of the research findings. The authors of this study found that the primary mechanism through which these revenues slowed down economic development was their negative impact on *institutional quality*. It is difficult to quantify institutional quality, but the study tested several different indices as surrogates for institutional quality: rule of law, voice and accountability, government effectiveness, control of corruption, and political stability. The authors found a quantifiable negative impact of mineral resources on institutional quality, and this finding was robust [1].

## Mechanisms for Slowing Down Economic Development

The vast literature that exists on this topic points to the following mechanisms by which income from mineral resources may slow down economic growth.

- ◆ *Poor or worsening governance.* The number of tax payers contributing to the overall government revenue is postulated to affect government’s sense of accountability in pursuing policies that benefit society at large. When two or three very large tax payers contribute the majority of total government income, it is easier for

government not to account for these revenues fully—not disclosing the amount or the sources of income. In the absence of full disclosure, it becomes easier to divert a portion of the income away from the government treasury because questions are less likely to be raised. Because most tax payers in the country have not contributed to the large fiscal revenue from oil, government may feel less pressure to account to citizens for how it spends the oil receipts even when they are transferred to the treasury, nor does it feel so constrained as to ensure the oil revenues are used to maximize public welfare.

◆ ***Economic impact of oil boom on other sectors.***

Unless foreign earnings are kept offshore and not brought into the country (this is called *sterilizing*), a sudden increase in foreign exchange income results in currency appreciation (in Cambodia this would mean the riel becoming stronger relative to the U.S dollar). World prices of goods are not affected by this appreciation, so that what this currency appreciation does is to make the country's exports more expensive on international markets, while imports become cheaper in the local currency. The net result is that exports decline and imports increase. More goods that can be traded will be imported instead of being produced domestically. Some goods and services will not be imported because they cannot be traded—land and haircuts at barbers to mention just two examples—and their prices rise. Because a certain amount of inputs for any production will have to come from domestic sources, this means that input prices increase, further making domestic production less competitive. This phenomenon is called Dutch disease, named after the decline of the manufacturing sector in the Netherlands following the discovery of natural gas in the 1960s. As a result, sectors that produce goods that can be readily traded—manufacturing, agriculture—decline. Even tourism can decline, as foreign tourists “vote with their feet” to cheaper destinations.

Dutch disease does not have to induce economic inefficiency or slow growth. But if manufacturing and agriculture decline overall for these reasons, creating and sustaining employment become difficult in developing countries. Oil and gas employ little labor directly. Nor are there many spin-off effects in employment creation:

few jobs are created to support or take advantage of the growing oil business. Particularly if the labor market is not functioning properly, Dutch disease can increase unemployment even as national income rises.

Another problem arising from Dutch disease is re-entry. If large oil revenues were to last permanently, currency appreciation need not cause economic problems. But oil reserves will be exhausted one day and oil revenues will need to be replaced by revenues from other sectors, requiring these other sectors to “re-enter” the market. Re-entry of other sectors into the economy is made more difficult by Dutch disease, and also by the fact that oil extraction offers little potential for creating a more diversified domestic business environment.

◆ ***Relaxing market discipline and slowing down economic reform.***

Large inflows of income during a boom (a period of high oil prices, large oil production, or both) ease pressure for reform and weaken fiscal discipline. Rather than using the extra income to implement reform (gradually eliminating protection to domestic producers so that they can stand on their own, or reducing subsidies to consumers so that they respond to correct market signals), government uses the oil wealth to continue protectionist measures that are market-distorting. This not only postpones reform implementation but also makes adjustments to reform more painful when reforms are finally undertaken, because economic distortions are compounded longer.

◆ ***Misuse of oil revenues.***

Large oil revenues allow government to pursue misguided policies that benefit powerful and entrenched urban vested interests, enable overspending through job creation in a bloated public sector and investment in large and inefficient public-sector firms, and, in times of boom, they can also be used as collateral to increase borrowing. For example, Venezuela's foreign debt increased steadily during the late 1970s and 1980s, including the second oil shock of 1979, to the point where a debt moratorium had to be declared in 1983. Job creation in the public sector encourages migration from rural to urban areas, and from agriculture to an unproductive public sector. If there is a collapse of oil

prices, as there is bound to be, real wages and the size of the public sector should be reduced, but doing so is politically very difficult and the necessary contraction all too often does not occur. In both Kuwait and Saudi Arabia, nine-tenths of its working citizens work for the public sector, making the majority of the work force utterly dependent on oil revenues.

Oil income has frequently been spent on unsustainable consumption. Building fancy office towers, multi-level highways, and underground subways costs money but are likely to add little to productivity. Iran, Iraq, and Venezuela provide very large fuel price subsidies to consumers to this day, seriously undermining the government budget while the majority of the benefits of the subsidies reach not the poor but better-off households, black marketeers, and fuel smugglers.

- ◆ **Intensified conflicts.** Where there is already ethnic or fractional strife, competition for resource revenues exacerbates it, as past and present experience in Angola, Nigeria, and Iraq demonstrates. Resource abundance tends to be associated with greater frequency or duration of civil war [4]. Civil war in turn has devastating economic consequences, giving rise to greater poverty and inequality.
- ◆ **Competitive manufacturing versus protected industrialization.** Resource-poor countries have tended to embark on competitive manufacturing earlier than resource-rich countries. Competitive manufacturing forces those producing inputs for the manufacturing sector to be efficient and increases demand for skilled labor, promoting investment in education, training, and healthcare to ensure availability of productive workers. Resource-rich countries have tended to go down the path of protected industrialization, all too often selecting capital-intensive, low-labor-utilizing manufacturing (steel, chemicals). This increases income inequality and slows down efforts at strengthening workers' skills and productivity. Protection is given in the form of barriers to imports, subsidies to manufacturers, or both. Protection is at times given to an uncompetitive and capital-intensive manufacturing sector or government-owned enterprises at the expense of agriculture.

## Conclusions

By the 1990s, there was a growing consensus that oil wealth, on average, slowed down growth and other measures of development. More recently, research has focused on the emerging evidence that oil wealth is also damaging to governance. Some researchers have even argued that waste and corruption from oil, rather than Dutch disease or other factors, has been primarily responsible for poor long-run economic performance [1]. Weak governance in many oil-exporting countries pre-dates oil development and has made it difficult to manage oil wealth from the outset. However, there is increasing awareness that the arrival of significant oil wealth can itself worsen governance, creating a vicious cycle.

While these observations are sobering, new oil producers have the benefit of a vast literature on this topic as well as specific lessons from international experience. Future briefing notes will cover some of these lessons.

## References

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