

A Curse or a Blessing?

What to Expect from a Typical Developing Resource-Abundant State

PONARS Eurasia Policy Memo No. 32

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August 2008

“So here’s my prediction: You tell me the price of oil, and I’ll tell you what kind of Russia you’ll have. If the price stays at 60 dollars a barrel, it’s going to be more like Venezuela, because its leaders will have plenty of money to indulge their worst instincts, with too few checks and balances. If the price falls to 30 dollars, it will be more like Norway. If the price falls to 15 dollars a barrel, it could become more like America — with just enough money to provide a social safety net for its older generation, but with too little money to avoid developing the leaders and institutions to nurture the brainpower of its younger generation.” (Thomas L. Friedman, “Will Russia Bet on Its People or Its Oil Wells?” *New York Times*, February 16, 2007)

“How do we know that God loves the Arabs? If he didn’t, why would he give them all the oil?” (*American saying*)

The Problem

It might seem obvious that a country endowed with larger quantities of natural resources has an advantage and, other conditions being similar, will grow faster than resource-poor countries. This is not the case, however. Between 1960 and 1990, the per capita incomes of resource-poor states grew two to three times faster than the per capita income of resource-abundant states, and this gap in growth rates appears to be widening with time. This surprising phenomenon has become a subject of intensive

research, both empirical and theoretical. Hundreds of papers have been published supporting the “resource curse” thesis and offering new explanations of mechanisms and effects that inhibit growth in resource-rich economies. Several recent papers, however, question the very existence of the “resource curse” and make it necessary to reconsider the hypotheses about the impact of resource abundance on economic growth.

Even without rigorous calculations, it is obvious that not all resource-rich states have failed. In *The Resource Curse Revisited*, Joseph Stiglitz noted that:

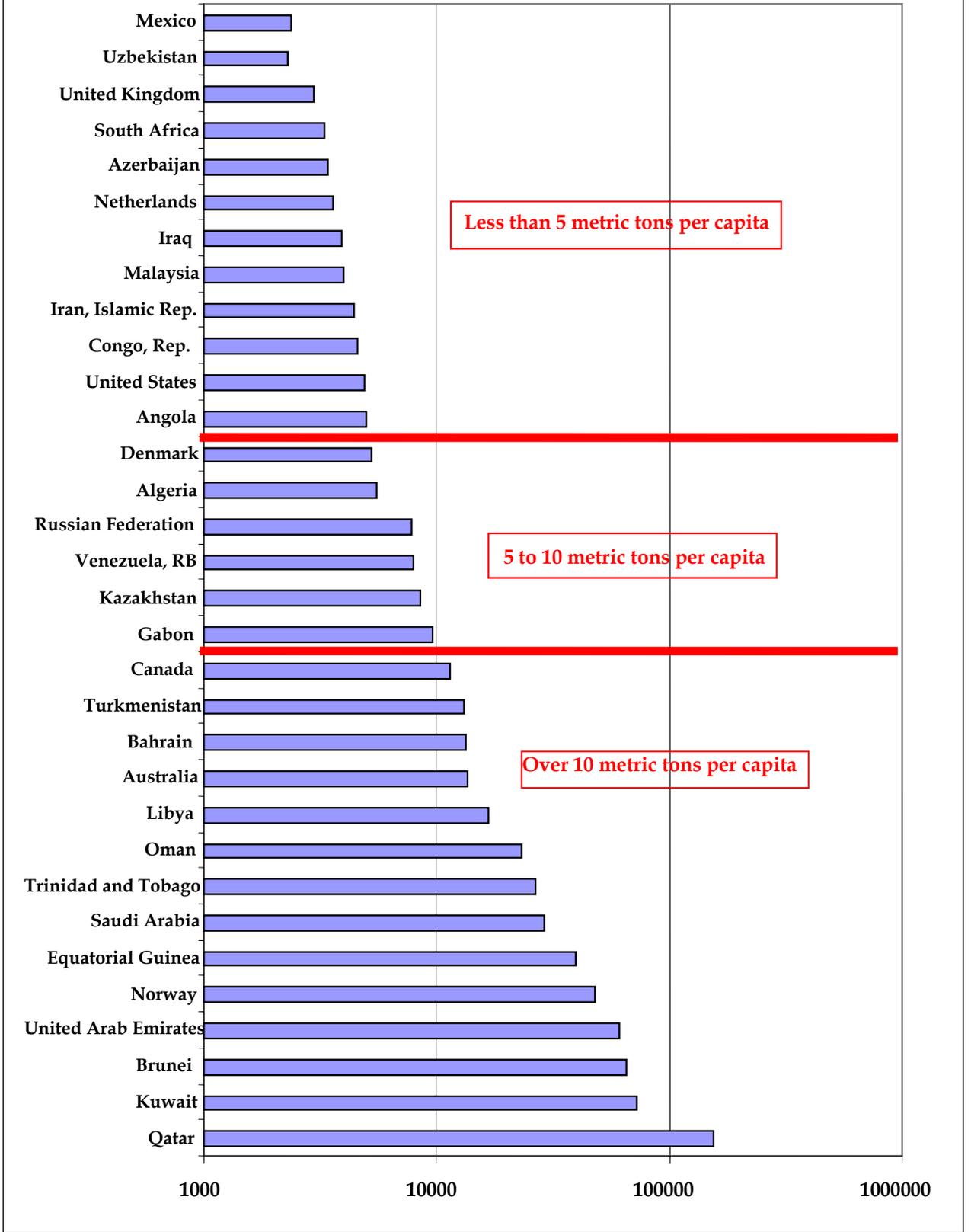
“Thirty years ago, Indonesia and Nigeria – both dependent on oil – had comparable per capita incomes. Today, Indonesia’s per capita income is four times that of Nigeria....A similar pattern holds true in Sierra Leone and Botswana. Both are rich in diamonds. Yet Botswana averaged 8.7 percent annual economic growth over the past thirty years, while Sierra Leone plunged into civil strife.”

Norway, where large oil deposits were detected in the seventies, was able to avoid the consequences of “Dutch disease,” which occurs when overvaluation of the exchange rate creates obstacles for exports, especially exports of high-tech goods, and hinders growth. Moreover, Norway significantly increased its per capita gross domestic product (by purchasing power parity) and left behind not only its neighbors but also the United States. A hypothesis that naturally comes to mind is that the poor performance of resource-rich states is a result of policy mistakes. What are these policy mistakes and what should be the best policy?

To answer this question, a research team ran hundreds of regressions to draw a statistical portrait of the “typical resource-abundant state.” We used different indicators of resource abundance such as proven reserves of oil and gas, production of fuel, exports, and sub-soil assets per capita (the sum of discounted rent, or the difference between world prices and costs, for the period of the use of proven reserves).

The point to note here is that these indicators are not always correlated. For instance, if a state produces a lot of fuel per capita, it does not necessarily mean it is a fuel exporter. Fuel and energy consumption per capita varies a lot; rich states consume several times more energy per person than developing ones. At the current average annual level of energy consumption of Western states (about five tons of oil equivalent per capita, and up to eight tons in the United States and Canada) some well-known fuel exporters, such as Azerbaijan, Iran, Iraq, Mexico, and Russia, would not be exporters because their fuel production would be enough only to cover their domestic consumption (see Figure 1).

Figure 1:
 Fuel Production Per Capita of Top Oil Producing States
 (Kilogram of oil equivalent, 2005)



Overall, there is no solid evidence that resource abundance, unlike physical and human capital, has a significant impact, either positive or negative, on economic growth. The inclusion of different measures of resource wealth, production, and exports into the growth regressions does not produce stable results, especially after accounting for population density, initial level of income, population growth rates, and the initial quality of institutions.

At the same time, further empirical investigation shows that, on average, resource-abundant states do have:

- lower budget deficits and inflation, higher foreign exchange reserves, and higher inflows of foreign direct investment (FDI);
- lower domestic fuel prices, which has a positive effect on long-term growth even though these prices are associated with losses resulting from higher energy intensity;
- higher investment/GDP and research and development/GDP ratios;
- lower income inequalities; and
- higher life expectancies.

Thus, on balance, resource wealth turns out to be conducive to growth and development, especially in states with strong institutions and a low real exchange rate. However, there are also some disadvantages to resource abundance:

- if institutions are poor to begin with, they get even more corrupted;
- accumulation of human capital is slow;
- the real exchange rate is high (“Dutch disease”), whereas domestic fuel prices are low, which leads to high energy intensity;
- volatility of growth is high; and
- democratic political regimes become very unstable as they tend to gravitate toward authoritarianism.

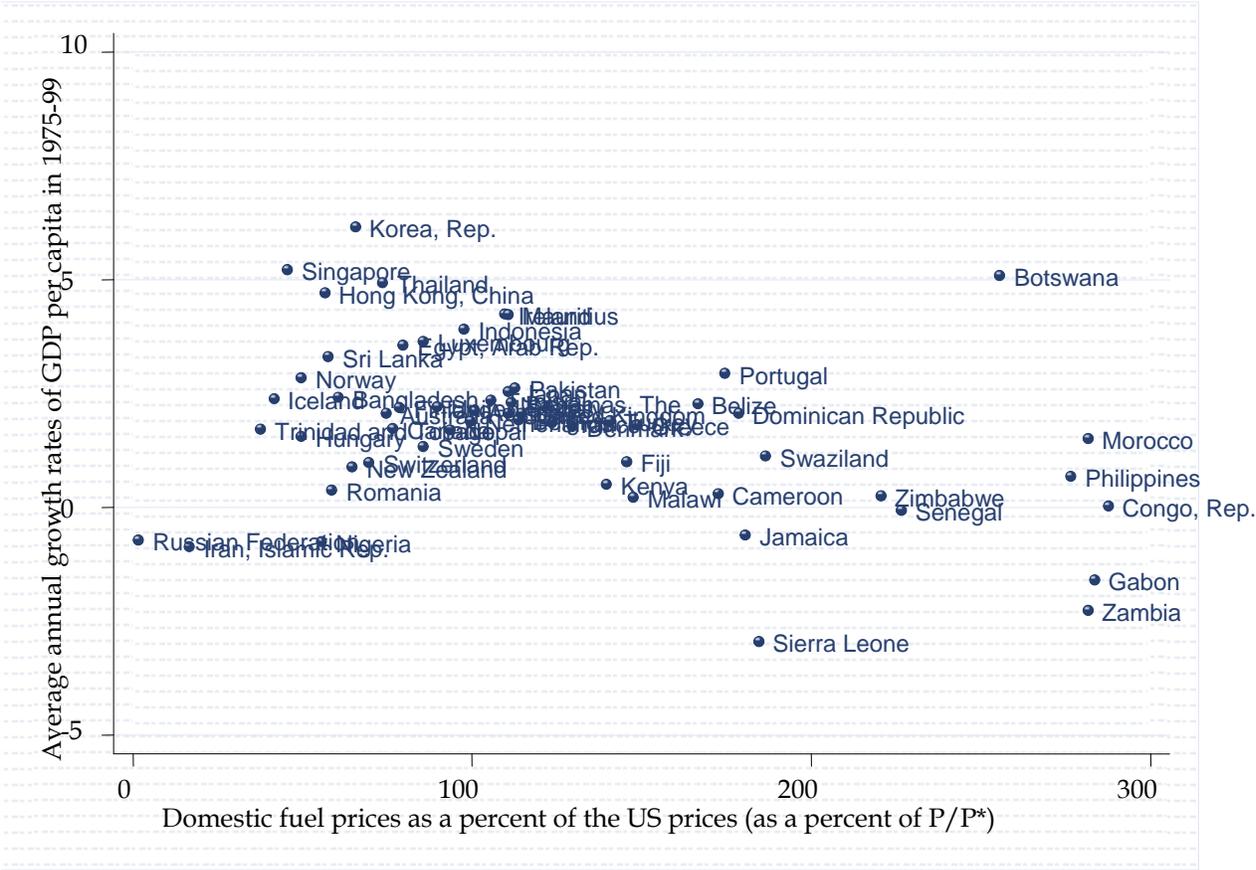
Industrial Policy in a Resource-Abundant State

Whereas resource-abundant states generally have an overvalued exchange rate (Dutch disease), they also maintain relatively low domestic fuel prices. This is an important instrument of industrial policy that has at least two implications. First, like the undervaluation of the real exchange rate, low domestic prices for fuel provide competitive advantages to domestic producers and stimulate exports and production (especially of energy-intensive products). Second, low fuel prices lead to energy waste and, therefore, higher energy intensity and higher costs. Which effect predominates?

To begin with, it is easy to demonstrate that resource-rich states normally maintain

lower domestic fuel prices. It is also obvious that lower energy prices are associated with lower efficiency of energy use. It can also be shown that energy efficiency is lower in fuel producing and exporting countries. However, low domestic fuel prices lead to higher growth. This negative correlation is visible in the chart below (see Figure 2). More accurate calculations provide additional evidence: while controlling for initial income, population size, and quality of institutions, growth rates depend negatively on the level of domestic fuel prices (that is, lower prices are associated with higher growth rates). To put it differently, low domestic fuel prices affect growth positively (via increased competitiveness of domestic producers) and negatively (via energy waste), but the first effect predominates.

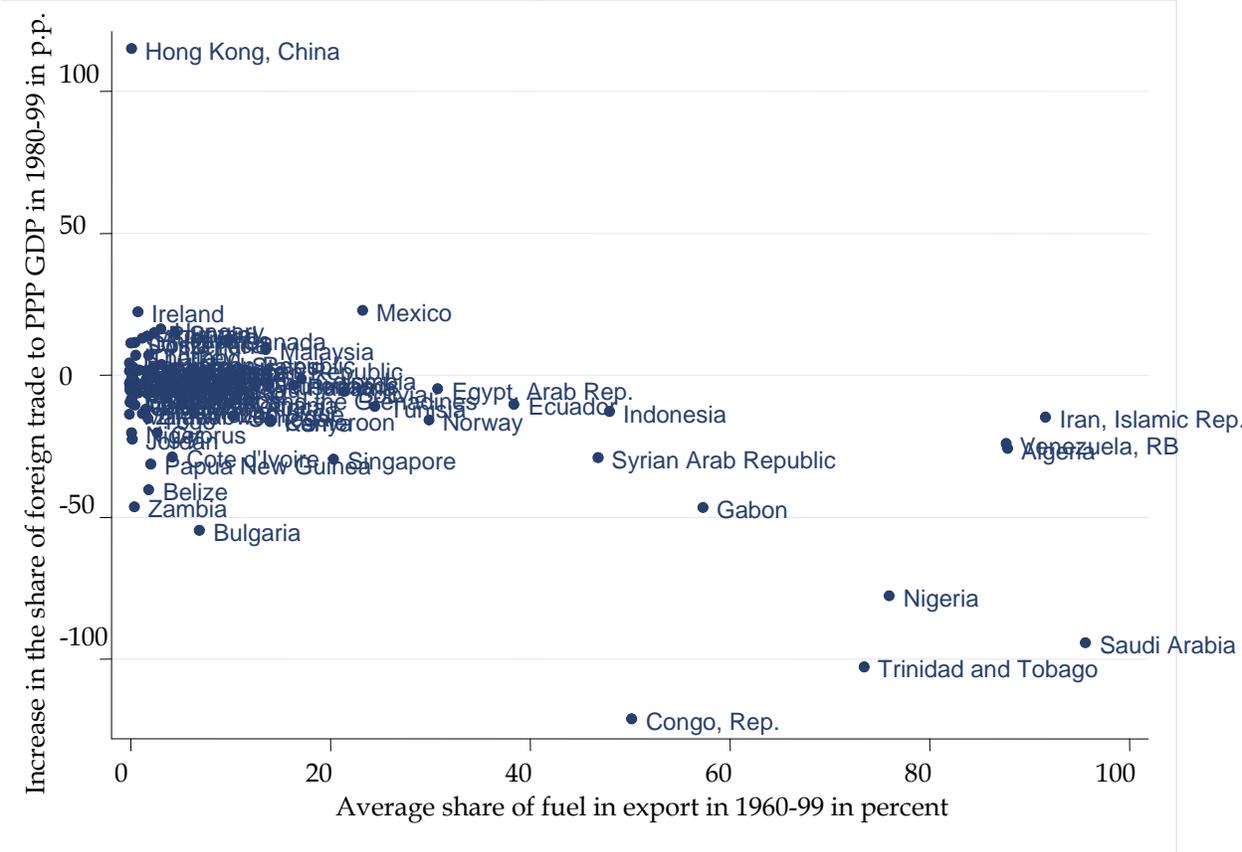
Figure 2:
Average annual growth rates of GDP per capita in 1975-1999 and the ratio of domestic fuel prices to all prices as a percentage of the same ratio in the United States in 1993



two. While low domestic fuel prices have negative effects (energy waste and stimuli for exports of energy-intensive products rather than high-tech products that usually have very low energy intensity), undervaluation of the real exchange rate gives competitive advantages to all national producers and stimulates export-oriented growth.

It can be shown that increases in the external trade/GDP ratio have been the fastest in states that most underpriced their real exchange rate. This undervaluation of the exchange rate via the fast accumulation of foreign exchange reserves is sometimes called “exchange rate-based protectionism” (China being the prime example), and it is a powerful instrument for stimulating export-oriented development. Indeed, because most resource-abundant states suffer from an overvalued exchange rate (Dutch disease), it turns out that the growth of external trade is less pronounced in resource-abundant states. The negative relationship between fuel exports and the growth of trade to GDP ratio can be observed in the chart below (Figure 3).

Figure 3:
Increase in the ratio of foreign trade to PPP GDP in 1980-1999 and the percentage share of fuel in export in 1960-1999



Meanwhile, recent research by Ricardo Hausmann, Dani Rodrik, and Jason Hwang suggests that industrial policy aimed at stimulating high-tech exports has important externalities for growth. To put it another way, exports of resources and energy-intensive goods are not as beneficial for growth as are exports of high-tech goods. From

this point of view, it is better to underprice the exchange rate, not the domestic prices of fuel. However, in practice, as was demonstrated previously, most resource-abundant states maintain a high real exchange rate and low domestic fuel prices, a policy combination which helps stimulate growth but not development (because of energy waste and the lack of stimuli for high-tech exports). The best policy would be exactly the opposite – to keep the real exchange rate low and domestic fuel prices high.

Conclusions

Resource-abundant states suffer from several shortcomings that hinder their growth. First, the quality of their institutions is inferior to that of other states. If a state had poor institutional capacity to begin with, it will very likely deteriorate in the future proportionately to the magnitude of resource export/production. Second, resource-rich states suffer from the overvalued exchange rate, the so-called Dutch disease. To promote growth, resource-abundant states generally keep domestic fuel prices at a lower level. This policy helps stimulate growth, but at the cost of high energy intensity that kills part of the growth stimulating effect and diverts resources away from high-tech industries. It should come as no surprise that resource-abundant states have relatively lower quality human capital. Besides, in resource-abundant economies the volatility of growth rates is higher and the chances to develop a stable democratic political regime are lower.

While it is difficult to improve the quality of institutions in the short run, it is theoretically possible to switch to a more promising industrial policy such as the undervaluation of the real exchange rate and higher domestic prices for fuel. This would have a growth stimulating effect for the whole economy, and especially for high-tech industries, without unfortunate energy waste. However, there are virtually no resource-abundant states with this combination of policies.

Nevertheless, it does not appear that resource-abundant states grow less rapidly due to bad industrial policy and poor institutional quality. This is explained by the fact that they pursue good policies in other areas and enjoy the advantages of having resource rent. In particular, resource-abundant economies have lower budget deficits and inflation, higher investment/GDP ratios, higher inflows of FDI as compared to GDP, more equitable distribution of income, and higher life expectancy. Thus, the thesis of a conditional, but not absolute, “resource curse” is supported by evidence: resource-abundant states do not grow more slowly than others, but they do lag behind the growth curve that could have been possible for them with better institutions and better industrial policy.

The Russian economy suffers from the shortcomings of a rather typical resource-abundant state – it has poor institutions, low domestic fuel prices, and an overvalued real exchange rate. A better industrial policy for Russia would imply a delicate gradual maneuver that is theoretically possible but requires a better quality of bureaucracy. Such a policy would include: a gradual increase in domestic fuel and energy prices to world levels (by phasing out export taxes and lifting restrictions on pipeline access);

higher taxes on fuel companies to capture windfall profits from increasing domestic fuel prices; and a decrease in the real exchange rate (via the accumulation of foreign exchange reserves and import subsidies) to compensate for the losses to non-fuel industries incurred by higher domestic fuel prices.

PONARS Eurasia publications are funded through the International Program of Carnegie Corporation of New York. The views expressed in these publications are those of the author alone; publication does not imply endorsement by PONARS Eurasia, Georgetown University, or the Carnegie Corporation.

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This memo is based on Victor Polterovich, Vladimir Popov, and Alexander Tonis, “Mechanisms of Resource Curse, Economic Policy and Growth,” NES Working Paper # WP/2008/000, available at www.nes.ru/%7Evpopov/documents/Resource_Curse_and_Economic_Policy-English-NESFin2008-Febr.pdf. Further details and calculations may also be found in Victor Polterovich, Vladimir Popov, and Alexander Tonis, “Resource Abundance, Political Corruption, and Instability of Democracy,” NES Working Paper # WP2007/73, available at www.nes.ru/%7Evpopov/documents/DemocrStability_PolterPopovTonis.pdf