

# Why the resource curse is a concern

*“The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. . . . But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.”*

**John Maynard Keynes**  
*The General Theory* (1936)

Policy analysts, economists and others have traditionally considered mining and mineral wealth a boon, providing rich countries with the resources needed to sustain their modern industrial economies while helping poorer countries generate the foreign exchange, tax revenues and other assets necessary for economic growth and development. Nevertheless, this conventional view has always had its critics.

## Prebisch-Singer Thesis

Raul Prebisch, an Argentinean economist, and Hans Singer, one of Keynes' first Ph.D. students at Cambridge, are perhaps the best known of the early critics of the traditional view of mining. Working independently in the years following World War II, they argued that the demand for minerals and other resources grows less rapidly than the demand for manufactured products. For this and other reasons, they maintained that the terms of trade of resource producing countries (that is, the prices they receive for their primary product exports compared with the prices they have to pay for the manufactured and other products they import) tend to fall over time. As a result, Prebisch and Singer recommended that developing countries diversify away from mineral and other primary product exports (Prebisch, 1950; Singer, 1950).

Their research ignited the Great Terms of Trade Debate, a controversy that has flared for more than 50 years. To this day, disagreement persists about whether the terms of trade of primary product producing countries have actually declined over the long run. Moreover, even if they have, this simply raises other contentious issues and questions. For example, what are the underlying determinants or causes of the decline? Is the decline necessarily bad for resource exporting countries? And, what are the implications for public policy? In particular, are developing countries better off eschewing mineral production? Overviews of this literature can be found in Cuddington et al. (2007) and Hadass and Williamson (2002).

Even though the findings and recommendations of Prebisch and Singer have yet to be substantiated, their work — leveraged through Prebisch's posting as the founding Secretary-General of the United Nations Con-

ference on Trade and Development (UNCTAD) in 1964 — greatly influenced public policy. In particular, by fostering widespread belief that specializing in primary production leads to slow economic growth and low levels of development, it provided the intellectual rationale for the autarkic policies that many developing countries pursued in the 1960s and 1970s. These policies, the main pillar of which was import substitution industrialization, fostered inefficient domestic manufacturing behind high tariff walls and discouraged foreign and domestic investment in the metal and other resource industries. The nationalization of domestic mining operations accompanied many of these efforts. Most of the state mining enterprises that emerged slowly withered as short-sighted governments siphoned off for other uses the income these companies earned and needed to reinvest to remain viable.

Ironically, the policies adopted to accelerate economic growth actually produced stagnation and lower living standards. For several decades, the developing countries that pursued them suffered slow or negative growth. The international mining community diverted new investment in exploration and mine development towards a few stable developed countries — mostly, the United States, Canada and Australia — while ignoring many geologically promising regions in Africa and Latin America. Disappointment in import substitution industrialization led to its abandonment during the 1980s and 1990s, though only after it had inflicted considerable damage.

## Rise of the resource curse thesis

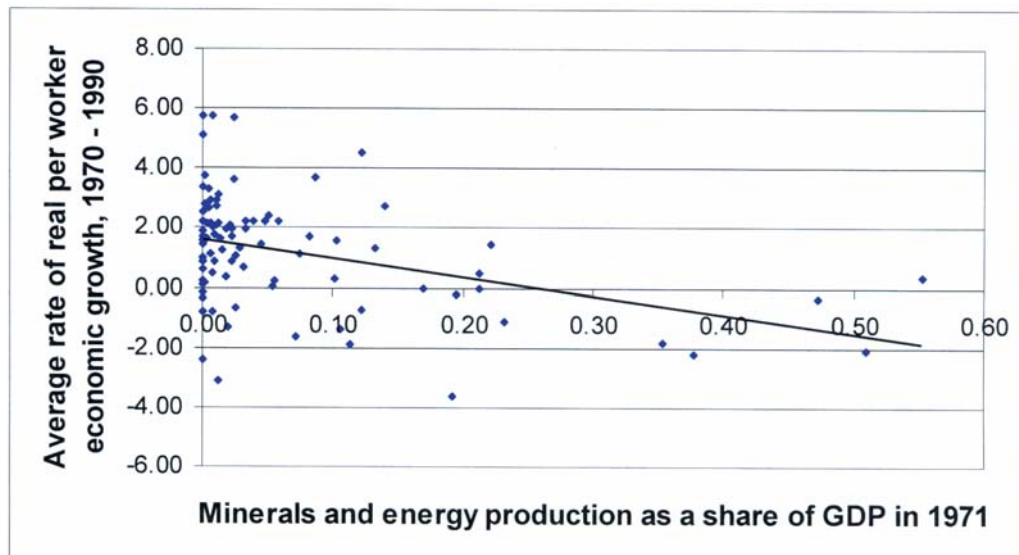
Just as the influence of the Prebisch-Singer thesis was fading, and many developing countries were scrambling to revamp their laws to entice the international mining companies to return, a new challenge — known as the resource curse — was germinating. Starting in the late 1980s, Richard Auty (Auty, 1990, 1993, 1994a, 1994b, 1994c), Alan Gelb (Gelb, 1988) and others carried out a number of studies that found mineral-exporting developing countries suffered from poor economic performance. Building on these case studies of individual countries, Jeffrey Sachs and Andrew Warner (Sachs and Warner, 1995a, 1995b, 1997a, 1997b, 1999a, 1999b, 2000 and 2001) conducted more comprehensive analyses that assessed how economic growth var-

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**FIGURE 1**

**The negative relationship between resource dependency and subsequent economic growth, 1970 – 1990 (data from Sachs and Warner, 1997a).**



ies with resource dependency across a host of countries. Figure 1, derived from their sample of countries, suggests that countries dependent on resource exports tend to grow more slowly than other countries. Even after controlling for a large number of other possible determinants of slow growth, Sachs and Warner concluded that a negative relationship persists between growth and resource dependency.

A correlation between two variables, of course, does not demonstrate cause and effect. Still, the work of Sachs and Warner has suggested to many that resources in general, and mining in particular, actually retard economic growth and development. This, in turn, led to a search for the underlying causal factors. The possibilities are numerous:

- **Declining terms of trade.** If the prices of mineral commodities and other primary products fall relative to the prices of other goods and services, as Prebisch, Singer and others believe, countries exporting primary products will, over time, have to export more and more for a given basket of imports. The rising relative price of imports, and especially capital equipment, makes economic growth difficult.
- **Volatile markets.** The markets for primary products are known for their instability. Price fluctuations of 30 percent or more within a year are common. For mineral commodities, this volatility arises largely as a result of marked shifts in their demand over the business cycle. Construction, capital equipment, transportation, consumer durables and the other end-use sectors that consume the lion's share of mineral commodities expand during booms in the business cycle at an even faster pace than overall gross domestic product (GDP). Conversely, during recessions, these sectors typically experience more dramatic declines. As a result, mineral-exporting countries suffer sharp swings in government revenues and foreign exchange earnings during the global business cycle. It is argued that this

makes it difficult to pursue efficient and consistent development policies.

- **Income inequality.**

There is weak evidence that mineral extraction increases income inequality in the domestic economy (Leamer et al., 1999; Ross, 2007). Not only is greater income inequality bad for the poor, but it can slow subsequent economic growth.

- **The Dutch Disease.**

When a country experiences a resource boom, as was the case for Holland during the 1960s after the discovery of the Groningen natural gas fields, its economy must make some structural adjustments to take advantage of its new-found wealth. To attract labor, the booming sector offers high salaries that raise the domestic wage rate throughout the economy. In addition, the jump in mineral exports causes an appreciation in the domestic currency. These adjustments hurt established domestic industries, such as agriculture and manufacturing that have to compete at home and abroad with foreign producers. If these industries have special pro-growth attributes, growth will be slowed by their shrinkage.

- **Nature of mining.** In many locations, mining is an enclave industry. Ore and concentrates are exported, limiting the value added created domestically. Needed supplies and equipment are imported. Trained workers come from abroad, and few unskilled workers are necessary. Where these conditions hold, mining contributes little in the way of economic spillovers, and the benefits for the host country are limited to the taxes and royalties it collects.
- **Rent-seeking behavior.** The wealth or economic rents that mining creates and, in particular, the portion of these rents that the host country can capture in taxes and in other ways, can encourage perverse behavior. When the rents are usurped by the ruling elite, they can accentuate already severe income disparities. When they encourage entrepreneurs and others to devote their efforts and resources to capturing a larger share of the rents (a bigger piece of a fixed pie) rather than pursuing wealth-creating activities (a larger pie), economic growth suffers. When mining rents promote corruption or lead to civil insurrection or war, the impact on economic development is even more damaging.

### Resource curse skeptics

Despite the accumulating empirical evidence and the above possible causal explanations for the resource curse, there remain many skeptics. Indeed, some who work within the mining industry often dismiss the resources

course as largely the machinations of academic scribes totally out of touch with the real world. They see first-hand the wealth mining creates, and the benefits host governments and local communities as a result enjoy — greater government revenues and foreign exchange earnings that support education and a range of other public services throughout the country, as well as good jobs and improved infrastructure that benefit the local economy. The idea that mining hinders a country's development seems preposterous.

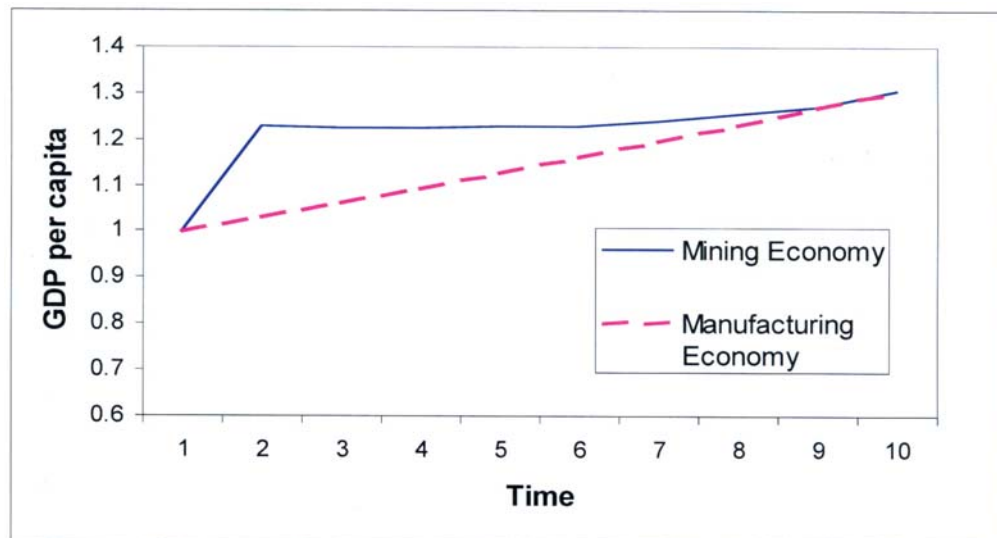
In addition, both the empirical and conceptual research supporting the resource curse continues to be challenged. The International Council on Mining and Metals during the past several years has conducted studies of Chile, Peru, Ghana and Tanzania — similar to the earlier case studies of Auty and Gelb. These studies concluded that in these countries mining has fostered economic growth and development (ICMM, 2006). The findings of Sachs and Warner have also been questioned by researchers who have expanded their sample of countries, changed the time period considered or altered the measure of resource intensiveness (Ding and Field, 2005; Lederman and Maloney, 2007; Sala-i-martin et al., 2004; Stijns, 2005; Wright and Czelusta, 2004).

Similarly, all of the underlying causal explanations advanced in support of the resource curse have their detractors:

- The debate about the terms of trade of resource-exporting countries, as has been noted, remains unresolved more than half a century after the original publications of Prebisch and Singer.
- While few would deny that resource prices in general and metal prices in particular are volatile, many countries have established commodity stabilization funds, which they contribute to when prices are high and withdraw from when prices are low. In addition, as commodity markets become more sophisticated, countries can use futures markets and other financial instruments to reduce their market risk. Moreover, instability in government revenues and foreign exchange earnings need not always impede economic growth. At times, it may enhance the effectiveness of government development programs by forcing the elimination of the less productive efforts when revenues are down.
- The assertion that mining creates income inequality can also be questioned since mining typically takes place in rural areas where unemployment is high. In addition, there is some evidence that at the national level mining reduces income inequality (Davis, 2008).
- The Dutch Disease, skeptics contend, is a misno-

**FIGURE 2**

**GDP per capita in manufacturing economy, with mine production starting in period 2 and ending in period 9, compared with that same economy with no resource boom.**



mer. It is not a disease and not particularly Dutch as many countries have gone through similar experiences. The structural adjustments that produce higher wages and an appreciated exchange rate, despite their adverse effects, are necessary for a country to benefit from a resource boom and to realize its full growth potential. For the Dutch Disease to retard growth requires some additional assumptions or constraints (e.g., the resource boom will soon end and at that time labor and other factors used to produce resources will encounter problems moving back to other sectors of the economy). The existence of such constraints, however, is far from evident. Even Sachs now refers to the “exaggerated fear” of the Dutch Disease (Sachs, 2007).

- Where mining is an enclave industry, it still contributes taxes and royalties that governments can use to improve education, public health and other social services. Moreover, mining often does produce positive spillovers by hiring local workers, providing regional services, purchasing local supplies, carrying out downstream processing and developing local infrastructure (roads, hospitals, ports, etc.).
- When corruption, war and other rent-seeking activities squander the wealth and rents created by mining, economic growth and development suffer. But this, the skeptics contend, is not the fault of mining. Mining provides countries with opportunities. If governments fail to take advantage of them, the blame should be placed where it belongs: bad governance and the perverse policies it engenders. These negative outcomes must overwhelm the positive impacts of mining before extractive activity can be ruled a curse.
- Increasingly, researchers are distinguishing between a country's rate of economic growth and its level of economic development (Davis, 1995; Bulte et al., 2005; Davis, 2008). The empirics suggest that mineral exporting countries may have slower rates of growth but superior levels of develop-

ment performance. Economic models of extractive economy growth are available that help explain such findings. Figure 2 provides the outcome of a simple model of a manufacturing economy where optimally planned extraction of a mineral resource starts in period 2 and ends in period 9. Growth is slower from period 2 to 9 with mineral extraction than without, and yet GDP per capita is higher for the entire period with extraction. Thus, measured slower economic growth is not necessarily the same as poorer development performance.

### Agreement on three issues

Despite their differences, the advocates and skeptics of the resource curse thesis agree on three important points. First, mineral deposits that can be exploited profitably are (natural) capital assets. The wealth they generate can be converted into physical or human capital and used to promote economic growth. And, if the wealth the mineral deposits generate is consumed, it can reduce poverty. In short, mineral resources provide countries with development opportunities they would not otherwise have.

Second, some countries have taken advantage of these opportunities. Britain, the United States and Germany are often cited as examples of countries that have in the past used their mineral wealth to foster their economic growth. Australia, Botswana, Canada, Chile, Malaysia, Peru, the Netherlands and Norway are often cited as more recent examples.

Third, some countries have failed to take advantage of these opportunities. The Central African Republic, the Democratic Republic of Congo, Guinea, Liberia, Niger and Sierra Leone are all countries where many believe resources have been a curse rather than a blessing.

The on-going debate about the resource curse, perhaps not surprisingly, has not focused on these points of agreement. Rather, the debate centers on whether mining in general is good or bad for the development of producing countries and, as pointed out earlier, over the importance and validity of the causal routes by which mining could impede development.

However, the consensus on these three points has some important policy implications. In particular, it highlights that asking the right questions matters. The divide about whether or not mining in general has been positive or negative for development has led many to ask: Should governments and the international community encourage or discourage mining in developing countries?

Some argue these countries would be better off leaving their minerals in the ground, others argue the opposite.

To question either response on the grounds that the issue is still being debated and remains unresolved, while valid, misses the critical point that the question itself is inappropriate. It implicitly assumes that one policy choice is always correct. Most people can agree that mining has promoted economic development in some countries and not in others. Even in those countries where mining has, on balance, not promoted growth, selected projects may. To help countries develop and reduce poverty, it is counterproductive to discourage mining where it promotes these goals.

More appropriate and useful questions are: How can public policy maximize the benefits a country receives

from its mining sector? How can policy ensure that these benefits are effectively used to foster economic growth and to reduce poverty? How should the international community respond when the good governance and other conditions necessary to ensure that mining will promote economic development are missing? These are more difficult questions for which there is no single easy answer.

These questions recognize that mineral wealth provides developing countries with opportunities, and that mining can be a positive or a negative force for development. They also recognize that good policy can foster the conditions needed to ensure mining is a positive force for development. The third question even suggests that mining can help promote more broadly the good governance and the other conditions that foster broader national economic development.

### Remaining concerns

The preceding discussion indicates that the appropriate policy question is not should mining be promoted in the developing world, but rather when should it be encouraged, where should it be encouraged, and how can it be ensured that mining contributes as much as possible to economic development. While this resolves some of the policy issues raised by the resource curse, one important concern remains.

The empirical evidence indicating a negative relationship between mining and economic development, even if true in only a few countries, is still troubling. For many developing countries, resource wealth is one of the few assets they can call upon as they struggle to reduce poverty and raise living standards. Indeed, until they can be assured that they will benefit from mining, the mining community should not be surprised to find these countries less welcoming than it might like.

The perception fostered by the resource curse thesis that mining and economic development are conflicting — whether true or false — inevitably will alter the behavior of developing countries. Like the Prebisch-Singer thesis, the resource curse provides an intellectual basis for a new wave of anti-mining policies. The World Bank's external Extractive Industries Review, for example, has suggested that the Bank stop funding new coal mining projects in developing countries (World Bank, 2003). Such recommendations could once again divert investment in exploration and mineral development away from developing economies and toward Australia, Canada, the United States and, perhaps, a few other countries, as occurred in the 1960s and 1970s.

Shunning the promising resources found in the rest of the world would force developed countries and other consumers of mineral commodities to pay more for their mineral commodities. Even more tragic, the opportunities that mining offers developing countries as they strive to grow would once again be lost for another generation or longer.

For as Keynes so colorfully reminds us in the well-known quote cited at the beginning of this article, "The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. . . . Soon or late, it is ideas, . . . which are dangerous for good or evil."

(References are available from the authors.) ■