

Exports of mineral commodities: Contributing to economy-wide growth?

- Almost all consumer goods contain products from the mining sector: a mobile phone can contain 50 different minerals and metals
... but no country is self-sufficient in these materials.
- Some minerals-exporting countries are highly dependent on these exports
... but mining does not create many jobs.
- Some countries restrict exports of unprocessed minerals in an attempt to support or create a downstream processing industry that will create jobs, or simply to collect revenue for the government
... but OECD analysis suggests that export restrictions are not the best way to achieve these crucial policy objectives;
... and they can increase production costs and delays for firms producing the consumer goods that use them.
- Some countries, such as Chile and Botswana, have leveraged their mineral resources for wider economic growth without resorting to trade restricting policies.
- Chile has implemented a transparent, stable, balanced regulatory framework that applies to all firms, in particular as regards tax, investment and trade policies.
- How revenue from the mining sector is spent is as important as how much is collected. Botswana has invested the entirety of the revenue collected from its large diamond reserves on the health and education of its people and on its physical infrastructure.
- Universal notification of the use of such trade policies would be a first step to reducing unpredictability in minerals markets.

Mineral resources represent a vast stock of wealth in some countries. In some cases, exports of such products dwarf all other exports. Resource abundance does not always bring sustained economic growth and development: it can have the opposite effect, sometimes referred to as the “resource curse”. Research suggests that growth from mineral resources is lower than that due to other factors and can be very volatile. Countries that are heavily reliant on their mineral wealth often have weaker institutions, spend less on education and are more corrupt¹. The most severe manifestation of the resource curse is the onset or continuation of conflict where warring groups fund violent action through resource extraction.²

The mining sector generally provides little employment in the countries where extraction occurs. Some minerals exporters have tried to increase the value added of their natural resources and create jobs in downstream processing industries by using export restrictions. The rationale is that restricting exports of minerals will help to foster a downstream processing industry through lower input prices, thereby creating more jobs domestically. Other countries use such restrictions to generate revenue; control illegal exports or the export of illegally mined products; enhance environmental protection; or offset exchange rate impacts caused by exports of few commodities. These are all legitimate policy goals to be determined in each country by its citizens’ preferences.

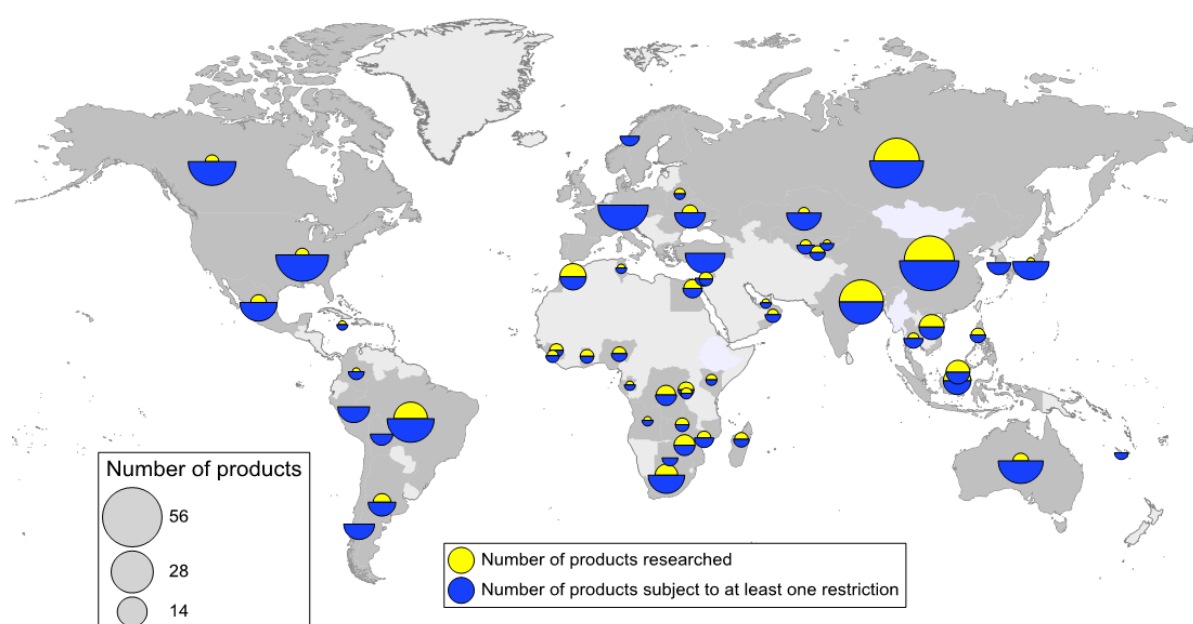
Export restrictions often do not achieve desired objectives

OECD and other research suggests, however, that export restrictions are generally not the best way to regulate the mining sector and often do not achieve their desired objectives. Indeed, in some cases they have the opposite effect. A forthcoming study examining the use of export restrictions by five African countries on different minerals and metals, with the stated goal of encouraging downstream processing, suggests that in none of the five cases did the downstream industries benefit. In some countries, the mining sector experienced a substantially negative effect.

Further OECD analysis has estimated the effect of removing all export barriers in the steel and steel-making raw materials sector. The impact was positive on global welfare and—somewhat surprisingly—was even positive in those countries that use export restrictions on steel-making raw materials. Evidence suggests therefore that export restrictions are not an appropriate policy instrument to respond to the challenges of regulating the extractive sector for economy-wide, sustainable growth.

Despite this, measures are prevalent restricting exports of many raw materials such as minerals, metals, wood, and food and agriculture. In some emerging economies, a large percentage of minerals exports are subject to restrictions (Figure 1). Moreover, in over a dozen countries, measures are in place to restrict exports of all mineral commodities they produce.

Figure 1. Share of industrial raw materials subject to at least one export restriction in 2009-2014



Notes: Grey regions indicate minerals producing countries included in the Inventory. European Union member countries are considered as a single region.

Source: OECD (2015) *Inventory of Export Restrictions on Industrial Raw Materials*, http://qdd.oecd.org/subject.aspx?Subject=ExportRestrictions_IndustrialRawMaterials.

Why are export restrictions still in place?

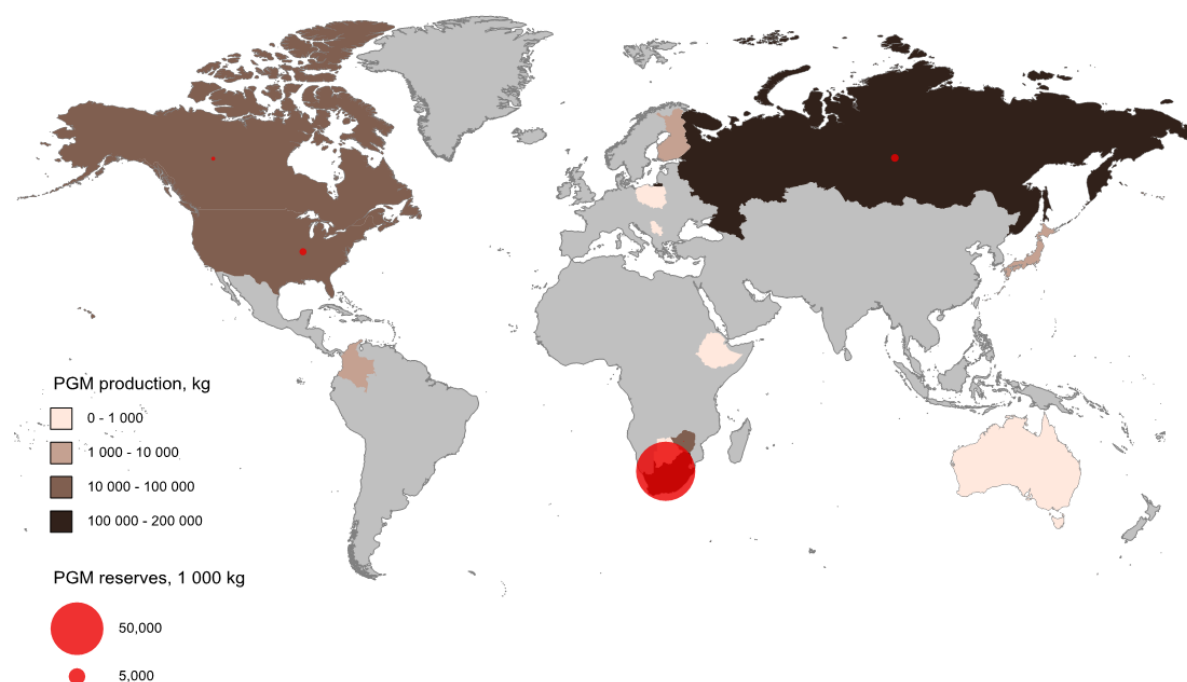
The prevalence of such measures begs the question: Why do policy makers use this trade policy instrument to address domestic policy challenges? One reason is simply because they can. Export restrictions are less disciplined by World Trade Organization (WTO) rules than other trade policies such as import restrictions. Export taxes are allowed at any level, for example, and export quotas, although generally forbidden, can be used in a large number of cases. Some regional trade agreements have attempted to bring further discipline to this area. The recently concluded Trans-Pacific Partnership (TPP), for example, excludes the use of export taxes except by a few countries on a pre-defined list of products.

Under WTO rules, member economies are obliged to notify of their use of export restrictions. Implementation has been patchy, however, and there have been no sanctions for non-reporting. At the very least, multi-lateral oversight should be increased.

Concentration of production exacerbates the impact of export restrictions

The impacts of export restrictions are exacerbated because some commodities are produced in only one or two countries. Platinum group metals, for example, are necessary to produce many electronics including computers and mobile phones, as well as catalytic converters, and are produced in a small number of countries— Russian Federation and South Africa and, to a lesser extent, Canada and Zambia. Known mineral reserves, which suggest potential future production, are present in only one country (Figure 2).

Figure 2. Few countries provide the metals needed to produce electronics
Production and reserves of platinum group metals (PGM)



Source: United States Geological Survey (USGS).

If countries that control global production restrict their exports, global markets can be heavily impacted—prices of those commodities rise sharply and their consumers may not have access to the materials they need. Metals and minerals are essential components of mobile phones, computers and other electronics; environmental goods such as wind turbines, hybrid car engines and LED lightbulbs; and transport vehicles from airplanes to passenger cars. Up to 50 different metals and minerals are present in a mobile phone; over 20 different ones are needed to produce one hybrid car. In addition, these products are traded multiple times throughout their value chain from raw material to semi-processed products to finished goods component. If just one of these materials is unavailable, production is delayed and final products become more costly.

The mining sector is objectively difficult to regulate, as the “resource curse” illustrates. In some countries, it represents substantial wealth, even more so when compared with the rest of the economy. Unlike other sources of economic growth, mineral resources are extracted rather than being produced and the business decision to operate in a given environment is determined by geology, not only the economic environment. In some countries, enormous wealth is extracted in a business climate that is ill prepared to regulate and distribute it. In such cases, mineral resource extraction occurs quite independently of the rest of the economy, with little participation of the local population. The potential for rent-seeking and corrupt behaviour is high. In addition, international prices, and therefore the revenue from extraction, change rapidly which introduces volatility into thin markets.

Policy alternatives to export restrictions

If trade policies such as export restrictions do not achieve their policy objectives, what are the alternatives? Some countries have been successful in leveraging their mineral resources for sustainable, economy-wide growth. OECD analysis points to some successes and shares some lessons from their experiences:

- Regulatory stability is of prime importance to mining firms as they are obliged to make long-term capital investments. Stability of tax frameworks is particularly important.
- Transparency is key: Chile, for example, has established a transparent regulatory framework as regards tax policy and investment regulations that applies to all firms. This reduces the potential for corrupt or rent-seeking behaviour and diminishes the room to negotiate a regulatory framework applied to individual firms.

- As important as the level and design of the tax system applied to mining firms are the priorities for spending the revenue from taxation of minerals, and the process by which they are established. One example comes from Botswana, a country that has graduated from least developed to upper-middle income in large part due to the careful investment of revenue from its diamond mining industry. One of the cornerstones of Botswana’s development policy has been to invest the entirety of the revenue extracted from its mineral assets in physical and human assets, i.e. education, health and infrastructure. The government of Botswana has spent the totality of revenue earned from its vast diamond reserves over the last three decades on health, education and infrastructure.
- Good fiscal rules that advocate spending minerals tax revenues in a counter-cyclical fashion help contain exchange rate volatility. It is important to reach a balance between spending and investment of minerals revenues, taking account of domestic absorptive capacity. One model in this area is Norway’s sovereign wealth fund where revenue from its natural resource exports is invested abroad thereby easing pressure on the exchange rate and avoiding a “crowding out” of non-resource exporters.
- Some countries have successfully created clusters around their mining sectors. In Australia, mining services—engineering, mapping, geological analysis, specialised equipment and technologies for extraction and processing—have grown five-fold in the last 15 years. Mining services now account for 7% of Australian employment, far more than mining itself. Chile has also fostered small- and medium-sized firm activity around its mining sector, where they have been successful in adapting technologies to Chile’s specific geological conditions through partnerships with large mining firms.
- Illegal mining has challenged regulators in many countries, including in Peru and Colombia. This is particularly the case for gold mining: small firms sometimes use mercury to extract the metal thereby causing extensive damage to the local population and environment. Civil society organisations have been working with small-scale miners in some countries to adapt sustainable mining practices. They are working toward adhering to standards for sustainably mined gold thereby responding to demand from some luxury brands in the jewellery industry.
- Good quality, detailed geological information is of prime importance for minerals-rich countries wishing to attract investment. Such information is a public good and can enhance the efficiency of mining and prospecting operations.

Mineral resources have strongly benefitted some countries, such as Chile and Botswana, which have been successful in imposing stable, balanced regulatory environments. They have not resorted to distorting trade policies to achieve their aims of broader economic development.

Endnotes

1. Literature on the resource curse is abundant. Useful overviews include *Escaping the Resource Curse* by Humphreys, Sachs and Stiglitz (Columbia University Press, 2007) or the WTO’s *World Trade Report 2010: Trade in Natural Resources*.
2. The OECD provides detailed recommendations to promote respect of human rights and avoid firms’ trade and investment decisions contributing to conflict through the [Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk areas](#).



More information

- » Visualisation of Trade Restricting Measures in Minerals and Metals
<http://www.compareyourcountry.org/trade-in-raw-materials>
- » Export restrictions on raw materials
<http://oe.cd/rawmaterials>