

## Natural Resources: An Incentive or an Obstacle to Economic Growth?

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### Abstract

This paper refers to the consequences of the presence of natural resources for countries endowed with such resources and the impact of such resources on their economy. It briefly describes the experience of some of these countries, presenting the success of those who benefited from these resources and the monetary, fiscal and exchange rate related aspects thereof. The concept of annuity initially refers to the remuneration related to ownership rights upon a limited resource. The paper provides an overview of situations that can influence the relation between natural resources, economic growth and some of the related key factors.

**Keywords:** Economic growth, natural resources, budget revenues, royalties, governance.

### 1. Introduction

Natural resources are paramount for economic growth. Looking at the global context, there is no economic activity that can be carried out in the absence of raw materials. Thus, the question that raises is to what extent the depletion of natural resources will slow economic growth?

There are situations where some economies endowed with natural resources have experienced a rapid development pace (the United States); on the other hand, other countries like Japan have developed while lacking resources. There are also many economies that have experienced a deterioration of their economic situation, such as Venezuela. In this latter case, the specialists in this area talk about a “curse of natural resources”.

The term “Dutch disease” refers to the curse determined by the discovery of natural resources by a national economy. Thus, in 1959, a rich gas field was discovered in the province of Groningen, in the northern part of the Netherlands, to which other reserves have been added discovered later in the rest of the country and in the North Sea. The expression “Dutch disease” appeared in the '70s and refers to the fact that the country's macroeconomic performance is low despite (or even due to) obtaining royalties from energy resources. Following the world economic crisis of 1973, because of the oil shock, the performance of the Dutch economy deteriorated. In fact, economic growth was slowing down and unemployment was rising. The increase in exports of primary products is associated with a growing trade surplus, which in turn determines an appreciation of the national currency in the real exchange rate. This appreciation of a currency exchange rate acts against the competitiveness of the rest of the national economy sectors, which may, in some circumstances, lead to a deterioration in the macroeconomic performance of the economy.

According to the recent theory of economic growth, the interaction of several sources of development plays an important role in achieving economic growth by a national economy. Thus, the transformation of capital provided by natural resources into social and human capital to stimulate economic growth implies the presence of some quality institutions and governance. Among the many ways to promote the efficiency of economic and social development, one of the finest is the accumulation of human capital through quality education, training and health systems.

Capital is present in many different aspects and shapes, some tangible and others not, but in all its forms it must gradually accumulate through painful investments that are detrimental to immediate consumption. Creating a strong capital base, expressed in a strengthened national wealth, requires many investments based on fair and sustainable decisions made in different areas.

It is important to distinguish between two concepts, namely the abundance of natural resources and dependence on these resources. Abundance characterizes the amount of natural capital in a country: ores, oil, forests, arable land, etc. Dependency means the degree to which a particular country depends on these natural resources to support its economic activities. Some countries benefit from abundant natural resources such as Australia, Canada and the United States, but do not owe their exclusive economic growth to such resources. Other countries, which have abundant resources, such as the OPEC countries, are almost entirely dependent on them. Other countries like Chad and Mali, which have little resources, depend on the revenue from selling exporting these resources because they do not produce anything else. Other countries, which have few natural resources, do not depend on them, as is the case with Jordan and Panama.

## **2. The economic problems faced by countries rich in natural resources**

There are several ways of dealing with the management of natural resources that countries rich in such resources may adopt, namely: fiscal policy; monetary, financial and foreign exchange policy, underlining the important role of institutions and governance; the need to diversify their economy to get rid of the excessive dependence on a few resources.

In the case of a developing country, abundant resources can be an asset, but it may be difficult to implement an effective fiscal policy. The authorities of the resource-rich countries face several problems, such as: their resources are generally non-renewable but exhaustible (non-sustainable), and exports are influenced by this shortcoming; the prices of exported raw materials are fluctuating and thus the budget income and revenues on which the authorities rely are subject to high fluctuations; countries have a limited capacity to produce long-term income forecasts and to set and implement efficient public investment projects.

It is difficult to estimate how long a country's natural resources can bring revenue to the expected level. This estimate may be difficult because new deposits may be discovered, and technical progress may change the market value of natural resources by facilitating extraction or by increasing the quota that can be exploited. However, it is important to estimate the useful life of resources (e.g. more than 30 years) as their exhaustion should be a key parameter for tax policy evolution (Siddharth Tiwari et al., 2012). Although the issue of sustainability is a concern for all countries, adjusting fiscal policy in the absence of resources is a less imminent concern when the depletion of these resources is still far away. The main concern is to manage revenue volatility linked to fluctuations in resource prices on the market. This is the case of Saudi Arabia and Russia, which are countries with immense oil reserves and where the horizon of resource depletion is not foreseeable in the near future. On the other hand, countries such as Cameroon and Yemen, where oil reserves are limited and therefore have a shorter time horizon, should pay attention to how they will replace the revenue obtained from these resources to finance their public spending at least at the same level as today.

The primary purpose of fiscal policy should be to obtain sufficient revenue to minimize revenue fluctuations. When a country's revenues are diminishing, the simplest solution, but also the least effective and damaging to a country's economy, is inflation. Another way to prevent a country's income from falling is to levy new taxes and duties, but which reduce the incomes of households and businesses. In the case of the application of customs duties in order to cover the decrease of the incomes of a country, the trade relations can be diminished and, implicitly, there is a medium and long term economic downturn perspective.

In the case of direct taxes, employment and goods production are discouraged. Sales taxes in particular affect low-income households, which spend most of their income to meet their basic needs and while their savings are little.

Countries with significant amounts of natural resources could increase their public revenues by increasing taxes on resources exploitation, relying on the argument that it is easier to tax the land than mobile production factors.

Applying royalties by the public authorities of a country for the permission to manage a state-owned resource is a better solution for obtaining public revenues. These revenues should be used to finance social productivity or to reduce other less efficient sources of income that could be a burden on the shoulders of domestic households or businesses. A sound budget governance requires attention to be paid both to the cost-sharing efficiency and to the mobilization of the revenue needed to finance such costs.

Managing the fluctuation of natural resource prices must be the core objective of countries where resource depletion is near and which rely on income from these resources. The leaders and decision-makers can adopt rules that take into account the fluctuation of resource prices from one year to the next. These rules set out indicators to determine the maximum limits of annual expenditure by reference to the average income that can be obtained. Estimates of structural revenues are based on both a pricing and a production planning formula, taking into account past, current and future prices.

Pricing patterns vary from one country to another (Philip Daniel et al., 2013). Mongolia, for example, uses a moving average of mineral resource prices over a period of 16 years (the prices of the last twelve years and forecasts for the current year and the next three years). Past prices are weighted, thus ensuring the stability of the forecasts, while allowing for the gradual incorporation of future prices. Mexico uses a 10 years weighted average of oil prices (with a weight of 25%), short-term contracts (with a 50% share but multiplied by a "prudent factor") and the medium term contract prices (with a weight of 25%).

Thus, a prudent fiscal policy implies that, when resource revenue is greater than estimated, the surplus has to be saved and not spent ("windfall gains"). Similarly, the government can resort to previous financial savings when budget revenues are lower than expected. The budgetary frameworks of Norway, East Timor and Papua New Guinea are based on this method, which allows governments to adjust their spending to fluctuations in world commodity prices.

In order to keep the budgetary framework under control, there is the solution to put aside resource incomes and to spend only the earnings generated by these economies (so-called annuities). By this method in Norway, the state budget increases annually by about 4%, an amount derived from the revenues from oil exploitation. This method has been successful in Norway, but it is not necessarily suitable for developing countries that need multi-level development. Apart from the annuity method, another development method is the use of oil revenues to build production capacities in other areas, to improve the health and education systems for the benefit of its citizens, that is, human capital. In countries where infrastructure is lacking and human capital needs are high, the rate of return on productive public spending is likely to be much higher than the rate of return on financial assets. If revenues from the exploitation of natural resources are used to implement quality public projects, the latter can support economic growth and can therefore lead to an increase of income other than from natural resources. Instead, poorly targeted spending can lead to the loss of the country's well-being and the welfare of future generations, thus hindering the country overall development.

The efficiency of public investment depends on the ability to select, implement and evaluate projects that is the institutional stakeholders activating within an economy. Thus, it is important to have efficient public finance management mechanisms that provide the most accurate forecasts of natural resource revenues, and which can lead to the adequate development of medium-term budgets. These mechanisms must manage cash flows and debt, be transparent in

obtaining and using revenue from resources (economic accounting, reporting and control). This process involves indicators to monitor the use of natural resources related wealth. Two of these indicators are the investments quota in total public expenditure and the share of public investment relative to income from natural resources. The main priority for a developing country rich in natural resources should be budget transparency and good governance.

Public authorities have at their disposal different tax instruments and leverage to obtain income from their natural resources, namely: establishment of royalties, levy of specific taxes on the exploitation of natural resources, the participation of the state in the ownership of some national companies established for the exploitation of resources etc.

There are various factors within the reach of authorities, which can influence the amount of income from the exploitation of natural resources, such as: the date/timeframe the government wants to collect revenue; the decision to obtain a higher share of income if prices rise; the ability to enforce and manage the taxes, etc. Situations may vary from one country to another, but a policy combining charging royalties and a specific tax on high profits (additional to the traditional corporate tax) is advantageous for a developing country. This combination creates the opportunity to receive revenue from the very beginning of operation and to obtain additional public revenue in case of increased profit due to higher prices and/or lower costs. As mentioned above, when revenues from the exploitation of natural resources are higher than estimated than expected, this additional revenue should be saved. These savings could fuel special funds, known as sovereign wealth funds or stabilization funds. These funds must operate in addition to the other taxes and duties and should be integrated into the national budget cycle to allow countries to allocate resources efficiently when they set their priorities for spending. Therefore, resource funds should not be invested with independent spending power. Countries rich in natural resources can increase their public spending based on increased income from natural resources, provided that such revenue is efficiently and transparently used, and without jeopardising macroeconomic stability.

### **3. Financial, monetary and exchange rates policies**

The management of natural resources is a challenge for financial and monetary policy. The most important problem is probably the so-called “Dutch disease” caused by the discovery of natural gas deposits in the North Sea and which has raised concerns about the deindustrialisation of the Netherlands. The disturbances created by the overvaluation of the currency as a consequence of the increase in exports of natural resources could lead to the development of an economic sector to the detriment of others. There is also the risk of underdevelopment of high technology sectors and an increase in the share of extractive industries based on low qualification of employees. Over-valuation of the exchange rate hit in export-oriented industries and stimulate increasing imports.

The “Dutch disease” can be determined by a massive flow of foreign direct investment into an economy. In the case of a developing country, the mass influx of foreign capital results in an appreciation or depreciation of the local currency, depending on the use of this new capital to funding or accumulating capital in certain economic sectors.

A solution for healthy economic growth is diversification. Diversification stimulates economic growth by focusing not only on economic activity linked to primary production, but also on secondary and tertiary production activities, thus facilitating the transfer of labour from low-paid and low-skilled jobs in agriculture or mining, to better paid jobs which requiring more qualified staff. Among the oil-exporting countries that have succeeded in diversifying their economies we mention Malaysia, Indonesia, Chile and the United Arab Emirates. On the other hand, among the countries that failed to apply diversification there is Nigeria, which should be envied in terms of oil resources in comparison with other oil producing countries, being the first oil producer in Sub-Saharan Africa and the fifth OPEC producer after Saudi Arabia,

Venezuela, Iran and the United Arab Emirates. Petrodollars account for 83% of federal revenue and over 95% of export earnings (IMF, 2015). At present, this country's economic structure is not diversified and it is largely dependent on the oil sector.

Venezuela is another country suffering from "Dutch disease", being the country with the largest proven oil reserves in the world. Despite the wealth of oil deposits, the country does not have its own refinery and imports its fuel. A 96% of revenue comes from this resource, and more than 70% of consumer goods are imported, mainly food.

Mixed modern economies rely on a wide range of industries, businesses and services to provide citizens with a steady increase in their living standards. Therefore, these economies must find ways to diversify at the expense of dominant agriculture or extractive industries that tend to hinder or delay the development of modern industries and services.

Another possibility is to invest part of the royalty earned from the extraction of natural resources on the international financial markets. The goal is not to increase too much the demand in the short term through voluntary sterilization, especially if the absorption capacity of the economy is limited even if the need for public investment is high (Marie-Pierre Arzelier, 2016). This accumulation of savings in sovereign wealth funds is a widely used technique by countries such as Saudi Arabia, Norway and Kuwait.

Public authorities need a lot of will to resist the temptation to let the currency appreciate beyond the appropriate level, taking into account the popular political benefits of a strong exchange rate of their currency for households and businesses that depend on imported products. This is a powerful reason for the existence of independent but responsible central banks, protected by law from political pressures.

There are oil producing countries that have succeeded in implementing an economic diversification strategy, using the establishment of a free trade area to promote foreign trade activities. An example of this is the experience in the United Arab Emirates. Free trade areas offer many benefits to existing companies, including repatriation of capital and profits; exemption from corporation tax; elimination of customs duties on imported equipment.

There are international institutions who have been involved in policy making for resource-rich developing countries i.e. the World Bank has adopted a "Value-Chain Approach" for Natural Resources Management (NRM), with the main goal of prescribing an integrated strategy, to set-up feasible policies in order to convert the income from the exploitation of natural resources into results leading to sustainable development. The value chain includes a number of key factors of the NRM, namely: (1) sector organization and the award of contracts and licenses; (2) regulation and monitoring of operations; (3) collection of taxes and royalties; (4) revenue distribution and public investment management; and (5) implementation of a sustainable development policy system (Naazneen H. Barma et al., 2012).

#### **4. State of play of Natural Resources Management in Romania**

According to a study conducted by Deloitte (2018), the average royalty rate in Romania in the oil and gas sector reached 17.4% in 2016 and dropped to 13.9% due to the tax on construction, while the average in the European states plummet to 8.8%. Higher levels of royalties than in Romania were recorded only in the Netherlands, Austria and Hungary. From 2018 in Romania, the formula to be used in the calculation of gross natural gas extraction will take into account the average price of the previous month. There are draft laws currently under debate on differentiating the tax regime applicable to onshore and offshore activities.

Worldwide there are three main types of agreements on the exploitation of hydrocarbon resources, namely: technical agreements, oil production sharing agreements and concession contracts. The conclusion of concession contracts applies in Europe, including Romania. Concessions in Romania last for a long time i.e. up to 30 years, with the possibility of extending up to 15 years. The beneficiary of the concession has full rights over oil and gas from the

deposits. In the energy sector Romania needs a massive level of investment and technological upgrading. For Romania, the fastest way to finance the energy sector is to create and maintain a favourable fiscal framework, based on a balanced return on investment and government tax collection. Romania has certain strengths amid the change of the petroleum tax regime (Mariana Papatulică, 2014): the recently discovered offshore reserves at the Black Sea and the potential reserves of shale gas; the gradual liberalization of the domestic gas price; the presence of institutional framework and legislation adapted to resources management requirements at European level; completing interconnections through pipelines with Western Europe and neighbouring countries in the near future. Romania has some weak points, such as: lack of national capital for investment; lack of consultation in the field of exploitation projects and negotiations conducted in this area; the fact that the tax regime concerning the renegotiation of hydrocarbons is in place at a time when there is no clear information about the actual amount of gas discovered either in the Black Sea or in the shale deposits.

### Conclusions

Many developing countries rich in natural resources have failed in the adoption of a diversification policy and remain totally dependent on their extractive industry. On the other hand, other countries such as Indonesia, Malaysia, and the United Arab Emirates have managed to escape the trap of having rich natural resource by diversifying the structures of their economies and implementing funds that are key to achieving economic growth and development of these countries.

Natural resources cannot *per se* be a curse for the countries they own, and it is only the management policy of these resources and related revenues that can influence positively or negatively their economy. The impact of natural resources varies according to the country's regulatory bodies and institutional arrangements, the way the capital thus obtained is used, and the adoption of healthy not predatory economic behaviours.

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