



# Natural resource abundance, financial development and economic growth: An investigation on Next-11 countries

Seyfettin Erdoğan<sup>a</sup>, Durmuş Çağrı Yıldırım<sup>b</sup>, Ayfer Gedikli<sup>a,\*</sup>

<sup>a</sup> Department of Economics, Istanbul Medeniyet University, Turkey

<sup>b</sup> Department of Economics, Tekirdağ Namık Kemal University, Turkey

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## ABSTRACT

The financial system needs to develop in order for natural resource exports to have a positive effect on economic growth. Yet, an advanced financial system is crucial for transferring the revenues from oil exports to productive investments. If the level of development of the financial system remains under a certain threshold, the effect of natural resource exports on economic growth is too low. In this vein, the determination of the level and the deepness of financial development that has a positive impact on the growth of natural resource exports should be clarified. The aim of this study is to investigate the relationship between the impact of natural resource exports on economic growth and the level of financial deepening by using the data of the selected Next-11 countries for the period of 1996–2016. Nonlinear panel data methodology is used in the study. Based on the empirical results, for the first regime, where the rate of financial deepening is under 45%, the increase in oil exports does not have a statistically significant effect on economic growth. For the second regime, where financial deepening is over 45%, one unit increase in oil exports causes a 7% increase in economic growth.

## 1. Introduction

Considering a country with natural resource abundance, one can infer that this country has a strong economic growth performance. However, this inference is valid only for a few countries with natural resource abundance. Indeed, it is not possible to state that natural resource abundance has a positive effect on economic growth in all countries that are rich in natural resources. Furthermore, there is no relationship between natural resource abundance and economic growth in some of the natural resources abundant countries. In fact, in some countries, it is observed that natural resource abundance affects economic growth negatively. In the literature, the negative impact of natural resource abundance on economic growth is explained through the “natural resource curse” hypothesis, also known as the paradox of plenty. There is extensive literature investigating the relationship between natural resource abundance and economic growth, i.e. resource curse hypothesis. The fact that “natural resource abundance does not affect economic growth in all natural resource abundant countries in the same way” is supported by the findings of the studies investigating the relationship between the two variables.

Considering the findings of this research, it was concluded that there

is no consensus in the literature. While some studies point out that natural resources positively affect economic growth, others suggest that natural resources negatively affect economic growth.

Cavalcanti et al. (2011) investigated the validity of the resource curse hypothesis in 53 countries by using the data for the period 1980–2006. The researchers concluded that oil abundance has a positive effect on real income and short-term economic growth. The positive effect of natural resource abundance on the economy is related to the fact that the export composition and the production system of a country do not solely depend on those natural resources. Apart from natural resource production and exports, the existence of high value-added goods and services that serve international markets protects the economy from being dependent on a single sector.

According to the natural resource curse hypothesis, natural resource-rich countries have relatively lower economic growth performance than natural resource-poor countries (Gerelmaa and Kotani, 2016:313). The research conducted by Sachs and Warner (1995) is one of the pioneer studies explaining the negative relationship between natural resource abundance and economic growth. The authors stated that natural resource-poor countries had better economic growth performance than natural resource-rich countries. In their research, they analyzed the data

\* Corresponding author.

E-mail addresses: [seyfettin.erdogan@medeniyet.edu.tr](mailto:seyfettin.erdogan@medeniyet.edu.tr) (S. Erdoğan), [cyildirim81@gmail.com](mailto:cyildirim81@gmail.com) (D.Ç. Yıldırım), [ayfergedikli@yahoo.com](mailto:ayfergedikli@yahoo.com), [ayfer.gedikli@medeniyet.edu.tr](mailto:ayfer.gedikli@medeniyet.edu.tr) (A. Gedikli).

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of 97 developing countries for the period 1970–1989 and found low growth rates in the countries with a high value of resource-based exports to GDP. The authors also pointed out that in the thirty-year period, natural resource-poor Korea, Taiwan, Hong Kong, and Singapore performed strongly, while oil-rich countries such as Mexico, Nigeria, and Venezuela went bankrupt (Sachs and Warner, 1995:2).

The Dutch disease approach is one of the main concepts in explaining the negative effects of natural resource abundance on economic growth. According to the Dutch disease approach, when natural resource-rich countries increase their revenues through the export of natural resources to foreign markets, there is a significant appreciation of the national currency because of a large amount of foreign exchange flow to the country. As the price of the export products of the country will be more expensive because of the appreciation of the national currency in the international markets, import products will be cheaper. The country becomes disadvantageous in price competition in the international markets. This leads to a contraction in output level (Ahmed et al., 2016:218). In their investigation; Ahmed et al. (2016) found that the Dutch disease approach is valid for the Iran economy.

In the natural resource-rich countries, the exploitation of natural resources causes a preference for natural resource extraction which is more profitable to export rather than manufacturing. This leads contractions in the traded sector.

As the investments in the traded sector are financed by external financial resources rather than equity, the contraction in the traded sector adversely affects financial development. A decrease in financial demand due to the contraction in the traded sector interrupts the development of the financial system (Hooshmand et al., 2013:101). For the natural resource-rich countries, one of the measures to be taken to ensure that the abundance of natural resources positively affects economic growth is to strengthen the financial system of the country. When the financial system is strengthened, revenues from natural resources are transferred to the real sector through the financial system. Besides, a low level of corruption in natural resource-rich countries, a transparent management approach, strong institutionalization, and transferring natural resource revenues to productive investments contribute to a stable and strong economic growth performance.

Comparing to other natural resources, oil is the most prominent item. Countries having this natural resource get foreign currency income by exporting oil. Transferring revenues from oil exports to the real sector contributes to economic growth by encouraging production. This transfer is provided by the financial system. The main function of the financial system is to transfer the savings to the real sector at reasonable costs. In natural resource-rich countries, transferring revenues from the export of natural resources to unproductive areas rather than transferring them to the financial system, which can be invested in productive investments, will lead to a decline in economic growth. In order to transfer natural resource revenues to the financial system, profitable financial products should be developed to attract investors. As the financial system develops and deepens, there will be larger capital inflows to the system and more funding opportunities for the real sector. At this point, the level of financial deepening that contributes to economic growth should be clarified.

The aim of this study is to investigate the relationship between the effect of natural resource exports on economic growth and the level of financial deepening by using the data of the high-level oil-exporting countries in the next N-11 countries for the period of 1996–2016. The selected N-11 countries included in the study are Iran, Nigeria, Mexico, Egypt, Indonesia, and Vietnam. We named them “the NRR-6 countries” which stands for Natural Resource-Rich 6 selected countries in the N-11 countries. The NRR-6 countries were selected by comparing their share of oil exports in GDP and their share in total global exports. Data of the countries with a share of 7% or more of oil exports in GDP were included in the study. Despite Mexico’s oil export share is 4% in the total GDP, the country was also included in the group of high oil-exporting countries since its share in the world GDP is at the top of the N-11 countries. In the

study, funds provided to the private sector by financial institutions were selected as indicators of financial development. Nonlinear panel data methodology was used in the study.

In the studies investigating the relationship between natural resource abundance and economic growth, either all natural resources can be included in the analysis or the effects of each natural resource can be investigated separately. Analyzing the effects of only one natural resource in research enables researchers to make a comparison and to analyze the effects of the selected natural resource in the economy more clearly. In this study, oil is preferred as the research subject with similar concerns. In countries with rich oil resources, some part of the oil production is used in different sectors within the country. However, in terms of economic growth, export level and export revenues are more important than domestic use. Therefore, it is more reasonable to investigate the relationship between oil exports and economic growth.

The reason for selecting the N-11 countries is the expectation that these countries will emerge as the world’s some of the strongest and largest economies in the coming years. The fact that a country possesses natural resources such as petroleum and that the revenue from the export of these resources are used to finance productive investments provide a great advantage for the economic growth of the country. For the countries included in the analysis, it is important to determine the level of development of the financial system to figure out the level of transferring petroleum revenues to productive investments. A highly developed financial system strengthens the link between the real sector and the financial sector.

The contributions of our study to the related literature are as follows:

First, to the best of our knowledge, this study is the first research with the nonlinear panel data methodology for the selected country group from the N-11 countries (NRR-6) over the period 1996–2016. In the literature, there are limited studies using nonlinear methods. Second, we utilized the regime-dependent panel data methodology. Financial deepening was chosen as the threshold variable in order to analyze the effects of oil exports on growth. Third, in the literature, the studies on the relationship between oil exports and growth that investigate the indirect effects of financial development are limited. In further studies, it is possible to choose different country groups or different non-linear methodologies.

The study consists of two parts: In the first part, the economic potential of the NRR-6 countries is explained in detail. In the second part, there is a literature survey, and in the third part, the empirical analysis and findings are explained.

## 2. Economic potential of the selected N-11 countries (the NRR-6 countries)

In December 2005, O’Neil et al. (2005), a group of researchers from Goldman Sachs, introduced a fast-growing group of countries with good potential to make investments as the Next Eleven (N-11). The N-11 countries are Bangladesh, Egypt, Indonesia, Iran, Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey, and Vietnam. O’Neil et al. (2005:7) focused heavily on demographic profiles in creating the N-11. Indeed, Hong Kong and Luxemburg will never be global powers although those countries have high living standards and high GDP levels. By 2050, the N-11 countries will have the majority of the world population. Aside from the demographic profile, they created this group based on the criteria such as political maturity, the openness of trade, investment opportunities as well as macroeconomic stability. It is a fact that improved growth performance, decreased inflation rates, and reduced volatility will provide a more favorable economic environment for investments and sustainable growth in these countries. Because of these improvements, these economies can compete with the current leading economies, and may surpass large markets by 2050 (Sachs, 2007:131,139; Alonaizi and Gadhoun, 2017:44). China is expected to be the largest economy by 2050. The US, India, Japan, Brazil, and Russia will follow China. Indonesia, Nigeria, and Korea may take the place of

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