*Evaluating the Resource Curse in Oil-Producing Countries*

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2021

Summer Undergraduate Research in Economics

University of Wyoming

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**INTRODUCTION**

The purpose of this paper is to analyze the impacts of oil production to determine whether it is associated with lower long-term GDP growth in Organization of Petroleum Exporting Countries (OPEC) and other top oil-producing countries. Deviating from existing resource curse literature, we analyze the impacts of the resource curse on GDP growth rates for different time periods between the years 1960 and 2019.

This paper also aims to analyze oil-producing countries with a diverse range of sociopolitical structures. While not included in the final regression, a Democracy Index score is provided for each country as a measure of the institutions that could have a positive effect on economic policies and help to mitigate the resource curse.

**BACKGROUND**

*Resource Curse*

The resource curse, also known as Dutch Disease or the paradox of plenty, is a phenomenon that occurs when a country has an abundance of natural resources, but, paradoxically, stunted growth over long periods of time.[[1]](#footnote-1) Deriving its name from the economic consequences that occurred in the Netherlands after large deposits of natural gas in the North Sea were discovered in the 1960s, the resource curse has been commonly found in countries that invest heavily in the production and export of one natural resource in lieu of developing other sectors that promote higher growth rates over longer periods of time. Many economists have differentiated between countries where revenue from natural resources is likely to be temporary versus those where it is expected to be permanent. Even so, many argue that a divestment of resources away from manufacturing and the service industry, for instance, will stunt long-term growth due to a decrease in human capital development.

*OPEC*

Many studies have also been conducted on OPEC, given that two-thirds of the world’s oil reserves lie within those countries. Not only does OPEC control much of the oil production worldwide, but it also has significant impact on oil prices worldwide, as demonstrated by events such as the 1973 oil embargo and by a study concluding that OPEC behavior has a statistically significant impact on oil prices. Another study also confirmed the impact of OPEC behavior on the rise and fall of oil prices over time. Research on the resource curse in OPEC countries, specifically, concluded that the “’institution-economy connection’” is more important to the success of developing economies than the “’oil-economy development’” connection.

**RESEARCH DESIGN**

*Data*

The data in this study cover a wide range of variables in order to analyze the impact of oil production on GDP growth rates. In order to account for other economic factors that may impact GDP growth rates, a population variable and unemployment variable were included in the regression. A manufacturing variable was also included in the regression in order to account for the extent to which a country is investing in alternative, more sustainable means of increasing long-term GDP growth compared with investing in oil production. A Democracy Index score for each country, while not included in the regression, is included in the full report to highlight the wide range of sociopolitical and institutional differences between the countries.

*Model*

The following OLS regression model was applied to test the resource curse and determine the impact of other factors on economic growth:

$Growth\_{i,t}=α\_{i}+δ\_{t}+βR\_{i,t}+γ^{'}X\_{i,t}+u\_{i,t}$

where $Growth\_{i,t}$ is the economic growth in location *i* as measured by GDP growth rates across different timeframes *t*, $α\_{i}$ represents the country-specific fixed effects, $δ$*t* represents the time-specific fixed effects,$R\_{i,t}$ is the amount of oil extracted in location *i* across time *t*, $X\_{i,t} $represents a vector of control variables (population, unemployment rate, and manufacturing value added as a percent of GDP) in location *i* across time *t*, and the error term, $u\_{i,t}$ represents all other factors contributing to economic growth. The model is a general framework that encompasses all of the models estimated in this study, including a two-way fixed effects model with both country-specific ($α\_{i}$) and time-specific ($δ\_{t}$) fixed effects, a one way-fixed effect model with country-specific ($α\_{i}$) fixed effects, and a random effects model with $α\_{i}$ as a country-specific error term.

**CONCLUSIONS**

With increasing levels of trade and globalization, in addition to more knowledge on the importance of investing in long-term prosperous sectors, one would hope the resource curse would no longer plague countries, especially developing countries, in the 21st century. Nevertheless, this study has shown significant evidence of the resource curse in some, though not all, OPEC and high oil-producing countries. In the fixed effects dummy variable estimation, there was evidence of decreased GDP growth (though not all statistically significant) in the time periods 1980-1985, 1985-1990, 1990-1995, 2005-2010, and 2010-2015 across all countries, in addition to the ten-year time periods 1980-1990 and 2000-2010. There was also evidence of decreased GDP growth over five-year time periods in the Congo, Ecuador, Gabon, Libya, the Netherlands, and Norway, of which the Congo, Ecuador, Gabon, and Libya are OPEC members. Over ten-year growth periods Ecuador, Gabon, Kazakhstan, the Netherlands, and Norway all demonstrated evidence of the resource course of which Ecuador and Gabon are OPEC countries. The fixed effects within estimation showed a statistically significant negative impact of oil production on growth rates for five-year growth periods across all countries, which the random effects estimation also shows. The negative and statistically significant estimation for the oil coefficient in all three models shows overall evidence of the resource curse in the sample.

OPEC membership, in addition to institutional measures related to the countries’ Democracy Index score also provide valuable insight. Of the six countries that showed decreased growth rates in the five-year growth period dummy variable fixed effects model, four of them are members of OPEC (though only two of the five countries that showed decreased growth across ten-year time periods are OPEC members). Moreover, the majority of the countries in this study are OPEC members, and it is possible that the decreased growth rates found across all countries are prevalent in the fifteen OPEC members.

The Democracy Index scores of the five countries that showed decreased GDP growth in the dummy variable fixed effects model varied greatly. The Congo had an average Democracy Index score of 3.0 out of 10, Ecuador an average of 5.9, Gabon an average of 3.5, Libya an average of 2.8, and only the Netherlands and Norway had scores above 6, with averages of 9.0 and 9.8, respectively. Kazakhstan, which demonstrated negative growth across ten-year growth periods, had an average score of 3.2. Despite the wide variation of institutional level between countries, there seems to be no difference in effect of oil on the GDP growth of countries with different levels of democratic strength. Also of note, there is a relationship between OPEC membership and lower Democracy Index scores, with the average being 3.4 for OPEC countries and an average score of 6.3 for non-member countries.

**RELEVANCE AND FURTHER RESEARCH**

Moving forward, it is clear that more research must be dedicated to the understanding of the resource curse, especially as it relates to oil. Far from a thing of the past, too much investment in oil production and exportation could continue to lead to long-term detrimental effects on the GDP growth of countries that are oil rich. Moreover, additional research is needed on the impact of democratic institutions and OPEC membership on a country’s ability to mitigate the effects of the resource curse and successfully produce oil while also producing in other, more profitable long-term sectors.

The resource curse has important implications for the future of investment and allocation of funds for oil-rich countries. While it may be tempting for governments to invest heavily in resource extraction, production, and exportation in order to capitalize on short-term gains, the long-terms effects can be extremely detrimental on GDP growth. In the presence of the resource curse, economic diversification is key to a strong and sustainable economy.

1. See full report for complete bibliography. [↑](#footnote-ref-1)