Natural Resources, Institutional Quality and economic development in Oil-Rich Countries: The case of Arab Countries

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Abstract:
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This paper attempts to interacted different measures of institutional quality and oil dependence to provide an answer to the following question: **Why Arab oil-rich countries develop at a slower rate compared with less fortunate ones?** To achieve that, we apply a panel data model to data on oil dependence variables, economic development and several institutional variables in 08 Arab countries over the period 1996 to 2015.

The empirical results reveal that the higher level of Regulatory Quality and Rule of Law is most potent in delivering economic growth these countries. The results also shed light on the fact that the countries with high-quality institutions natural resources enhance economic development while most of the Arab oil-rich countries have insufficient institutional quality to insulate the economy from the resource curse.

Key Words: Economic development, Institutions, Oil resource abundance, Natural Resource Curse.
JEL classification : O11 ; O13 ; Q0

Introduction:

During the last two decades, the oil-rich countries have witnessed significant margins and differences in their development rate, as well as the quality of their Institutions. Dong-Hyeon Kim & Shu-Chin Lin and Siong (2015) they found that a sample of developing countries, those economies endowed with abundant natural resources tend to develop more slowly than countries with scarce resources. Tamat &siong & yaghoob jafari (2013) mentioned that the nations that have low institutional quality depend heavily on natural resources while countries with high-quality institutions are relatively less dependent on natural resources to generate growth.

The abundance of Natural resource can be observed as a gift from nature and we suppose that natural resource-rich countries have an advantage and better economic growth compared with resource-poor countries. Surprisingly, the evidence from the vast majority of resource-rich countries showed that Natural resources seem to be more of a curse than a blessing for many countries in economic growth (Frankel 2010). This phenomenon is known as the natural resource curse since the seminal work of Sachs and Warner (1995)in which they provide evidence that resource-rich countries have lower economic growth rates than resource-poor countries, and in the literature, there are at least three different explanations for why resource rich countries might be subject to this curse. Dutch disease models (see Corden and Neary (1982), Neary and van Wijnbergen (1986), and Krugman (1987)Sachs and Warner (1995),

Gylfason (2001), Papyrakis and Gerlagh (2004) and Frankel (2010)).Is one of the channels through which the resource curse makes itself felt: an increase in natural resource revenue leads to an appreciation of the real exchange rate, which negatively affects the probability of the service and manufacturing sectors. As a result, the relative prices of non-resource commodities increase, and their export becomes expensive relative to world market prices. This leads to a decrease in the competitiveness of these non-resource commodities, and in the investment they attract. This negative effect on the resource-rich country's economic growth is called the "spending effect"(R.A. Badeeb et al 2017) (see Fig. 1).

Fig. 1. The Dutch disease mechanism (spending effect).

In addition, internal domestic inputs such as labor and materials are shifted to the natural resource sector. The prices of these inputs rise in the domestic market. As a result, the production costs of other traditional export sectors such as manufacturing and agriculture increase, contracting these sectors. This adverse effect on non-resource sectors is called the resource **"pull effect"**(Humphreys et al., 2007 and R.A. Badeeb et al 2017)

Fig. 2. The Dutch disease mechanism (pulling effect).

Another explanation for the resource curse paradox is based on rent-seeking theories, which argue that natural resource abundance generates an incentive for agents to engage in nonproductive activities and for the state to provide fewer public goods than the optimum (Cavalcanti, Mohaddes and Raissi 2011). See for instance Tornell and Lane (1999), Sala-iMartin and Subramanian (2003), Collier and Hoeer (2004), Davis and Tilton (2005), Iimi (2007) and Bodea et al (2016). Finally, Institutions and policies explanations, there is now a growing agreement about the importance of institutions in explaining the resource curse. Mehlum et al. (2006)have attempted to show that the impact of natural resources on growth and development depends primarily on institutions, and Mavrotas et al. (2011) argue that institutions are decisive for determining whether resource revenues bring curse or blessing. Consistent with this view, Torvik (2009) argues that a good institutional apparatus forestalls the negative effects of natural resource endowments on growth. Similarly, Sarmidi et al.(2014) argue that as institutional quality improves, the negative effect of resource abundance on

growth should dissipate. Humphreys et al. (2007) emphasize the use of policies to constrain the choices of public and private actors who may otherwise undermine social welfare goals in oil-producing states, especially where institutions are weak.

The empirical evidence on the resource curse from the last two decades is somewhat mixed. Most studies in the literature tend to follow Jeffery Sachs and Andrew Warner who started a series of cross sectional studies specification introducing new variables for resource abundance (Sachs and Warner; 1995, 1997, 1999, 2001). The aim of these works was to exam empirically the existence of a negative correlation between natural resource abundance and economic growth, while others develop theoretical models that are predominantly connected to their empirical specification.

The aim of this paper is to investigate the following questions: Have oil resource-rich Arab countries benefitted from the rent generated by this resource? Do differential effects depend on the quality institutions? What are the effects of oil resources had on the institutions-growth link in oil resource-rich Arab countries? In order to answer them, the study focuses on estimating the effects of oil resource abundance on the effect of oil resource abundance on real GDP per capita in oil producing countries of Arab, for a panel of 08 countries between the years 1996-2015, using standard controls. We estimate if good institutions can reverse the possible curse and turn it into a blessing by interacting different measures of institutional quality with the indexes of oil abundance.
The remainder of the paper is organized as follows. Section 2 introduces the model specification and the estimation methodology and describes the data. Section 3 analyzes the empirical results. Section 4Concluding remarks and policy implications.

2-Data and Empirical Strategy:

2.1)Data and descriptive statistics:

To examine the relationship between natural resource and economic development through institutional quality, we employ cross-country estimations in order to estimate three different equations, the number of countries is 08, and the sample period spans from 1996 to 2015, The study employed a panel data analysis for Algeria, Egypt, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates, Data are sourced from the World Development Indicators (WDI, 2016), WDI Institutional and Governance indicators (WGI, 2016).

The standard deviation of the variables over this period was relatively low, especially for the OilPPC variable. Casual observation tends to show that for most of the cases, the standard deviations were less than 5 percent.
Table 1 presents descriptive statistics for the key variables covering 08 oil-rich countries (Algeria, Egypt, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates) over the period 1996-2015, As can be readily seen from this data, $RGDP_{PC}$ has an average of 9.544 and a maximum value of 11.221, reflecting that there are certainly large regional differences in GDP per capita. In addition, the average of NetoilX is 6.906 and its max is 8.932, indicating that most Arab oil exporters are heavily dependent on oil export. While Goveff, RL and RQ have a mean value of -0.099, -0.152 and -0.004 respectively. Reflecting that the region as a whole performs poorly in terms of their intuitions.

Table (01): Descriptive statistics

Variable	Obs	Mean	SD	Min	Max
$RGDP_{PC}$: log GDP per capita (constant 2010 US$).	160	9.544	1.212	7.466	11.221
Inv: log Percentage share of gross fixed capital	160	2.979	0.526	.5861	3.829
formation in GDP.	160	3.900	3.395	-0.120	17.624
Pop_growth: population growth.	160	0.292	0.269	0.0005	1.043
OilXpc: oil export per-capita.	160	6.906	1.171	3.626	8.932
NetoilX : logoïl net export.	160	0.372	0.352	0.006	1.224
OilPPC: oil production per-capita.	160	-0.099	0.766	-1.947	1.536
'Goveff'government effectiveness.	160	-0.152	0.750	-2.165	1.133
'RL' role of law.	160	-0.004	0.785	-1.928	1.053
'RQ' Regulatory Quality.					

2.2) Panel data estimation technique:

We use three different of the panel data models were analyzed in this study which includes the pooled OLS, fixed effect and random effect. The fixed effect model was estimated by the within estimator also called entity Demeaning estimator. The random effect estimator was estimated with the GLS. In these three models, the right test to define the appropriate model was also conducted. We also hired the F-test to test between pooled OLS and fixed effect model. The Wald test is employed to determine that of pooled OLS and random effect model, while the Hausman test is employed to determine between random effect and fixed effect model.

2.3) Model specification:

The empirical model is based on Brunnschweiler (2008)in which the empirical linkages among these countries per-capita Real GDP, institutional quality indicators and natural resource-abundance indicators use the following linear cross-country growth equation:

$$\mathbf{RGDP_{PCit}} = \delta_0 + \delta_1 \mathbf{X_{it}} + \delta_2 \mathbf{Oil_{it}} + \delta_3 \mathbf{Institutions_{it}} + \delta_4 \mathbf{(Oil * Institutions)_{it}} + \varepsilon_i$$

where $\mathbf{RGDP_{PCi}}$ is the real GDP per capita in country i, **Xi** represents a set of control variables employed in the model, $\mathbf{Oil_i}$ represents the vector of oil resource abundance variables in each country, $\mathbf{Institutions_i}$ is used to represent the vector of institutional variables in each country and $\boldsymbol{\varepsilon_i}$ is the white noise error term.

Then we use logs, the effect of natural resources on real GDP per capita is expressed as elasticity. We then proceed to explicitly specify the panel models estimated in this study in three Equations (Eregha and Mesagan 2016).

$$\mathbf{RGDPC_{it}} = \delta 0 + \delta 1\ \mathbf{Inv}_{i,t} + \delta 2\ Pop\_growth_{i,t} + \delta 3\ OilXpc_{i,t} + \delta 4\ NetoilX_{i,t} + \delta 5 Oilppc_{i,t} + \varepsilon_{i,t} \quad \textbf{……..(a)}$$

Eq.(a) is the first panel model estimated in the study. It includes the variables of oil resource abundance and key variables of the growth model. The sub-index i,t is added to correspond to country i at time t. 'Pop_growth' is the population growth rates for the eight countries in the panel, 'Inv' is investment proxy with gross fixed capital formation, 'OilXpc' is oil export per-capita, 'NetoilX' is oil net export, 'OilPPC' is oil production per-capita and ε is the residual term.

To capture the existence of possibility effects and to offer a rich way of modeling the influence of institutional quality on the impact of the oil resource abundance in economic growth. The model takes the following specification:

$$\mathbf{RGDPC_{it}} = \delta 0 + \delta 1\ \mathbf{Inv}_{i,t} + \delta 2\ Pop\_growth_{i,t} + \delta 3\ OilXpc_{i,t} + \delta 4\ NetoilX_{i,t} + \delta 5\ Oilppc_{i,t} + \delta 6\ \mathbf{GovEff}_{i,t} + \delta 7\ RQ_{i,t} + \delta 8\ RL_{i,t} + \varepsilon_{i,t} \text{.....(b)}$$

The Eq. (b), included the institutional indicators into the model.The institutional indicators introduced include 'Goveff' represents government effectiveness, *RQ*' Regulatory Quality, and '*RL*' role of law. Theimpact of natural resources on real GDP per capita will be δ3, δ4, δ5, δ6, δ7 and δ8 for countries with a low or high regime, respectively.
Butin which naturally arises is how natural resource and institutional quality interact to each other. Although natural resource abundance may have a positive growth effects, the results could have been driven by oil-rich countries with good institutional quality.
In order to investigate this possibility, equation (b) is extended to include the interaction term between oil resource abundance and institutional quality measures. 'OilXpc*Goveff' is the interaction between oil export and government effectiveness, 'OilXpc*RQ' is the interaction between oil= export and Regulatory Quality, 'OilXpc*RL' is the interaction between oil export and role of law, 'NetoilX*Goveff' is the interaction between oil net export and government effectiveness 'NetoilX*RQ' is the interaction between oil net export and Regulatory Quality, 'NetoilX*RL' is the interaction between oil net export and role of law, 'OilPPC*Goveff' is the interaction between oil production per capita and government effectiveness 'OilPPC*RQ' is the interaction between oil production per capita and Regulatory Quality, and 'OilPPC*RL' is the interaction between oil production per capita and role of law for each country in the panel.

$$\mathbf{RGDPC_{it}} = \delta 0 + \delta 1\ \mathbf{Inv}_{i,t} + \delta 2\ Pop\_growth_{i,t} + \delta 3\ OilXpc_{i,t} + \delta 4\ NetoilX_{i,t} + \delta 5\ Oilppc_{i,t} + \delta 6\ \mathbf{GovEff}_{i,t} + \delta 7 RQ_{i,t} + \delta 8\ RL_{i,t} + \delta 9\ \mathbf{oillPPC*GovEff_{i,t}} + \delta 10\ \mathbf{oillPPC*RQ_{i,t}} + \delta 11\ \mathbf{oillPPC*RL_{i,t}} + \delta 12\ \mathbf{oilXpc*GovEff}_{i,t} + \delta 13\ \mathbf{oilXpc*RQ_{i,t}} + \delta 14\ \mathbf{oilXpc*RL_{i,t}} + \delta 15\ \mathbf{netoilX*GovEff_{,t}} + \delta 16\ \mathbf{netoilX*RQ_{i,t}} + \delta 17\ \mathbf{netoilX*RL_{i,t}} + \varepsilon_{i,t}$$

If the interaction terms coefficients δ9, δ10, δ11, δ12, δ13, δ14, δ15, δ16 and δ17, respectively appear significantly negative, this indicates that the positive growth effects diminish as institutional quality improves. On the other hand, if the interaction terms coefficients are positive and significant, this indicates that the positive growth effects increase as institutional quality improves.

3) Empirical results:

We present the results of the panel data estimations in Tables 2, 3 and 4. We provide three different regressions. First, we estimate the effect of natural resource abundance. Then we introduce institutional quality and finally the interaction term.

In Table 02,we estimate the effect of natural resource abundance captured with oil export per capita, net oil export and oil production per capita on per capita real GDP in the presence of other control variables.

Table 2 "Natural resources and real GDP per capita" (panel regressions)

Dependent variable: log (RGDPPC), 1996–2015			
Regressors	**Pooled OLS**	**FE**	**RE**
INV	0.395***(5.22)	0.109*** (2.99)	0.13***(2.69)
Pop_growth	0.074*** (6.18)	0.005(0.213)	5.40**(2.03)
oilPPC	0.368 (0.92)	0.7543**(2.52)	1.209*(3.03)
oilXpc	2.59** (4.88)	-0.6119* (-1.82)	-0.698(-1.52)
net_oil_exp	0.24***(7.25)	0.083**(2.51)	0.139***(3.27)
_cons	5.503***(17.34)	8.51***(38.22)	7.86 ***(25.26)
Ramsey-reset (prob.)	50.97** (0.000)	-	-
F-test (prob.)	-	6.67***(0.000)	-
Wald test (prob.)	-	-	58.56 (0.000)
Hausman test (prob.)	-	-	34.84**(0.000)

Notes: FE, fixed effect; RE, random effect; (), t-statistics; [], probabilities; OilXpc, oil export per capita; NetoilX, net oil export; OilPPC, oil production per capita; others are interaction variables for each of the oil sector variables with each of the institutional variables.*******&******&***** indicate significance at the 1%, 5% and 10% levels, respectively.

Using Three different panel data models were estimated and they include the Pooled OLS, Fixed effect and Random Effect Models. In the Pooled OLS estimation, the Ramsey-RESET test for omitted variable bias indicates that there are unobserved individual effects omitted as the null hypothesis of no omitted variable is rejected as deduced from the test statistics of 50.97 which is significant at 1%.

Therefore, it is imperative that we proceed to estimate the other variations of the panel data models. Similarly, the F-statistics value of 6.67 and the Wald test statistics value of 58.56 which are significant at 1% confirmed evidence of omitted variables making the fixed effect and random effect models more appropriate than the Pooled OLS.

However, the Hausman test statistic value of 34.84 is significant, so the fixed effect model as the most appropriate. The fixed effect model shows that oil export per capita had a significant negative effect on real GDP per capita while net oil export and oil production per capita had significant positive influence on real GDP per capita in oil producing Arab countries. Also the sign of the estimated coefficient on INV (capital stock per capita) is consistent with theory, which is positive and statistically significant at 5 percent level determinant of real GDP per capita. These results imply that the positive effect of rent-seeking behavior supported by poor institutional quality in these countries, leading to positive effect on growth.

In Table 03, we estimate the effect of natural resource abundance on real GDP per capita by introducing institutional quality in these countries. Institutional qualities are captured in the regression with Regulatory Quality, government effectiveness and role of law. However, the Hausman chi-square test statistic is statistically significant at the 1% level of significance, then the null hypothesis is rejected in favor of the alternative hypothesis, in other words, the Hausman test shows that the fixed effects model is the appropriate one. A closer look at the fixed effect results revealed that the net oil export has a positive relationship with real GDP per capita and statistically significant at 10 percent level, while oil production per capita and oil export per capita had insignificant effects on real GDP per capita.

Table 3"Natural resources, institutions and real GDP per capita" (panel regressions)

Dependent variable: log (RGDPpc)1996–2015			
Regressors	**Pooled OLS**	**FE**	**RE**
INV	-0.092 (-1.39)	0.125*** (2.86)	-0.092 (-1.39)
Pop_growth	0.057*** (6.61)	0.004 (0.97)	0.057***(6.61)
oilPPC	0.951*** (3.06)	0.35 (1.21)	0.951***(3.06)
oilXpc	0.979** (2.39)	-0.128(-0.38)	0.9798**(2.39)
net_oil_exp	0.244***(10.07)	0.069** (2.10)	0.244***(10.07)
GovEff	0.73***(6.03)	-0.170*(-1.85)	0.738***(6.03)
RQ	0.025 (0.24)	0.109**(2.05)	0.025 (0.24)
RL	-.062 (1.06)	0.331***(4.20)	-0.062(-0.58)

_cons	7.34*** (26.26)	8.57***(35.17)	7.344*** (26.26)
Ramsey-reset (prob.)	22.87 [0.0000]	-	-
F-test (prob.)	-	7.71 [0.0000]	-
Wald test (prob.)	-	-	1990.83 [0.0000]
Hausman test (prob.)	-	-	290.54 [0.0000]

Notes: FE, fixed effect; RE, random effect; (), t-statistics; [], probabilities; RQ, Regulatory Quality; GovEff, government effectiveness and RL, role of law OilXpc, oil export per capita; NetoilX, net oil export; OilPPC, oil production per capita; others are interaction variables for each of the oil sector variables with each of the institutional variables.*****, **, *** indicate significance at the 1%, 5% and 10% levels, respectively.

This is confirmed the last result when institutional quality variables were not included in the model. Also the results showed that two institutional quality indicators (rule-of-law and Regulatory Quality) are positive and highly significant, while the government effectiveness indicator is a negative highly significant, this confirming two views; the first that ‘‘institutions matter.’’ To cancel the resource curse in some of these countries, which achieve a good institutional quality, second that the institutional variables confirmed the existence of resource curse in some of these countries.

This means that natural resources abundance matter and their impact differs depending whether the quality of the institutions are good or bad.

In addition, the regression’s result from equation (c) has provided new vision into the understanding of the resource curse. *Table 4* presents the result of the effect of oil resource abundance and the interaction of institutional qualities on real GDP per capita. This is to examine how the interaction of oil resource abundance with institutional qualities affect growth in the selected oil rich countries.

Table 4 “Natural resources, institution variable interaction and real GDP per capita” (panel regressions)

Dependent variable: log (RGDPpc) 1996–2015			
Regressors	**Pooled OLS**	**FE**	**RE**
INV	-0.140* (-1.66)	0.081** (2.17)	-0.140* (-1.66)
Pop_growth	0.049*** (5.40)	-0.003 (-0.73)	0.049***(5.40)
oilPPC	4.1*** (2.93)	-1.37**(-2.29)	4.100***(2.93)
oilXpc	-3.42* (-1.92)	1.48**(2.04)	-3.42*(-1.92)
net_oil_exp	0.167*** (3.96)	0.025 (0.63)	0.167***(3.96)
GovEff	2.92 ***(2.69)	-1.70***(-3.39)	2.92***(2.69)
RQ	0.837 (1.06)	0.838**(-3.39)	0.83(1.06)
RL	-1.86** (1.06)	1.46***(3.08)	-1.86**(-2.04)
OillPPC*GovEff	-0.0001 (-0.00)	2.44***(2.91)	-0.0001(-0.00)
oillPPC*RQ	-0.908 (-0.64)	-1.29**(-2.35)	-0.9089(-0.64)
oillPPC*RL	-4.11* (-1.96)	1.52*(1.90)	-4.117**(-1.96)
oilXpc*GovEff	1.09 (0.39)	-2.95**(-2.55)	1.095(0.39)
oilXpc*RQ	1.06 (0.60)	2.706***(3.79)	1.066(0.60)
oilXpc*RL	5.28** (2.05)	-1.26 (-1.28)	5.28**(2.05)
netoilX*GovEff	-0.322 **(-2.20)	0.237 ***(3.50)	-0.32**(-2.20)
netoilX*RQ	-0.103 (-0.87)	-0.158***(-3.23)	-0.103(-0.87)
netoilX*RL	0.253** (2.07)	-0.210***(-3.11)	0.253**(2.07)
_cons	8.08 ***(17.35)	9.037***(28.24)	8.08***(17.35)
Ramsey-reset (prob.)	89.91 [0.0000]	-	-
F-test (prob.)	-	11.13 [0.0000]	-
Wald test (prob.)	-	-	2259.21 [0.0000]
Hausman test (prob.)	-	-	2347.81 [0.0000]

Notes*:** FE, fixed effect; RE, random effect; (), *t*-statistics; [], probabilities; RQ, Regulatory Quality; GovEff, government effectiveness and RL, role of law; OilXpc, oil export per capita; NetoilX, net oil export; OilPPC, oil production per capita; others are interaction variables for each of the oil sector variables with each of the institutional variables. **, **, *** indicate significance at the 1%, 5% and 10% levels, respectively.

However, the panel regressions results provided that the fixed effect model as the most appropriate. the fixed effect model shows that oil production per capita were revealed to have negative effects on real GDP per capita while oil export per capita had positive impact on growth in these countries. This is confirmed the previous result when institutional quality variables were not included in the model. Interestingly, two institutional quality indicators were found to have significant and positive effects on real GDP per capita, while one institutional quality indicator has a negative effect on real GDP per capita. This closely corresponds to the previous findings when institutional quality variables were included in the eq (b).
However, interestingly, the interaction term between oil abundance and institutional quality from the regression showed positive and negative effect on real GDP per capita. This is an indication that the negative coefficient of natural resources and the positive coefficient of the interaction term is a sign that the positive growth effect increase as the institutional quality effect gets strongerthan it will cancel out the effect of the resource curse. In other words, this is mean that the countries with high-quality institutions natural resources enhance economic development. Our sample shows that (Qatar and UA) have sufficient institutional quality to insulate the economy from the resource curse. Which is in consinant with the findings of Dong-Hyeon Kim & Shu-Chin Lin and Siong (2015) and Tamat & siong& yaghoob jafari (2013). While the negative coefficient of the interaction term is a sign that the disability of the institutions in these countries to cancel out the effect of the resource curse. In other words, this is mean that the countries with low-quality institutions natural resources detrimental to economic development. Our sample shows that most of Arab oil-rich countries have insufficient institutional quality to insulate the economy from the resource curse. The behaviors of the relationships between oil abundance and economic growth are different for low- and high-quality institutions.

4- Concluding remarks and policy implications:

This paper empirically examines the effects of oil resource abundance and the quality of institutions on real GDP per capita using panel analysis techniques for selected eight major oil producing Arab countries. It covers the period 1996–2015 based on data availability.
Three institutional indicators that represent the overall institutional infrastructures of an economy are employed, namely Regulatory Quality, government effectiveness, role of law. The main hypothesis that we test is related to the effect of institutions in resource-abundant countries on the oil resource-real GDP per capita relation. For the case of the selected oil producing Arab countries. The empirical results reveal that higher institutional quality is connected with higher economic development. There are several major findings in this paper. first, When the oil resource abundance measured by oil production per capita, is detrimental to economic development. Natural resources seem to be a curse for the oil producing Arab countries in the sample as a whole. The policy implication is that these countries could not run the huge earnings from crude oil production appropriately into activities that enhance growth and development indicating a resource curse instead of blessing. This negative impact of oil production has led to general disturbances of political and economic live of the people in oil producing countries. While the oil export per capita measure of resource abundance showed a positive effect on growth, this implies that crude oil exports are a significant factor that can transform the growth of the oil producing Arab countries.

Second, Among the various institutional indictors, the rule of law has the largest economically significant positive effect on economic development in the oil producing Arab countries.
Finally, the interaction of oil-resource abundant and overall institution variables as the standard measure of the ability of the institutions to be able to turn resource curse into blessing, matter for economic development. This is not surprising since some of oil producing Arab countries started improve their institutions. In terms of policy implications, this study suggests that policy makers need to strengthen and improving institutional quality, which is likely to deliver much effects on economic performance in these countries.

References:

Ahmadov, I., Mammadov, J., & Aslanli, K. (2013) **Assessment of institutional quality in resource-rich Caspian Basin countries.**
Arezki, R. and F. van der Ploeg (2007) **Can the Natural Resource Curse be Turned into a Blessing? The Role of Trade Policies and Institutions.** CEPR Discussion Paper 6225.
Arezki, R., Van der Ploeg, F. (2011) **Do natural resources depress income per capita**? Rev.Dev. Econ. 15 (3), 504–521.
Auty, R. M. (2001) **The political economy of resource driven growth**. European Economic Review, 45(4/6), 839–846.
Barbier, E. B. (2002) **The role of natural resources in economic development**. Australian Economic Papers, 42(2), 227–253.
Bhattacharyya, S., Hodler, R. (2014) **Do natural resource revenues hinder financial development? The role of political institutions**. World Dev. 57, 101–113.
Boschini A, Pettersson J, Roine J (2007) **Resource curse or not: a question of appropriability**. Scand Econ 109:593–617.
Bodea, C., Higashijima, M., Singh, R.J., 2016. **Oil and Civil Conflict: can Public Spending Have a Mitigation Effect?**World Dev. 78, 1–12.
Bjorvatn K, Farzanegan MR, Schneider F (2012) **Resource curse and power balance: evidence from oil rich countries**. World Dev 40:1308–1316.
Brunnschweiler, C.N. (2008). **Cursing the blessings? Natural resource abundance, institutions, and economic growth**. World Dev. 36 (3), 399–419.
Brunnschweiler, C.N., Bulte, E.H. (2008). **The resource curse revisited and revised: a tale of paradoxes and red herrings.** J. Environ. Econ. Manag. 55 (3), 248–264.
Bulte, E. H., R. Damania, and R. T. Deacon (2005). **Resource Intensity, Institutions, and Development.** World Development 33(7), 1029–1044.
Cavalcanti, T.V.D.V., Mohaddes, K., Raissi, M. (2011) **Growth, development and natural resources: new evidence using a heterogeneous panel analysis**. Q. Rev. Econ. Finance. 51 (4), 305–318.
Collier, P., & Hoeffler, A. (2009) **Testing the Neocon Agenda: Democracy in resource-rich societies.** European Economic Review, 53(3), 293–308.
Davis, G.A., Tilton, J.E., 2005. **The resource curse Natural Resources** Forum 29. Blackwell Publishing, Ltd, 233–242.
Ding N, Field BC (2005) **Natural resource abundance and economic growth**. Land Econ 81:496–502.
Eregha, P.B., Mesagan, E.P. (2016) **Oil resource abundance, institutions and growth: evidence from oil producing African countries**. J. Policy Model.
Frankel, J.A., 2010. **The natural resource curse: a survey**. National Bureau of Economic Research, (No. w15836).
Fleming, D.A., Measham, T.G., Paredes, D (2015) **Understanding the resource curse (or blessing) across national and regional scales: theory, empirical challenges and an application.**Aust. J. Agric. Resour. Econ. 59 (4), 624–639.
Gylfason, T., & Gylfi, Z. (2003**) Inequality and economic growth: Do natural resources matter? Inequality and growth: Theory and policy implications.** Cambridge: MIT Press.
Gylfason, T., & Zoega, G. (2006) **Natural resources and economic growth: The role of investment.** Oxford: The World Economy, Blackwell Publishing.

Gylfason, T. (2001) **Natural resources, education, and economic development**. European Economic Review, 45, 847–859.
Gylfason, T. (1999) **Natural resources and economic growth: A Nordic perspective on the Dutch disease**.
Gilberthorpe, E., Papyrakis, E., 2015. The extractive industries and development: the resource curse at the micro, meso and macro levels. Extr. Ind. Soc. 2 (2), 381–390
Hall, R. E., & Jones, C. I. (1999) **Why do some countries produce so much more output per worker than others?** Quarterly Journal of Economics, 114(1), 83–116.
Humphreys, M., Sachs, J., Stiglitz, J. E. (Eds.), 2007. **Escaping the Resource Curse**. Columbia University Press, New York, pp. 11–13.
Kim, D.H., Lin, S.C., 2015. **Natural resources and economic development: new panel evidence**. Environ. Resour. Econ., 1–29
Leite, C., Weidmann, J., 1999. **'Does Mother Nature Corrupt? Natural Resources, Corruption and Economic Growth'.** International Monetary Fund, IMF, Washington, DC, (Working Paper WP/99/85).
Iimi, A., 2007. **Escaping from the Resource Curse: Evidence from Botswana and the Rest of the World** 54. IMF Staff Papers, 663–699.
Mavrotas, G., Murshed, S.M., Torres, S., 2011. **Natural resource dependence and economic performance** in the 1970–2000 period. Rev. Dev. Econ. 15 (1), 124–138
Mehlum, H., Karl, M., & Ragnar, T. (2005) **Cursed by resources or institutions?**
Mehlum, H., Karl, M., & Ragnar, T. (2006a) **Cursed by resources or institutions?** The world economy. Oxford: Blackwell Publishing.
Mehlum, H., Karl, M., & Ragnar, T. (2006b) **Institutions and the resource curse**. The Economic Journal, 116(508), 1–20.
Nathan, E., & Okon, E. B. (2013) **Institutional quality, petroleum resources and economic growth: A difference-indifferences approach using Nigeria, Brazil and Canada.** International Journal of Humanities and Social Science, 3(20).
Ross, M., Kaiser, K., Mazaheri, N. (2011) **The resource curse in MENA? Political transitions, resource Wealth, economic shocks, and conflict risk.** World Bank.
Park, B., & Lee, K. (2005) **Natural resources, governance, and economic growth in Africa.** KIEP Working Paper 05-01.
Perry, G., & Olivera, M. (2009**) Natural resources, institutions and economic performance**. A FEDESARROLLO publication, November 15 version.
Polterovich, V., Popov, V., & Tonis, A. (2008) **Mechanisms of resource curse, economicpolicy and growth** New EconomicSchool working paper #WP/2008/000.
R.A. Badeeb et al (2017) **The evolution of the natural resource curse thesis: A critical literature survey** Resources Policy 51 (2017) 123–134.
Sachs, J.D, Warner, A.M. (1995) **Natural Resources Abundance and economic growth**. National bureau for Economic Research. NBER, (Working Paper 5398).
Sachs, J.D., Warner, A.M. (1997) **Natural resource abundance and economic growth**. Center for International Development and Harvard Institute for International Development.
Sachs, J.D., Warner, A.M. (1999) **The big push, natural resource booms and growth**. J. Dev. Econ. 59 (1), 43–76.
Sachs, J., Warner, A.M (2001) **Natural resources and economic development: the curse of natural resources**. Eur Econ Rev 45:827–838.
Sala-i-Martin, R., Xavier, T., & Subramanian, A. (2003) **Addressing the natural resource curse: An illustration from Nigeria**. IMF working paper no. WP/03.
Suleiman, M. (2013). **Oil demand, oil prices, economic growth and the resource curse: An empirical analysis** (Thesis submitted to Surrey Energy Economics Centre (SEEC)). University of Surrey.
Sarmidi, T., Law, S.H., Jafari, Y., 2014. **Resource curse: new evidence on the role of institutions**. Int. Econ. J. 28 (1), 191–206.
Torvik, R. (2002) **Natural resources, rent seeking and welfare**. Journal of Development Economics, 67(2), 455–470.
Torvik, R., 2009. **Why do some resource-abundant countries succeed while others do not**? Oxf. Rev. Econ. Policy 25 (2), 241–256.
Van der Ploeg, F. (2011) **Natural resources: curse or blessing?** J. Econ. Lit., 366–420.
Van Der Ploeg, F. Poelhekke, S. (2016) **The impact of natural resources: survey of recent quantitative evidence**. J. Dev. Stud., 1–12.