Institutions and the Resource Curse in GCC countries

Selahmi, Basma and Liu, Chunping

Nottingham Trent University

16 January 2022

Institutions and the Resource Curse in GCC countries

Abstract

This paper investigates whether natural resource revenues in the GCC countries lead to economic growth or if the resource curse is evident. Using panel data for six countries during 1996-2019, we investigate the indirect relationship in which natural resources and economic growth operate through different institutional qualities. Using two different classifications of export composition, we show that point-source resources, particularly fuel exportation, worsen the economic performance of a country. In contrast, diffuse-source resources do not follow this pattern. Nevertheless, the results also provide the threshold level of institutional, beyond which fuel wealth enhances economic growth. This result suggests that for fuel exportation to have a meaningful impact on economic growth, GCC countries must attain a certain threshold of institutional quality. The results confirm our hypothesis that institutions are decisive for the resource curse, therefore contrasting the claims of Sachs and Warner (1995, 2001) that institutions do not play a role. It therefore suggests that countries must adopt appropriate policy measures to improve their levels of institutional quality and soften the impact of a resource curse.

JEL Classification: C5, E02, N5, O4.

Keywords: institutions, Resource Curse, economic growth, natural resources.

1 INTRODUCTION

The complex phenomenon of the 'natural resource curse hypothesis' (NRCH) was first labelled by Sachs & Warner (1995), and since then, a plethora of studies have emerged seeking to identify how an abundance in natural resources leads to lower growth rates. The conventional intuition is that natural resources help develop an economy, but if this is the case, why do we not see resource-rich countries growing at similar rates to those resource-poor countries? The case is that we often see some resource-rich countries get inundated with a high level of poverty, inequality, and civil unrest while less well-endowed countries enjoy sustained rapid economic growth and higher living standards. However, despite the explicit consideration of whether natural resource abundance is a blessing or a curse, no consensus has been established.

Pioneering studies (see Sachs and Warner, 1995; Auty, 2001; Gelb, 1988) laid the foundation for what is known across literature and empirical studies as the "resource curse hypothesis". Setting the tone with their assertion that an abundance of natural resources often brings about poor development outcomes, several empirical findings were brought to light supporting the NRCH. For example, Mikesell (1997) and Torvik (2002) both assessed the phenomenon of the NRCH and discovered that resource-rich countries experience stagnation in their GDP growth due to the volatile revenues from natural resources, often hindering economic diversification and resource abundance, making rent-seeking behaviour more attractive. The large body of literature that assessed the natural resource curse phenomenon soon realised its sensitivity to the type of resource abundance, many calling point-source resources the most harmful type of natural resource (Perez and Claveria, 2020; Isham et al., 2003; Frankel, 2010). For example, studies such as Stijns (2001) and Mikesell (1997) discovered that oil exporting countries suffer from the curse due to its concentrated ownership feature allowing oil wealth to become a source of rent-seeking and conflict. On the other hand, studies find the impact of agricultural production on economic growth to differ from

that of fuel production; it is often associated with higher institutional quality and lower revenue, discouraging rent-seeking activities (Murshed, 2004).

However, a consensus has not been reached, such as Raymond (1997), Torvik et al. (2002) and Murshed (2004). Mavrotas and Torres (2011) argue that no matter the type of natural resource, natural resource export-driven countries are doomed to suffer low growth rates. While Quixina and Almeida (2014) and Olayungbo (2019) investigate the impact of oil revenue on economic growth in the MENA and Nigeria, respectively, and discover a positive relationship. Thus, it is noteworthy to explain these diverging experiences and investigate the factors causing certain resource-abundant countries to become growth winners and others growth losers.

Though Sachs and Warner (1995, 1997, 2001) generally pointed to macroeconomic transmission mechanisms as the main mechanism behind the negative effects of resource abundance on growth, many studies placed their focus on the political transmission channel, suggesting that, with an adequate level of institutional quality many resource-rich countries can develop their resource potential and contribute positively to economic growth (Boschini et al., 2007; Sala-i-Martin and Subramanian, 2003). Without institutional and political impediments, the allocation of resource rents cannot be effectively allocated to the provision of public goods, and politicians are more prone to use resource rents to generate political support (Robinson et al., 2006). Against this backdrop, it is evident that institutional quality is presented vigorously as a plausible explanation for the resource curse.

The period of this study is from 1996 and 2019 and concentrates on the Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and, United Arab Emirates. With almost a third of the global oil reserves and a quarter of natural gas reserves located in this region (World Bank, 2020), it is unsurprising that there is a dearth of studies investigating whether these countries are doomed by the resource curse. Our analysis is valuable because we extend the previous studies

in many ways. Studies have extensively examined the effect of natural resources on economic growth; however, to the best of our knowledge, the investigation of the indirect link in which certain types of natural resources and economic growth operate through institutional quality has seldom been explored. This study contributes to the literature and attempts to bridge this gap whilst focusing predominately on the GCC countries. Moreover, we hypothesise that the quality of institutions is a decisive factor in explaining the resource paradox; thus, our approach contrasts the first pioneering work of Sachs and Warner (1995) as they considered but dismissed the importance of institutional quality in favour of a Dutch disease explanation.

The remainder of the paper organises as follows. Section 2 provides a review of the existing literature on the relationship between resource abundance and economic growth through an institutional transmission channel. Section 3 presents the data and Section 4 introduces the model for investigating the resource curse and the method of assessing it empirically. In Section 5, the main findings are presented. A robustness check is tested in section 6. Finally, Section 7 discusses the results and provides some concluding remarks.

2 LITERATURE REVIEW

In recent years there has been a high degree of methodological sophistication surrounding the puzzling paradox of the 'resource curse' and economists are eager to test the general resource curse hypothesis and test its robustness. Natural resources have contributed significantly to the growth performance of many countries over the years as they contribute to fiscal revenue, GDP per capita, and poverty reduction (OECD, 2011). For example, Brunnschweiller and Bulte (2008) and Boyce and Emery (2011) demonstrated that natural resource abundance positively contributes to the economies of Norway, Canada, and Australia. Similarly, The Word Bank (1994) found that five of the top eight countries according to resource wealth were also amongst the top 15 according to income. In addition to this, Botswana- a diamond exporting country- converted its natural resources rents into

a blessing by utilising its abundance of diamonds on expenditure on the education, health, and infrastructure sectors.

However, everyday practices and strong empirical studies show the reversal (Frankel, Gawrich, and Alabarov., 2009), with many studies supporting the pioneering work by Sachs and Warner (1997, 2001). It is argued that a windfall of natural resources in developing countries is controlled by political elites who use the resource rents for political control through patronage spending (Busse and Groening, 2019); this contrasts with the conventional intuition that resource wealth can be used for public good provision and other productive activities, in turn, which could help improve economic growth and prosperity (Lashitew, Werker, and Walker, 2020). Thus, with the negative activity believed to be a prevailing situation in developing countries, it highlights the concern of income inequality caused by revenue mismanagement (Auty, 1993, Sarraf and Jiwanji, 2001).

Growth empirics have, at most, looked at how exports of all primary products may explain the difference in growth rates, and empirical results stress the crucial role of institutions and suggest that the outcome of natural resources is conditional on the quality of institutions. Against this backdrop, Mehlum et al. (2006), in particular, point out that resource-rich countries with weak institutions are more prone to suffer a negative impact of having an abundance of resources, whereas countries with strong institutions do not. Similarly, Sachs and Warner (1995) and Bradshaw (2006) found evidence that resource abundance is associated with more authoritarianism which consequently leads to less freedom in the country and raises concerns regarding how mechanisms of rent distribution operate. The latter brings us to an important factor contributing to the resource curse and which has provoked an active nationwide discussion- How the natural resource rents are distributed among citizens? (Sala-i-Martin and Subramanian, 2003). Resource economies with weak economic and political institutions have a high tendency to spend and distribute the resource rents unequally such that the majority of the revenue is spent on the basis of patronage, thus driving internal conflict and further political instability (Dizaji, Farzanegan

and, Naghavi, 2016).

Numerous empirical studies focus on the resource rents as opposed to resource abundance (proxied by the share of natural resources in GDP) as it is argued that the former measure is better suited to explaining the resource curse as it is correlated with institutions. Whilst literature identifies a handful of proxy measure of institutional quality (e.g., lack of enforcement, government effectiveness, rule of law, transparency and, political stability), Williams (2011) and Kolstad and Wiig (2009) discover that when there is a lack of transparency and accountability prevailing in resource-rich developing countries, corruption becomes less risky and more attractive. This, in turn, suggests that it is in the interest of political elites and governments to divert revenues to corruption and patronage. Studies such as Ross (1999) and Libman (2013) have placed prominent focus on specific institutional and political features for example, the country's level of democracy. Subsequently, highlighting those natural resources, in particular fuels, have a negative and robust effect on democracy they conclude that due to the associated low levels of democracy and weak institutional quality, rent-seeking activities become more attractive, in turn damaging the economy; a similar conclusion was drawn by (Ahmadov, Mammadov and Aslanli, 2013). Political rent-seeking- closely linked to poor institutional quality- can be identified by its distinctive behaviour whereby resource revenues are used for political control through patronage spending consequently, encouraging the elites to seek further political influence and generate economic rents for their own consumption (Boschini et al., 2007, 2013). In a similar light, Robinson et al. (2006) asserted that poor institutions induce politicians' tendency towards the inefficient use of resource rents to pursue their electoral goals and paving the path for politicians to benefit more from the windfall, subsequently this eliminates the positive effect of natural resources. Theoretical and empirical papers have placed prominent focus on examining how institutions could ultimately 'make or break' resource-rich countries, with a handful of scholars discovering a pattern in which resource abundant countries with low-quality institutions are doomed to experience rent-

seeking activities (Isham et al., 2005; Boschini, Pettersson & Roine, 2007). Moreover, building upon Sachs and Warner (1999), studies have persuasively argued that rent-seeking behaviour discourages effort to invest in R&D, health care, educational services, and is usually concentrated in the politically dominant group who favour swerving aside from welfare-enhancing policies; thus, severely hampering the economy's growth potential (Bjorvatn et al., 2012; Stevens, 2003). In fact, the unequal distribution and management of resource rents is widely observed across resource-rich countries with weak institutions (Larson and Soto, 2008), in such a way that large government expenditure is placed on government salaries, inefficient fuel subsidies whilst relatively small amounts are accounted for the investment in human capital (Butkiewicz and Yanikkaya, 2010). In any case, it is plausible to state that the combination of resource abundance and weak institutional quality inevitably creates inequality in society (Rutland, 2008). However, taking an optimistic view of the matter, a further stream of literature affirm that the presence of high institutional quality is very effective in nullifying the bad spell of the curse through transparency (Kolstad and Wiig, 2009), avoiding rent-seeking behaviour (Baland, 1999; Meissner, 2010) and good political stability (Arezki and Bruckner, 2011).

Mehlum et al. (2006) and Robinson et al. (2006) delve deeper and differentiate the quality of an institution into two categories: 'grabber friendly institution' and 'producer friendly institution'. The former is often described as when 'rent-seeking and production are competing activities', while the latter is where rent-seeking and production are complementary activities. Resource-rich countries with bad institutions- also known as 'grabber-friendly environment'- may encourage resource exploitation ruthlessly for the interest in political elites, ignore the public interest and blur the distinction between the public and private sectors (Jayakar and Martin, 2012); all of which are factors causing resource-rich countries to become more susceptible to rent-seeking behaviour. Evidently, according to empirical findings, the existence of 'grabber friendly' institutions reward rent-seeking behaviour and punish entrepreneurship (Farzanegan, 2014a).

With low transparency, a grabber-friendly environment invites political rent appropriation whereby the windfall gains from natural resources are exploited. More worryingly, within this environment resource rents are misused in such a way that it can divert entrepreneur's interest from productive activities to low-productive rent-seeking activities (Torivk, 2009). Many conclude that this is the driving force behind the crowding-out effect on other productive sectors of the economy. As the natural resource sector expands due to the diversion away from high-productive sectors (e.g., manufacturing) the positive externalities in the form of learning-by-doing ,which is assumed to be present in the manufacturing sector of the economy, declines (Matsuyama, 1992); thus, natural abundance in a grabber-friendly environment functions at the expense of the manufacturing sector and does not feed to the growth process due to weakening the positive externalities.

Grabber-friendly institutions may well cause inefficiencies due to how politicians spend rent income relative to others (Yang, 2008). For example, governments in rentier states can undertake unproductive redistributive spending by reallocating the revenues from resource extraction and using them for tax reductions, which, not only is intrinsically unsustainable but also suggests that it's used to relieve pressure for greater accountability (the "rentier effect). This implies that when governments rely less on levying taxes on the domestic population, it in turn leaves the state dependent on resources and exposed to the economic uncertainty arising for resource revenues tending to be highly volatile (Sandbu, 2006). Likewise, Lashitew, Werker, and Ross (2020) asserted that the exaggerated reliance on natural resources is a double-edged sword- governments lack the need for tax revenues which therefore creates little incentive to introduce pro-growth reforms, and without this tax vases with which to hold government to account citizens may lack the incentive to exercise the pressure on the state for more accountability (Boyce and Emery, 2011).

On the contrary, natural resources are a blessing in countries with 'producer-friendly' institutions because unlike grabber-friendly it attracts entrepreneurs into a productive sector where there are positive externalities. With high institutional quality and very low

rent-seeking behaviour these countries can take full advantage of their natural resources as their 'producer-friendly' environment allows for the stimulation of production and provides an additional source of income for producers (Larsen, 2008; Mehlum et al., 2006; Sarmidi et al., 2014).

Research done by Robinson et al. (2006); Mehlum et al. (2006); Butkiewicz and Yanikkaya (2010) confirms the conclusion that the quality of institutions is decisive for how natural resources affect economic growth. An extension to this conclusion takes its form in combining the quality of institutions and type of natural resources as it's strongly argued that different types of natural resources are associated with different qualities of institution. Firstly, a distinction has been drawn between different types of natural resources: point-source and diffuse-source resource (Auty, 2001). Point source resources are associated with staples that require extraction from geographically concentrated locations and its revenue is easily controlled by governments and elite through taxation and regulation. They typically include fuels, metals, diamonds, and hard minerals. On the other hand, diffuse resources are resources which are less concentrated like agricultural products, rice, fish, and some treetops and, unlike point-resource its revenue flows are more widely dispersed throughout the population (Damania and Bulte, 2003; Murshed, 2004).

With the likes of Auty (2001) and Isham et al. (2005) exploring the effect of the types of natural resources on economic growth there appears to be a consensus that the Resource Paradox only holds for point-source resources and not diffuse resources. Studies contributing to the literature of point-source resources and the curse have distinctly recognised that due to point-source resources commonly associated with high revenue, this creates greater tendency for countries to implement rent-seeking orientated policies which support national elites with privileged access to the revenue flows. Svensson (2000) adds to this by stating that although point-source resources generally generate great windfall gains and that this attractive characteristic allows the natural resource sector to dominate, it nevertheless incentivises agents to divert away from productive investment and towards

contesting activities and into rent-seeking (Mehlum et al., 2006).

Moreover, it is noteworthy to stress that the physical characteristics of certain point-source resources play an active role in attracting the resource curse. For example, diamonds and precious metals are more valuable, easily sold and transported (or smuggled), hence such physical characteristics entice problematic matters (Boshcini et al., 2007). Contrastingly, point-source natural resources such as fuels are not characterised by their physicality, rather by their politico-economic characteristics such that their windfall profits induce inequality and encourage rent-seeking in which only one group benefits from the rents. On the other hand, this does not mean that all countries with point-source resources will suffer, rather their combination with institutional quality is identified as the decisive factor. Depending on the degree to which a country's society possess institutionalized rights to influence how these resources are distributed the potential problems associated point-source resources can be countered given that the right institutional framework (Sandbu, 2006).

Unlike point-source resources typically showing a robust negative effect on growth via their detrimental impact on institutional quality, the broad consensus regarding the condition of diffuse-source resources institutional capacity is viewed optimistically as this type of natural resource helps it evolve more quickly (Oskenbayev, Yilmaz, and Abdulla 2013). Diffuse-source exporting countries are often cited as examples of growing faster than point-source exporting countries due to diffuse resources being utilised by agents characterised by horizontal relationship of equality, i.e., the country's society enjoys social cohesion and resources are more evenly distributed. Importantly, with these prominent characteristics upheld within societies of diffuse-source countries the chances for positive institutional change are high and rent-seeking behaviour is low. Moreover, Vahabi (2018) pointed out that diffuse resource intensity is associated with positive development outcomes and confirmed that unlike point-resource, diffuse-resource countries often end up with better institutions and governments perform better along several dimensions of institutional

quality.

3 DATA

This paper uses annual data from 1996 to 2019 for the countries of the GCC, Bahrain, Kuwait, Qatar, Oman, United Arab Emirates (UAE) and Saudi Arabia and utilises a strong balanced panel data. Table 1 introduces the various data and their sources used to estimate our equations.

Table 1. Data description

Variables	***Abbreviation***	***Description***	*Source*
Dependent variable			
Log Real GDP	$LogGDP_{it}$	GDP is gross domestic product in constant 2015 US dollars.	World Bank
Control variables			
Education Attainment	$EDUCATION_{it}$	Gross enrolment ratio for secondary school, regardless of age.	World Bank
Government Expenditure	$GOVEXPEN_{it}$	All government current expenditures for purchases of goods and services, as a percentage of GDP.	World Bank
Population growth rate (%)	POP_{it}	Annual population growth rate, expressed as a percentage.	World Bank
Total natural resource rents (% of GDP)	$RENTS_{it}$	Sum of oil rents, natural gas rents, goals rents, minerals rents, and agricultural rents.	World Bank
Institutional Quality	$INSTI_{it}$	Rule of Law used as a proxy for the quality of institutions. Index ranges from zero (weak rule of law) to one (strong rule of law).	Political Risk Services

Log Point-source	$LogPOINT_{it}$	Merchandise exports of fuel and ores and metals to the world. Natural logarithm was taken.	UNCTAD
Log Fuels	$LogFUELS_{it}$	Natural log of total merchandise exports of fuel to the world.	UNCTAD
Log Ores and Metals	$LogOresMetals_{it}$	Total merchandise exports of ores and metals to the world, in thousands of US $. Natural logarithm was taken.	UNCTAD
Log Diffuse-source	$LogDIFFUSE_{it}$	Total merchandise exports of agricultural raw materials to the world, in thousands of US $ dollars. Natural logarithm was taken.	UNCTAD

Our control variables: population growth, government expenditure and secondary school enrolment, are included in this study to enhance internal validity by limiting the influence of confounding extraneous variables.

Secondary enrolment rate is used as a proxy for human capital. With high enrolment rates this will create a more skilled labour force market and in turn increase transitional growth towards a higher equilibrium output level. This supports the augmented Solow human-capital- growth model which postulates that education of workers ensures greater productivity, thus enhancing a nation's economic growth (Olaniyan and Okemakinde, 2008; Auty, 2001; Majgaard and Mingat, 2012).

The effects of government expenditure have been examined by many empirical studies yet, a consensus has not been reached. While some discover that government expenditure positively impacts economic growth others find that it could impede economic growth; and such conflicting discoveries owe to which type of service is receiving expenditure. For example, Erum and Hussain (2012) discovered that

expenditure on health and transport boosts economic growth while expenditure for military purposes adversely effects growth; similar findings were also discovered by Abu-Bader and Abu-Qarn (2003) and Farzanegan (2014b).

A relationship which also remains hitherto unsettled is between population growth (PG) and economic growth. Despite a handful of classical theories of economic growth being proposed by the likes of Thomas Malthus (1766-1834), who from a pessimistic standpoint argued that the growth of population and production is negatively correlated, a consensus has not been reached. Albatel (2005) posits that higher PG rates are associated with lower capital-labour ratio, and hence- lower income; while Mahmud (2015); Bloom and Canning (2004) and Simon (1990) find evidence that is in contrast to the predictions of the neoclassical growth models; rather, they conclude that population growth boosts productivity due to greater specialisation and results in larger "stock of useful knowledge" (Simon, 1990, pg., 168), this in turn stimulates economic growth. Nevertheless, our study will attempt to minimise the ambiguity surrounding population growth.

4 METHODOLOGY AND MODEL

4.1 Methodology

With panel data, an important potential problem worth testing is whether the variables in our model are correlated with the error term- known as endogeneity. Previous literature uses instrumental variables estimators, especially the Two Stage Least Squares (2SLS) to deal with this issue. Similar to Boschini et al. (2007), we carry out a regression-based Hausman Endogeneity Test to determine whether endogeneity is a problem and which model (fixed-effects (FE) or random-effects (RE)) is best suited for our analysis. A Hausman-Test it simply tests whether the unique errors (eit) are correlated with the regressors. A RE model assumes that studies are different from a distribution of study effect, this in turn

results in a wider variance and the effects are biased. FE assumes all differences are due to chance and it allows time-specific effects to be correlated with the explanatory variables. In addition, we test for multicollinearity in independent variables by employing the correlation matrix between the explanatory variables. A high degree of multicollinearity will produce large standard errors and makes it impossible to draw a sharp distinction between the explanatory powers. Furthermore, we also check the stationarity in the current dataset, and to do so we utilise a panel unit root test, in particular we use the Levin-Lin-Chu (2002) test.

4.2 Model Specification

The model used in this paper builds upon Dreher (2006) economic growth model and is inspired by the proxies of relevant independent variables used. The ordinary least squares (OLS) method will be applied in order to estimate the panel data. Moreover, most empirical studies on the natural resource curse estimate regressions of an economic growth model, using it as a benchmark for their analysis (Bjorvatn et al., 2012). Our benchmark equation for economic growth is as follows:

$$LogGDP_{it} = a_i + \beta 1^{*}Education_{it} + +\beta 2^{*}Population_{it} + \beta 3^{*}GovExpen_{it} + \mathrm{E}_{it} \qquad [1]$$

where $LogGDP_{it}$ is real constant GDP in US dollars for country i at year t, expressed in natural logarithmic terms, commonly used in growth literature as a proxy for economic growth. $Govt$ is general government expenditure as a percentage of GDP, $Population_{it}$ is the population growth rate, $Education_{it}$ is the ratio of secondary school enrolment.

The first extension to our empirical analysis examines the direct effect of natural resource rents on economic growth and its indirect effect in which it operates through institutional quality. Hence, this is specified as the following:

$$LGDP_{it} = \beta_0 + \beta_1 Education_{it} + \beta_2 Population_{it} + \beta_3 GovExpen_{it} + \beta_4 INSTI_{it} + \beta_5 RENTS_{it} + \beta_6 RENTS * INSTI_{it} + \mathrm{E}_{it} \qquad [2]$$

$INSTI_{it}$ represents the institutional quality. In line with many empirical studies (see Norman, 2009; Mehlum et al., 2006; Leite and Weidmann, 1999; Isham et al., 2005),

we also decided to use rule of law as a proxy for institutional quality. The institutional quality index is as an unweighted average of five indexes[1] based on data from Political Risk Services. and runs from one (maximum producer friendly institutions) to zero. Hence, when the index approaches zero, institutions are considered as grabber friendly institutions whereby there is a weak rule of law.

Total resource rents is denoted by $NATRES_{it}$. Though Sachs and Warner (1995) resource abundance measure- *total share of total natural resource exports in GDP*- has been used extensively in empirical investigation, it is often criticized for causing endogeneity problems hence regarding it as an inadequate measure. Empirical studies have diverted away from this measure and towards total resource rents as it's argued to be correlated with institutional quality, in turn providing insight into the rent-seeking theory. Therefore, as this study considers the institutional transmission mechanism to investigate the impact of natural resources on economic growth, we follow Torvik (2002) in his choice of measure and use total resource rents as an alternative measure.

The interaction term $NATRES * INSTI_{it}$ examines the indirect link in which resource rents and economic growth operate through different institutional qualities.

Moreover, we expand Sachs and Warner (1995) paper by disaggregating natural resources into point-source and diffuse-source resources; thus, forming two categories of export flow intensity will allow us to capture how their associated characteristics influence economic growth. With the same sample period, the following equations are regressed whereby equation [3] and equation [4] explore diffuse-source and point-source resources, respectively:

$$GDPPC_{it} = \beta_0 + + \beta_1 Education_{it} + \beta_2 Population_{it} + \beta_3 GovExpen_{it} + \beta_4 INSTI_{it} + \beta_5 LnDIFFUSE_{it} + \beta_6 LnDIFFUSE * INSTI_{it} + E_{it} \quad [3]$$

[1] The five indexes are: a rule of law index, a bureaucratic quality index, a corruption in government index, a risk of expropriation index and a government repudiation of contracts index. The indexes range from 0 to 1.

where, we follow Zagozina (2014) and represent $\beta_5 LnDIFFUSE_{it}$, the diffuse-source resources indicator, as the share of agriculture sector exports (agriculture exports including wood comprise SITC section 2 excluding divisions 22, 27 and 28). $LnDIFFUSE * INSTI_{it}$ examines how the indirect link between diffuse-resources and economic growth can operate through different institutional qualities.

The model of the impact of point-source resources on economic growth is specified as follows:

$$GDPPC_{it} = \beta_0 + + \beta_1 Education_{it} + \beta_2 Population_{it} + \beta_3 GovExpen_{it} + \beta_4 INSTI_{it} + \beta_5 LnPOINT_{it} + \beta_6 LnPOINT * INSTI_{it} + E_{it} \quad [4]$$

where, $\beta_5 POINT_{it}$ represents the point-source resources and $\beta_6 POINT * INSTI_{it}$ explores the interaction term between point-source and institutional quality. We follow Zagozina (2014) and represent the point-source indicator as the share of *fuel* and *ores and metals* exports in GDP (fuels comprise SITC section 3; ores and metals exports comprise SITC divisions 27, 28 and 68). For further investigation, the disaggregation of point-source resources into its sub-categories- *fuels and metals and ores*- is made, we specify as follows:

$$GDPPC_{it} = \beta_0 + \beta_1 Education_{it} + \beta_2 Population_{it} + \beta_3 GovExpen_{it} + \beta_4 INSTI_{it} + \beta_5 FUELS_{it} + \beta_6 FUELS * INSTI_{it} + \beta_7 ORESMETALS + \beta_8 ORESMETALS * INSTI_{it} E_{it} \quad [5]$$

5 EMPIRICAL ANALYSIS

5.1 Preliminary data analysis

Table 2 presents the descriptive statistics of the variables. The results indicate that the GDP growth rate in our panel ranges from 27.24 and 23.24 with an average of 25.24%. Government expenditure expands from 6.73% to 33.01% with an average of 18.52%. The average growth rate of *point*-source and *diffuse*-source are 15.01% and 10.46%, respectively. Noteworthily, though the former grows at a faster rate than the latter, it is also characterised by higher volatility (4.03). Similarly, the average growth rate of resource rents

in the GCC (29.87) is also accompanied by a high standard deviation of output growth (14.73) and suggests countries that depend heavily on natural resources and point-source resources are subsequently much more volatile and face macroeconomic fluctuations (Blattman et al., 2007). Furthermore, on average, 29.87% of the regions GDP is derived from natural resource rents which perhaps suggests that the region is relatively resource dependent. The index for institutional quality ranges from zero to one and evidently, we can see that on average, the quality of institutions in GCC countries is relatively high with a mean index of 0.76. This confirms that the region as a whole performs well in terms of its rule of law. Lastly, also presented in Table 2 are the results from the panel unit root tests in which it shows that our series are stationary, therefore there is no need to proceed with cointegration testing.

The degree of correlations between variables in the study is presented below in Table 3 and using the correlation matrix it is revealed that multicollinearity is not a problem, implying that there is confidence in the model to identify independent variables that are statistically significant.

Table 2. Descriptive statistics

Variable	**Observations**	**Mean**	**Std.Dev.**	**Min**	**Max**	**LLC**
Log GDP	144	25.24	0.94	23.24	27.24	3.57 ***
Education	144	94.59	8.92	68.05	114.46	2.15 ***
Population	144	4.52	3.50	0.09	17.51	2.15 ***
GovExpen	144	18.52	6.15	6.73	33.01	-1.87***
Rents	144	29.87	14.73	3.19	58.98	-1.17***
Institution	144	0.76	0.06	0.61	0.84	-3.34***
Log Point	144	15.01	2.23	10.66	19.62	-1.04***
Log Fuels	144	16.25	1.80	11.97	19.42	-1.67***

Log Metals and Ores	144	13.49	1.81	3.57	10.99	0.33***
Log Diffuse	144	10.46	1.75	7.20	14.02	-0.02***

[2]

Table 3: Correlation Matrix

Variable	EDUCATION	POPULATION	GOVEXPEN	RENTS	INSTITUTION	POINT	DIFFUSE	FUELS	METALS & ORES
EDUCATION	1.00	0.11	0.00	-0.01	0.02	-0.21	0.14	-0.10	0.35
POPULATION	0.11	1.00	-0.47	0.02	-0.15	-0.10	-0.08	0.100	-0.10
GOVEXPEN	0.22	-0.47	1.00	-0.13	0.36	-0.28	-0.28	-0.14	-0.37
RENTS	-0.01	0.02	-0.13	1.00	-0.03	-0.25	-0.19	0.20	-0.46
INSTITUTION	0.02	-0.15	0.36	-0.03	1.00	-0.12	-0.22	-0.12	-0.19
POINT	-0.01	-0.04	-0.20	-0.25	-0.50	1.00	0.24	-0.12	0.11
DIFFUSE	0.14	-0.08	-0.28	-0.19	-0.22	0.24	1.00	0.35	0.54
FUELS	-0.10	0.100	-0.14	0.20	-0.12	-0.12	0.35	1.00	0.01
METALS AND ORES	-0.35	0.10	-0.37	-0.46	-0.19	0.11	0.54	0.01	1.00

5.2 Regression results

Table 4 provides the estimates of equations (1) to (5). Apart from equation [1] which estimates our control variables, the Hausman test rejects the null hypothesis for our main models [2] - [5], indicating a preference for the fixed effects model. By using fixed-effects variables, it removes the effect of time-invariant characteristics, i.e., holds such factors which may impact or bias the predictor. In the same vein, the results from the Hausman

[2] *, **, *** denote significance at the 10%, 5% and 1% level, respectively.
LLC is the panel unit root test of Levin, Lin and Chu (2002) which test the null hypothesis of a unit root, against the alternative that the panel is stationary.

test are presented below.

Table 4: Regression results

Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
EDUCATION	0.24**(0.31)	0.20*(0.24)	0.41***(0.36)	-0.30**(0.48)	0.03*(0.18)
GOVEXPEN	0.11**(0.12)	0.07*** (0.10)	0.04***(0.17)	-0.04** (0.29)	-0.16*
POPULATION	0.09 (0.25)	0.07* (0.18)	0.13* (0.12)	0.04* (0.34)	0.02 (0.41)
INSTI	-	0.62*** (0.29)	0.27***(0.39)	0.54*** (0.27)	0.60**(0.37)
NATRES	-	-0.29** (0.28)	-	-	
INSTI * NATRES	-	0.44*** (0.66)	-	-	
LogDIFFUSE	-	-	0.11* (0.41)	-	-
INSTI*DIFFUSE	-	-	0.19** (0.27)	-	-
LogPOINT	-	-	-	-0.21 *** .43)	-
INSTI*POINT	-	-	-	0.51*** 0.37)	-
LogFUELS	-	-	-	-	-0.67**(0.91)
INSTI*logFUELS	-	-	-		0.79***(0.54)
LogORESMETALS	-	-	-		0.18 (0.31)
INSTI*logORESMETAL	-	-	-		0.22 (0.26)

Fixed-effects?[3]	No	Yes	Yes	Yes	Yes
R-Squared	0.1129	0.3008	0.3989	0.2707	0.3093
Number of obvs		144	144	144	144

*, **, *** denote significance at the 10%, 5% and 1% level, respectively.

The effects of our two control variables, education enrolment and government expenditure are statistically significant; though this being said, the coefficient signs appear rather ambiguous. Our findings of a positive response of the government expenditure to economic growth are consistent with Mauro (1995) and Folster and Henrekson (1998) and suggest that higher government expenditure stimulates growth. In different light, the statistically negative relationship in column (4) and (5) paints a contrasting picture whereby an increase in government expenditure hampers economic growth, and this finding appears to be in accord with a few existing studies focusing on the Middle East and North Africa (Khanna et al., 2017). A plausible explanation may stem from the idea that a portion of government expenditure is devoted to white elephant projects or rent-seeking activities. Moreover, human capital proxied by education enrolment is found to statistically improve the growth rate of our sampled countries. Consistent with the strand of models by Barro (1991) and Barro and Lee (1993) we argue that investment in human capital is a driving force of economic growth as it's a facilitating factor for countries to "catch-up" with the developed countries due to its learning by doing process (Arrow, 1962; Redding, 2002).

Our statistically significant and positive findings for population growth contradict the neoclassical growth model, however, supports the so-called 'population-push' theory and arguments advanced by Kuznets (1960) and Simon (1990). Though weakly significant at a 10% level, population growth nevertheless shows to positively affect the economic performance of our sampled countries: thus, supporting Simon (1981, pg. 168) saying that population growth 'producer's geniuses and generally contributes to new knowledge' which

[3] Using results derived from the Hausman-test, a p-value ≤0.05 indicates significance at the 5% level, thus rejecting the null hypothesis and accepting the alternative hypothesis that FE model is desirable.

in turn boosts economic growth. Nevertheless, by controlling these variables, we shift our focus to the variables of interest: *RENTS*, *INSTI*, *POINT* and *DIFFUSE.*

Supporting the NRCH as discussed in Sachs and Warner (1995) yet contradicting Brunnschweiler (2006), we obtain a negative estimated parameter for the resource rent variable which validates our prediction. In other words, a one unit increase in resource rents will cause economic growth to decrease by -0.29%. Moreover, the size of our coefficient draws parallels with the findings discovered by Bakwena et al. (2009) whereby the effect of resource rents on economic growth was -0.20%. The negative coefficient sign suggests that the potential benefits of natural resource revenues have unfortunately not materialised, and the revenue has not been extracted in a way that would generally benefit societies in the GCC countries. A plausible explanation may stem from the idea that perhaps resource rents are attributed to mismanagement and unproductive public sector investment, which in turn hampers economic growth (Lange and Wright, 2004). This is consistent with the influential studies of Sachs and Warner (1997, 2001) and other prior theoretical models by Drysdale (2008); Auty (1997); and Hodler (2006).

Interestingly, the coefficient of the interaction variable (INSTI*NATRES) is significant and positive at 5%. This result implies that improvements in the quality of institutions cause the negative effect of resource rents on economic growth to be offset. A one unit increase in the institutional index causes the wealth generated from natural resources to boost economic growth by 0.44.%. This finding emerging from our empirical examination seemingly questions Sachs and Warner (1995) approach of dismissing the role of institutions as we discover the institutional quality to be a decisive factor in the resource curse. Nevertheless, our findings support the broad consensus that an important indirect effect exists between the natural resource curse and the institutional channel (see, Bulte, Damania and Deacon, 2005; Mehlum et al., 2002). Ultimately, by discovering a positive indirect effect it confirms that resource wealth is a blessing when institutions are producer friendly. Though, taking it one step further, we argue that the existence of institutional

threshold should also be examined as it identifies at which optimal threshold level of institutional quality can resource abundance have a meaningful impact on economic growth.

To test for the *marginal* effect of natural resource rents on growth (holding all other variables constant) depends on the quality of institutions and this is implied by equation [2] such that:

$$\frac{d(GDP)}{d(resource\ rents)} = -0.29 + 0.44(institutional\ quality)$$

The regression results indicate that the optimal institutional threshold of not having the resource curse is:

$$\frac{\beta_5}{\beta_6} = 0.65$$

We see that the curse is weaker when the quality of the institution is higher. Moreover, for GCC countries with high institutional quality (higher than the threshold 0.65), the resource curse does not apply. As shown in the Appendix, from our sample countries Qatar, Oman, UAE and KSA have sufficient institutional quality to neutralise the resource curse. With high institutional quality, these countries efficiently manage their endowments, preventing disrupting rent-seeking behaviour which in turn allows its citizens to reap the benefits from natural resources. Moreover, our finding draws parallel to that of Mavrotas and Torres (2011); Hansen (1996 and 2000); Sarmidi et al. (2011) whereby they also concluded that resources wealth can only contribute positively to growth when a country has a good institution in place. Thus, it is evident that the outcome of resource rents in an economy is sensitive to the quality of its institutions and should not be overlooked.

Shifting our focus to the direct effect of institutional quality on economic growth, a significant and positive relationship is highlighted across all models. Statistically significant at the 1% level, our findings are consistent with theoretical contributions asserting that high institutions play a crucial role in the growth process. For example, Knack and Philip (1995) argue that institutions incentives economic activities such as investment and

consumption. Similarly, Kaufmann and Bellver (2005) showed that institutions, proxied by rule of law, have a strong and positive impact on determining long-term economic growth as it decreases rent-seeking activities. Many other empirical studies also provide evidence that institutions promote economic growth (Rodrik et al., 2004; Iqbal and Daly, 2014; Vijayaraghavab and Ward 2001).

In a different vein and consistent with Bulte et al. (2005), our results from the direct effect of diffuse-source resources are associated with positive growth outcomes. Despite its significance being weak at 10% level- which, is not surprising since previous empirical studies such as Moshiri and Hayati, (2017) also discovered the same - we nevertheless find that a one unit increase in the exports of diffuse-source resources will boost economic growth by 0.11%, thus supporting the broad consensus that the Resource Curse does not hold for diffuse-source resourced. Moreover, our finding adds reassurance that the associated characteristics of diffuse-source resources, i.e., they are more diffused throughout the economy are complementary to positive economic growth. Besides this, another plausible explanation for the positive and significant impact stems from the idea that diffuse-source resources induce socio-economic linkages such as transport and education, which in turn is argued to enhance economic growth (Baldwin, 1956; Auty, 2004, and Vahabi, 2018), Furthermore, regarding its interaction with institutional quality it is evident that the interaction term appears to be more significant (5%) and contribute greater (0.19) to the economy's growth rate- a one-unit increase in the institutional index will result in diffuse-source resource exports to positively impact economic growth in GCC countries by 0.19%. Thus, despite diffuse-source resources being associated with certain characteristics that would inevitably act as a direct positive contributor to economic growth, we should nevertheless disregard the impact that institutional quality has on expanding this positive effect. Moreover, the estimated optimal threshold level of institutional quality (0.57) confirms that all our sampled countries have sufficient institutional quality to efficiently benefit from their agricultural sector (see Table 1. Appendix).

The growth impact of a marginal increase in diffuse-source resources implied by regression [3] is:

$$\frac{d(GDP)}{d(DIFFUSE)} = 0.11 + 0.19(institutional\ quality)$$

$$\frac{\beta_5}{\beta_6} = 0.57$$

Differentiating between diffuse-source and point-source resources gives us the opportunity to explicitly examine and compare their individual effect on economic growth. Our finding from column (4) supports the broad consensus that the resource curse holds only for point-source resources and that diffuse-source resources (column 3) show no tendency to follow this pattern. Statistically significant at 1%, a one unit increase in point-source resource exports will hamper economic growth by 0.21%, suggesting that perhaps the economy's institutions are grabber friendly and invite rent-seeking activities. Our result is not surprising considering there is a plethora of studies asserting that it's inevitable for point-source resources to have 'bad policies' and suffer from the so-called rentier effects, in turn negatively impacting economic growth (Murshed, 2004; Karl, 1997; Ross, 2001).

Despite our evidence showing that point-resources worsens the economic performance of a country, its adverse effect is offset greatly when the economy improves its institutional quality. The interaction term is strongly significant (1%) and shows that a one unit increase in institutional index will cause the effect of point-source resource exports to be positive on economic growth by 0.51%. This suggests that the *negative effects are outweighed as institutional quality improves*, confirming the findings of Stijns (2006); Mehlum et al. (2002) and Sala-I-Martin and Subramanian (2003). Hence, we find no conclusive evidence of a negative indirect growth effect of point-source resources via institutional quality, therefore contradicting the rent-seeking hypothesis.

Depending on the quality of institutions, we test for the *marginal* effect of point-source resources on growth by implying equation [4]:

$$\frac{d(GDP)}{d(POINT)} = -0.21 + 0.51(institutional\ quality)$$

$$\frac{\beta_5}{\beta_6} = 0.41$$

Subject to a certain threshold level of institutional quality, GCC countries can only benefit from their abundance in point-source resources if their level of institutional is above 0.41 (0.21/0.51).

Referring to our sampled countries, it is apparent that all GCC member countries maintain at least an IQ level of up to 0.41, indicating that the presence of good rule of law institutions facilitates the management of point-source resources. This result supports the broad consensus that the resource curse caused by point-source resources can be neutralised only after a certain threshold of institutional quality has been reached (Melhum et al., 2002' Spatafora and Warner, 1995; Berument, Ceylan, and Dogan, 2007).

To further investigate point-source resources, we disaggregate it into two sub-categories: *fuels* and *metals* and *ores.* Adding to the broad consensus that heavy reliance on fuel exports hampers growth (Wantchekon, 2004), our finding (column 5) explicitly illustrates the magnitude of the negative growth effects of fuel exportation. All else equal, a one unit increase in fuel exports results in the largest detrimental growth effect of -0.67%. Moreover, how fuel exports interact with institutional quality is next examined; at first glance, its positive and statistically significant coefficient appears promising in the sense that the large direct negative effect of fuel exports diminishes substantially as the quality of institutions improves. In other words, all else equal, a one unit increase in the institutional quality will cause fuel exports to contribute positively to economic growth by 0.79%. Indeed, to a certain extent this is accurate; however, this impact can be meaningful only when the country's institutional quality reaches a certain threshold. According to our estimated threshold of institutional quality the optimal index required to neutralise the curse is 0.84 (0.67/0.79), however, it appears that none of the GCC country members have sufficient institutional quality to benefit from their exportation in fuels.

$$\frac{d(GDP)}{d(FUEL)} = -0.67 + 0.79(institutional\ quality)$$

$$\frac{\beta_5}{\beta_6} = 0.84$$

In a different light, whilst good enough institutions reverse the negative effect of fuel exports by the positive interaction effect, we do not see the same pattern prevailing through metal and ores exportation. The result for metals and ores exhibited an insignificant effect, suggesting that this particular type of point-source resound does not affect the economic performance of the sampled countries. Furthermore, despite the observed effect of metals and ores on economic growth being insignificant and supporting Zagozina (2014) argument, our result points to potentially interesting irregularities, such that the relationship between economic growth and metal and ores exports is generally displayed within literature as negative and significant (Sala-i-Martin and Subramanian, 2003; Lay and Mahmoud, 2004).

5.3 Robustness checks

To assess the sensitivity of our results to another measure, we conducted a robustness test. Using another panel OLS regression, our robustness test uses government effectiveness as an alternative measure of institutional quality, sourced from World Governance Indicators where the institutional index ranges from -2.5 (least effective) to 2.5(most effective). The estimation covers the period 1996 to 2019. The Hausman test conducted favours the adoption of fixed effects. Therefore, by using an alternative measure of institutional quality, our results are presented below

Table.5: Regression results with Government Effectiveness (GE) variable

Variable	**(1)**	**(1)**	**(2)**	**(3)**	**(4)**
EDUCATION	0.24**(0.31)	0.12*(-0.67)	0.16*(0.28)	0.15***(0.20)	0.15***(0.29
GOVEXPEN	0.11**(0.12)	-0.05***(0.01)	0.14**(0.26)	0.09**(0.11)	
POPULATION	0.09 (0.25)	-0.01(0.40)	-0.00(-0.67)	0.03**(0.29)	0.04(0.30)

INSTI	-	0.40***(0.29)	0.27***(0.33)	0.16*(0.21)	0.11***0.24)
NATRES	-	-0.14***(0.20)	-	-	-
INSTI * NATRES	-	0.22**(-0.85)	-	-	-
LogDIFFUSE	-	-	0.27***(0.34)	-	-
INSTI*LogDIFFUSE	-	-	0.21***(0.21)	-	-
LogPOINT	-	-	-	0.32***(0.39)	-
INSTI*LogPOINT	-	-	-	0.17**0.22)	-
LogFUELS	-	-	-	-	-0.39*(0.35)
INSTI*LogFUELS	-	-	-	-	0.20**(0.11)
			-	-	
LogORESMetals	-	-	-	-	0.12*(0.29)
INSTI*LogORESMETAL	-	-		-	0.16*(0.44)
Fixed-effects?	No	Yes	Yes	Yes	Yes
R-Squared	0.1346	0.4106	0.3241	0.3950	0.3961
Number of obvs		144	144	144	144

*, **, *** denote significance at the 10%, 5% and 1% level, respectively.

Including the control variables, the estimation result presented in Table 5 demonstrate that the coefficient of the natural resource variable is negative and significant at a 1% significance level, while that of the interaction variable is positive and significant at the 5% level. This implies that institutional quality mitigates the negative effect of resource abundance on economic growth in the sampled countries. Moreover, the institutional quality threshold is estimated to be 0.63, which represents the minimum level of government effectiveness that GCC countries must achieve for resource rents to impact their economy positively. Significant at the 1% and 10% level, a similar result is also derived for point-source resources and fuel exports respectively, where their direct negative effect on economic growth (-0.32 and -0.39, respectively) are offset when high institutional quality

is present. The institutional quality threshold is estimated to be 1.88 and 1.95 for point-source and fuels, respectively. Regarding the coefficient of diffuse-source resources, it's found to be significant and positive, once again indicating their positive impact on economic growth. Moreover, the coefficient of metals and ores is positive yet insignificant, which indicates that this type of point-source resource does not affect the economic growth of the sampled countries. Overall, the results of Table 5 and consistent with that of our main regression results shown in Table. 4, thereby confirming that our results are robust to the alternative measure of institutional quality.

6 CONCLUSION AND POLICY IMPLICATIONS

The relationship between natural resources and economic growth has long remained a subject of debate in literature. Sachs and Warner (1995), the most influential paper in this field which paid little attention to institutional quality found evidence for the natural resource curse; however, this study approached the resource curse paradox with a modern understanding whereby we considered the quality of institutions as a main reason of the curse. Using a panel data with fixed effects estimators for a sample of 6 countries- GCC countries- covering the period 1996-2019, this study finds that the quality of institutions determines whether countries avoid the resource curse or not, thus illustrating the power of institutions in growth assistance. More explicitly it indicates that resource-rich countries suffer a curse due to institutional issues not resource abundance.

There are several major findings in this paper, all of which are similar to those found in the existing literature in the sense that countries with good institutions will escape the curse. Firstly, our empirical result for abundant resource rents, usually referred to as a "windfall gains", validates the broad consensus that it negatively affects economic growth. However, in an optimistic viewpoint, our empirical finding confirms that institutional quality is a possible channel to reduce the curse. Using an interaction term, we have shown that Oman, Qatar, UAE and, KSA have producer friendly institutions which help them

take full advantage of their resource rents, whereas Bahrain and Kuwait have a combination of grabber friendly institutions and abundance resource rents, therefore making them victims of the resource curse. Evidently, institutions surely matter as they contribute to the nature of resource rents in the sense that they play a large role in determining "how they are collected, the revenues a state collects and, the uses to which it put them" (Karl, 1997). Therefore, considering the interaction term between institutional quality and resource rents, we find evidence that countries escape the resource curse when they have well-functioning institutions, i.e., a threshold level of institutional quality above 0.65. These results contrast the claims of Sachs and Warner (1995) that institutions are not decisive for the resource curse.

This study was also extended by focusing on how different *types* of natural resources interact with institutional quality and give rise to the institutional forms that exist and persist. The analysis used UCTAD to mirror our two classifications of the types of resource exports: (1) "diffuse" and (2) "point". From here, we aggregated SITC codes at the two-digit level into our two export categories, whereby the former was composed of raw agricultural materials and the latter composed of fuels and metals and ores. Moreover, our results show that point-source and diffuse-source resources influence economic growth in contrasting ways: point-source resources have a significant and negative effect on growth, in particular, raw and refined mineral commodities such as fuel exports demonstrate a statistically significant and pronounced adverse effect on economic growth, overall supporting the existing literature (Isham et al., 2005). Diffuse-source resources, however, demonstrate a strong and positive effect on economic growth. This highlights that raw agricultural exports affect economic growth in the GCC positively and equally as important, all GCC member countries have sufficient institutional quality to sustainably benefit from their agricultural resources.

We also find that institutional quality is a possible channel to offset the curse for point-source resources and more specifically for fuel exports. In theory, heavy reliance on these

resources is associated with rent-seeking behaviour (i.e., the source of power is dominated by elites), however our study highlights that when countries are supported by better institutional quality in terms of a high rule of law this would greatly offset the associated adverse effects on economic growth. Specifically, these negative effects of point-source resources and fuel exports can only be mitigated when GCC countries have an institutional quality threshold level beyond 0.41 and 0.84, respectively. Using a threshold estimation technique our results are broadly consistent with the available literature, which reports that natural resources can enhance growth only after a certain threshold point of institutional (Mehlum et al., 2006; Low and Jafari, 2014; Hansen, 1996). Though we find all GCC member states meeting the requirement for escaping the point-source resource curse, the same is not applied to fuel abundance. Overall, the obtained results for our OLS estimations proved robust to the different institution quality of government effectiveness.

How may we reconcile our findings that certain resource rich GCC countries are blessed while others are cursed with the existing literature and our empirical findings? One strong explanation is deeply rooted in the quality of institutions which play an important role in determining how the wealth generated from fuels are collected, allocated and used. There is strong suggestion that under institutional deficiencies, Bahrain and Kuwait are unable to escape the curse as there are economic and political flaws in the management of fuel wealth, such that governments are incapable of channeling the wealth to sustain development. This is consistent with the classical growth theory which postulates that with weak institutions resource rents does not foster economic performance, rather it is attributed to mismanagement and unproductive public sector investment (Lange and Wright, 2002).

In terms of policy implications, introducing effective political reforms accompanied by strong system of political checks will trigger reform in macroeconomic institutions, thereby improving the management of fuel wealth. However, given the large amounts of money generated from fuel exports, it is questionable whether a reform will *actually* take place.

Countries like Bahrain where protests are still ongoing represent an enormous opportunity for Extractive Industries Transparency Initiative (EITI)[4], and such initiative will ensure transparency and accountability about how resource rents are governed. The GCC countries are not members of the EITI, and this is quite concerning considering almost half of the global oil reserves and a quarter of natural gas reserves located in this region, yet an EITI is not implemented. Therefore, instruments like EITI or similar initiatives should be at the forefront of priorities was it will help GCC countries establish transparency in resource revenue generation and help reduce the negative effects.

[4] The Extractive Industries Transparency Initiative (EITI) ensures that its member countries are open and accountable towards their management of oil, gas and mineral resources.

REFERENCES

1. Abu-bader, s. and Abu-Qarn, a.s., (2003). Government expenditures, military spending and economic growth: causality evidence from Egypt, Israel and Syria. *Journal of policy modelling*, 25: 567–583
2. Ahmadov, I., Mammadov, J. and Aslanli, K., (2013). Assessment of Institutional Quality in Resource-Rich Caspian Basin Countries. *SSRN Electronic Journal*.
3. Albatel, h.a. (2005), Population growth and economic development in Saudi Arabia, S*cientific Journal of king Faisal university (humanities and management sciences)*, vol. 6 no. 2, pp. 341-373.
4. Arezki, R and Brückner, M. (2011). Oil rents, corruption, and state stability: evidence from panel data regressions, *European economic review*, vol. 55, pp. 955–963.
5. Arrow.k., (1962). "The economic implications of learning by doing," *Review of eco- nomic studies*.
6. Auty, R. M. (2001). Resource abundance and economic development. *Oxford*; New York.
7. Auty, R.M., (1997). Natural resource endowment, the state and development strategy. *Journal of International Development*, 9(4), pp.651-663.
8. Auty,R.M (1993). Sustaining development in mineral economies: the resource curse thesis, Routledge, London, UK.
9. Bakwena, S., Malebogo, F., Philip. B, Thanh, L.E., and Ki, K.T., (2009). Avoiding the resource curse: the role of institutions. *Macroeconomics research group mrg discussion paper series; discussion paper no. 32. School of economics.*
10. Baland, j. M. (1999). Rent-seeking and resource booms. *Journal of development economics,* 61(2): 527-542.
11. Baldwin, R.E. (1956). Patterns of development in newly settled regions, *Manchester school of social and economic studies*, 24: 161-79.

12. Barro, r. (1991), Economic growth in a cross section of countries, Q*uarterly journal of economics*, cvi, 407–443.
13. Barro, r. J., and j. W. Lee. (1993). Losers and winners in economic growth. *Proceedings of the world bank annual conference on development economics* (pp. 267–297). Washington d.c.: World Bank
14. Berument, h. M., n. B. Ceylan, and n. Dogan. (2010). The impact of oil price shocks on the economic growth of selected MENA countries, *The energy journal*.
15. Bjorvatn, K., Karzanegan, MR and, Schneider, F. (2012). Resource curse and power balance: evidence from oil-rich countries, *world development*, vol. 40, pp. 1308–1316.
16. Bloom, d. E., canning, d. (2004). Global demographic change: dimensions and economic significance *(nber working paper no. 10817). Washington, dc: national bureau of economic research.*
17. Boschini, A., Pettersson, and J. Roine j (2013) the resource curse and its potential reversal. *World development* 43:19–41
18. Boschini, A.D., Pettersson, j. and Roine, j. (2007). Resource curse or not: a question of appropriability. *Scandinavian journal of economics*, 109(3): 593-617
19. Boyce,J.R., Herbert, J.C.,(2011). Is a negative correlation between resource abundance and growth sufficient evidence that there is a "resource curse"? *Resources Policy*, 36(1), pp.1-13
20. Bradshaw, M. (2006). Observations on the geographical dimensions of Russia's resource abundance. *Eurasian geography and economics,* 47(6): 724-747
21. Brunnschweiler, C. and Bulte, E., (2008). The resource curse revisited and revised: A tale of paradoxes and red herrings. *Journal of Environmental Economics and Management*, 55(3), pp.248-264.
22. Brunnschweiler, C., (2006). Cursing the Blessings? Natural Resource Abundance, Institutions, and Economic Growth. *SSRN Electronic Journal*.

23. Busse, M. and Groening, S., (2010). The Resource Curse Revisited: Governance and Natural Resources. *SSR*, *Hamburg Institute of International Economics*, 106.
24. Butkiewicz, J. and Yanikkaya, H., (2010). Minerals, Institutions, Openness, and Growth: An Empirical Analysis. *Land Economics*, 86(2), pp.313-328.
25. Damania, R. and Bulte,E. (2003). Resources for sale: Corruption, Democracy, and the natural resource curse. *University of Adelaide. Working paper* № 0320:
26. Damania, R., Bulte, E., and Deacon, R., (2005.) Resource intensity, institutions, and development. *World Development*, 33(7), pp.1029-1044.
27. Dizaji, S.F, Farzanegan M.R, Naghavi. A. (2016). Political institutions and government spending behavior: Theory and evidence from Iran. *Int tax public finance* 23:522–549
28. Dreher, A. (2006). Does globalization affect growth? Evidence from a new index of globalisation. *Appl. Econ.* 38, 1091–1110
29. Drysdale, J. (2008), "Five principles for the management of natural resource revenue: the case of timor-leste's petroleum revenue." *Journal of energy and natural resources law* 26 (1): 151–174
30. Erum, N., and S. Hussain. (2019). "Corruption, natural resources and economic growth." *Evidence from OIC countries, resource policy* 63:1–1.
31. Farzanegan, M.R. (2014a). Can oil-rich countries encourage entrepreneurship? *Entrepreneurship & regional development: an international journal*, 26(9–10), 706–725.
32. Farzanegan, M.R. (2014b). Military spending and economic growth: the case of Iran. *Defense and peace economics, 25*, 247–269.
33. Fölster, s. and m. Henrekson (1998), "Growth and the public sector: A critique of the critics", *European journal of political economy, 15, pp. 337-58.*
34. Frankel, A., Gawrich, A. and, Alakbarov, G. (2009). Kazakhstan and Azerbaijan as post-soviet rentier states: resource incomes and autocracy as a double "curse" in post-soviet regimes. *Europe-Asia studies* 61(1): 109-140.

35. Frankel, j. (2010). The natural resource curse: a survey. Discussion paper, Harvard environmental economics program, *Cambridge, ma*, September 2010.
36. Gelb, A. (1988). Oil windfalls: blessing or curse? *Oxford university press, New York.*
37. Hansen Be (1996). Inference when a nuisance parameter is not identified under the null hypothesis. *Econometrica* 64(2), 413–430.
38. Hansen Be (2000). Sample splitting and threshold estimation. *Econometrica* 68(3), 575–603
39. Hodler,R. (2006). "The curse of natural resources in fractionalized countries," *European economic review* 50, 1367-1386.
40. Iqbal, n., and Daly, v., (2014), "Rent seeking opportunities and economic growth in transitional economies", *Economic modelling* 37.
41. Isham, j, Woolcock, m, Pritchett, l & Busby, (2005). 'The varieties of resource experience: natural resource export structures and the political economy of economic growth', *The world bank economic review*, vol. 19, pp. 141–174.
42. Isham, J., Woolcock, M., Pritchett, L. and Busby, G., (2003). The Varieties of Resource Experience: How Natural Resource Export Structures Affect the Political Economy of Economic Growth. *SSRN Electronic Journal.*
43. Jayakar, k., Martin, b. (2012). Regulatory governance in African telecommunications: testing the resource curse hypothesis. *Telecommunication.* Policy 36(9), 691–703.
44. Karl, T. (1997). "The paradox of plenty: oil booms and petrol States." *University of California Press,* Berkeley, California.
45. Kaufmann, d., Bellver, a., (2005). Trans parenting transparency: Initial empirics and policy applications. *Unpublished working paper, World Bank*.
46. Khanna, s., Bruhn, m., Hommes, m., Sorokina, a., and Wimpey, j. (2017). "MSME finance gap: assessment of the shortfalls and opportunities in financing micro, small and medium enterprises in emerging markets," *International Finance Corporation.*

47. Knack. S and Philip. K. (1995). "Institutions and economic performance: cross-country tests using alternative institutional measures," *Economics and politics*, vii, 207–227.
48. Kolstad, I., & Wiig, A. (2009). Is transparency the key to reducing corruption in resource-rich countries?. *World development* 37 (3), 521–532.
49. Kuznets, s. (1960). Population changes and aggregate output. *Princeton university press.*
50. Lange, g. And wright, m., (2004). Sustainable development in mineral economies: The example of Botswana. *Environment and development economics*, 9(4), pp.485-505.
51. Lange, g., and m. Wright. (2002). "Sustainable development in mineral economies: the example of Botswana." *Discussion paper series, University of Pretoria, South Africa.*
52. Larson, A.M., Soto., F. (2008). Decentralization of natural resource governance regimes. *Annual review of environment and resources* 33(1): 213–239.
53. Lashitew, M.L. Ross, E. Werker (2020). What drives successful economic diversification in resource-rich countries? *World bank* res. Bs.
54. Lay, J. and Mahmoud, T.O. (2004). Bananas, oil, and development: Examining the resource curse and its transmission channels by resource type, *Kiel institute for world economics.*
55. Leite, C and Weidmann, J. (1999). 'Does mother nature corrupt? Natural resources, corruption, and economic growth'*, IMF working paper,* 99/85
56. Levin, a., c. Lin, & c. Chu (2002) unit root tests in panel data: asymptotic and finite-sample properties. *Journal of econometrics* 108, 1–2.
57. Libman, A. (2013). Natural resources and subnational economic performance: Do subnational democracy matter? *Energy economics*, 37, 82-99
58. Mahmud, m.a. (2015), "Econometric model on population growth and economic development in India*:* An empirical analysis", *Proceedings of the international symposium on emerging trends in social science research.*

59. Majgaard, k, mingat, a (2012) education in sub-Saharan Africa: a comparative analysis. *Washington, dc: world bank*.
60. Matsuyama, K. (1992). Agricultural productivity, comparative advantage, and economic growth. *Journal of economic theory*, 58(2), 317–334.
61. Mauro. P (1995). Corruption and growth, *Quarterly journal of economics*, cm, 681–713.
62. Mavrotas, G., Murshed, S. and Torres, S., (2011). Natural Resource Dependence and Economic Performance in the 1970-2000 Period. *Review of Development Economics*, 15(1), pp.124-138.
63. Mehlum, H., Moene, K. and Torvik, R., (2006). Institutions and the Resource Curse. *The Economic Journal*, 116(508), pp.1-20.
64. Meissner, H., (2010). The Resource Curse and Rentier States in the Caspian Region: A Need for Context Analysis. *SSRN Electronic Journal*,.
65. Moshiri, S., and Hayati., (2017). Natural resources, institutional quality, and economic growth. *Iranian economic review* 21 (3): 661-693
66. Murshed, s. M. (2004). When does natural resource abundance lead to a resource curse? *London: International Institute for environmental development.*
67. Oecd (2011). The economic significance of natural resources: key points for reformers in eastern Europe, Caucasus and central Asia. *OECD.org*
68. Olaniyan, d. A. and Okemakinde, t. (2008). Human capital theory: implications for educational development. *European journal of scientific research*, 24(2): 157–162
69. Olayungbo, D., (2019). Effects of Global Oil Price on Exchange Rate, Trade Balance, and Reserves in Nigeria: A Frequency Domain Causality Approach. *Journal of Risk and Financial Management*, 12(1), p.43.
70. Pérez, C. and Claveria, O., (2020). Natural resources and human development: Evidence from mineral-dependent African countries using exploratory graphical analysis. *Resources Policy*, 65, p.101535.

71. Quixina and Almeida, (2014). Financial development and economic growth in a natural resource-based economy: Evidence from Angola. *School of economics and management, University of Porto.*

72. Raymond, M. (1997), "Explaining the resource curse, with special reference to mineral exporting countries," *Resources Policy* vol.23, Issue 4,

73. Redding, S., (2002). Path Dependence, Endogenous Innovation, and growth. *International Economic Review*, 43(4), pp.1215-1248.

74. Robinson, JA., Torvik. R., Verdier,T. (2006) Political foundations of the resource curse. *Journal of Development Economics* 79:447–468

75. Rodríguez, F. and D. Sachs, J., (1999). Why Do Resource-Abundant Economies Grow More Slowly?. *Journal of Economic Growth*, 4(No. 3).

76. Rodrik, d., a. Subramanian, and f. Trebbi. (2004). "Institutions rule: the primacy of institutions over geography and integration in economic development," *Journal of economic growth* 9, 131–165.

77. Ross, m. (1999). The political economy of the resource curse. *World politics* 51(1): 297-322

78. Ross, m. L. (2001). Does oil hinder democracy? *World politics*, 53, 325– 361.

79. Rutland, P. (2008). Putin's economic record: is the oil boom sustainable? *Europe-asia studies.*

80. Sachs, J. D. and Warner, A. M. (1997). Sources of Slow Growth in African Economies. *Journal of African Economies,* 6 (3), 33–76

81. Sachs, j. D., & warner, a. M. (2001). The curse of natural resources. *European economic review*, 45(4-6), 827-838.

82. Sachs, J.D., and Warner, A.M., (1995), "Natural resource abundance and economic growth", nber working paper no 5398, *National bureau of economic research, Cambridge, ma.*

83. Sala-i-martin, x., and Subramanian, A. (2003), 'Addressing the natural resource curse: an illustration from Nigeria', *Journal of African economies*, vol. 22, pp. 570–615.
84. Sandbu, M. (2006). "National wealth accounts: a proposal for alleviating the natural resource curse." *World development* 34 (7): 1153–70.
85. Sarmidi, T, Hook law.S and, Jafari, Y. (2014) 'Resource curse: new evidence on the role of institutions', *International economic journal*, vol. 28, pp. 191–206.
86. Sarmidi, t., Ertimi, b., Khalid, n. and Ali, M.H, (2011). The policy framework of natural resource management in oil-dependence countries. *Economies*, *9*(1), p.25.
87. Sarraf, M and Jiwanji, M. (2001). Beating the resource curse: the case of Botswana. *Environmental economics series*, paper 83, *World Bank.*
88. Simon, j. L. (1990). Population matters: people, resources, environment, and immigration. New Brunswick, nj: T*ransaction publishers*.
89. Simon, J., (1981). The ultimate resource. Princeton, N.J.: *Princeton University Press*, p.168.
90. Spatafora N., Warner, A.M., (1995). Macroeconomic effects of terms-of-trades shocks: the case of oil exporting countries. Policy research paper, 1410, *The World Bank.*
91. Stevens, P. (2003). Resource impact: curse or blessing? A literature survey. *J. energy Lit* ix (1):3–42
92. Stijns, J., (2001). Natural Resource Abundance and Human Capital Accumulation. *SSRN Electronic Journal.*
93. Stijns, J., (2006). Natural resource abundance and human capital accumulation. *World Development*, 34(6), pp.1060-1083.
94. Svensson,J. (2000). 'Foreign aid and rent-seeking', *Journal of international economics*, vol. 51, pp. 437–61
95. Torivk, R. (2009) 'Why do some resource-abundant countries succeed while others do not?', *Oxford review of economic policy*, vol. 25, pp. 241–256.

96. Vahabi, M., (2018). The resource curse literature as seen through the appropriability lens: a critical survey. *Public Choice*, 175(3-4), pp.393-428.

97. Vijayaraghavab, m. and Ward, w. A. (2001). *Institutions and economic growth: empirical evidence from a cross-national analysis*, Clemson. *Centre for international trade, Clemson university.*

98. Wantchekon, L. and Jensen, N., (2004). Resource Wealth and Political Regimes in Africa. *Comparative Political Studies*, 37(7), pp.816-841.

99. Williams, A (2011) shining a light on the resource curse: an empirical analysis of the relationship between natural resource, transparency, and economic growth. *World development* 39(4): 490–505

100. Yang, B., (2008). Resource curse: the role of institutions versus policies. *Applied Economics Letters*, 17(1), pp.61-66.

101. Zagozina, m. (2014) The resource curse paradox: natural resources and economic development in the former soviet countries; *Department of forest sciences, university of Helsinki, Finland.*