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Oil Rent and Socioeconomic Outcomes in Selected Oil Producing Countries in Africa

Seun Sylvester Opaleye
Department of EconomicsUniversity of Port Harcourt
Email: seunslyvester@yahoo.com
Phone: +234 703 254 1992

Willy J. Okowa (Professor)
Department of EconomicsUniversity of Port Harcourt

Ohale, Lawrence (Professor)
Department of EconomicsUniversity of Port Harcourt

ABSTRACT

This study investigated the impact of oil rent expenditure on socioeconomic variables forfour oil producing countries in African drawn from the Middle East and North African (MENA) countries (Algeria and Egypt)& Sub-Saharan African (SSA) countries (Nigeria and Cameroon) for the years 1995 to 2015. Fixed effects and partial efficiency analysis were used to examine the panel data. The study found that while oil rent significantly increased child mortality, it did not significantly improve basic school enrolment. The results also indicate that SSA countries had the highest rate of under-5 mortalities per unit of oil rent earned. The study thus recommended gradual increase in budgetary allocation to health and educational sectors as well as provision of educational grants for indigent students.

Key Words:MENA, SSA, Oil rent, Expenditure, Socioeconomic and Growth

I. Introduction

Economic growth has lifted millions out of poverty and improved the lives of many others over the last century;however, it is visibly evident that economic growthalone is not enough.Any society that flutter in its responsibility to provide basic existential needs, improve the quality of life and provide opportunities for its citizens cannot be described as a developing country even in the face of economic growth. This runs in tandem with the cliché- economic growth has not been inclusive. Growth is said to be inclusive when it happens alongside improvements in quality of life of the society. A society is said to be progressing when it is able to meet or at least provide enabling environment and opportunities for citizens and communities to improve and sustain the quality of their lives and reach their full potentials.

There is no gainsaying that oil producing countries have earned enormous revenue from exports over the years.To however to focus purely on the direct economic gain from oil export means that the contribution of oil to general economic welfare of citizenswill not be well captured. It is for this reason we intend to investigate the impact of oil rent on socioeconomic variables that improve the quality of life and general welfare. Section 1 explains the socioeconomic concept,

section 2 reviews empirical literature while section 3 methodology and result outcomes and finally section 4 concludes the study.

II. Conceptual Framework

The entrepreneur or human is said to be the most important factor of production and productive activity, hence the needs of the human should be of critical importance to the government and policy makers. When the quality of life is low for instance, the health of the citizens falters tremendously with serious consequences for the economy. In addition, when the labourforce of a country is poorly educated, the economy loses its ability to innovate and grow in a sustainable manner. In like manner, when the purchasing power of citizens is low, they tend to fall below the poverty benchmark. This also affects their ability to sustain a healthy lifestyle.

Investing in the health and education of citizens is not an end in itself but a means to an end. A highly educated and healthy workforce is a *sine qua non* for economic development of a country with far-reaching impacts on economic growth and development. The importance of investment in sectors that aid human capital and improve socioeconomic conditions cannot be overemphasized. Wood and Berge (1997) sought to find out why East Asia grew so rapidly with manufacturing while Africa seems to perform poorly, producing primary goods. They answered by stating that the difference lies on the emphasis the East Asian countries placed on human capital development rather than on the composition of exports between primary commodities and manufactured goods.

Socioeconomic indicators explains how economic activities or variables improve or otherwise the social status of people in an economy. It explains in a general perspective how societies progress and move from one level of development to another over time. In developed countries, when economic activity and productivity increases, the growth witnessed in the economy most often lead to higher standard of living for their citizens which can be seen by an increase in their social status and change in their style of living. It is also possible as can be seen from some developing countries that even when their economy grows, the standard of living does not rise. Most times these countries experience Immiserizing growth, making them socioeconomically worse off.

The greatest cause of mortality in Africa for instance arises from preventable waterborne diseases which affect infants and young children greater than any other group. The principal cause of these diseases is lack of access to clean water. Clean and portable water is rare in most of Africa despite being surrounded by rivers and having some of the largest freshwater lakes in the world. There is no gain saying that sub Saharan Africa has 24% of the global burden of disease but only 3% of the workforce in the health sector. The physician to population ratio is 18 per 100,000 people continent wide. Lack of clean water, low ratio of healthcare personnel to population and the prevalence of diseases imply a high rate of mortality as well as low life expectancy which is the measure of the average time an organism is expected to live based on the year of their birth and other demographic factors. Under 5 mortality in Algeria, Angola, Egypt, and Nigeria as at 2015 for example stands at 25.5, 157, 24 and 108 per 1,000 live births compared to 5 in Canada, 3 in Sweden and 7 in the United States of America (USA) under the

same period while life expectancy on the other hand is 56 in Angola, 71 in Egypt and 53 in Nigeria as at 2015 compared to 83 in Sweden, 79 in USA and 82 in Canada. The educational sector is also not left out in these dismal results. Literacy rate in Nigeria is 59.6%, 67.4% in Angola and 75.8% in Egypt compared to 99% in Sweden (CIA fact book, 2015). It is therefore necessary to investigate how well oil rent has been used over the years to improve on these dismal figures.

III. Empirical Literature

Theoretically, we can say that health significantly affects human capital and total labour productivity. Sachs and Warner (1997) were one of the first scholars to observe the connection. By using life expectancy as proxy for health, they found an inverted U relationship between health and GDP growth. They found that as investments on health increases, economic growth increases but when investments in health begin to materialize via general good health for the citizens, increased life expectancy coupled with reduced mortality rates, economic growth increases but at a declining rate. This implies invariably that enhanced health status for a generally sick society improves economic growth but as the society begins to recover generally, the contribution to growth lessens. This premise is given fillip by Cotet and Tsui (2013). They stated that improvement in health mostly occur in non-democratic countries where the health conditions were poor before the discovery of oil and export of same because wealth was concentrated with the elite in society alongside good medical facilities and health care services to the disadvantage of the poor. Hence the oil-led health improvement only happened due to rising income from oil and the need to reduce agitation and misgivings in a highly unequal society. Taking into account poverty rate, life expectancy and economic policy before oil export commenced and of course tropical location, Gallup and Sachs (2002) found that countries with prevalence of malaria witnessed a fall in GDP per capita by 1.3% compared to other countries without malaria prevalence, on the other hand GDP per capita will witness an increase of 0.3% if only malaria incidence can be reduced by 10% per year. Schultz (2005) examined the impact of health on total factor productivity and discovered that improved human health capital positively increases workers efficiency and productivity. He concluded that developing countries seem to be in a vicious circle due to the lack of adequate resources to not only fight epidemics but also provide primary health services to the poor and this result in a weak and sick workforce with dire consequences on economic growth in the short and long run.

The causality relationship between economic growth and public spending on health in Algeria was investigated by Boussalem, Boussalem and Taiba(2014) for a period of 30years; they found the existence of a long run causality running from public spending on health to economic growth only.Anyanwu (2007) provide evidence linking African countries' per capita government health expenditure and per capita income to two health outcomes: infant mortality and under five mortality. They found that public health expenditure per capita play a very important role in determining health outcomes in Africa. In addition, per capita income was found to be negatively related to under-five mortality in sub-Saharan Africa.

Using literacy rate as a proxy for education, Ishola, Olaleye, Olajide, and Abikoye, (2015)examined the relationship between revenue from oil, government expenditures and economic growth in Nigeria andfound that education positively impacts growth. The coefficient of literacy rate stood at 2.46 implying that a 1% increase in literacy rate resulted in a 2.465% increase in the growth rate of GDP. The result shows that education significantly impacts growth in Nigeria. Life expectancy coefficient stood at 2.73 indicating a positive relationship between health, proxy by life expectancy, and economic growth implying that a 1% increase in life expectancy, other things being constant, raises economic growth rate by about 2.73%. This equally showed that public investment in the health sector was worthwhile.

Using panel data for 118 developing countries for the period 1971-2000, Baldacci, Clements, Gupta and Cui (2008) explored the channel that connects social spending and human capital to economic growth. They found that expenditure on education and health significantly impacts educational quality and promotes good health, thus increasing productivity and economic growth. Similarly, Cole and Neumayer (2006) found that an unhealthy work force negatively affects total productivity in an economy and this explains why many third world countries are underdeveloped.

In his doctoral thesis, Saleh (2016) traced the link between revenue accruable from oil export and macroeconomic performance in Oman and found that revenue from oil positively influences the level and direction of public expenditure in the country. Using an impulse response function, he decomposed public expenditure into education, health and military expenditure to trace how they behave in the light of oil revenue shocks. He found that the decomposed variables responded positively to oil revenue shock with military expenditure recording the most significant response.

Farzanegan (2011) had a rather different result in probing the dynamic effects of oil revenues shocks on the composition of public expenditure in Iran for a period of 50 years taking into consideration the effect of shocks from the Iranian revolution and the Iran-Iraq war in the late 70s and mid-80s. He studied six variables amongst which are public expenditures on health, education and the military etc. and used oil export revenue per capita as the proxy for oil revenue. The oil revenue shock was identified on the basis of a standard Cholesky factorization, ordering oil export revenues first followed by health, military, disciplinary, education and cultural expenditures (as % of total expenditures). He found that none of public expenditure variables considered in the study respondedcontemporaneously to innovations in oil revenue. Findings showed that changes in oil revenue are statistically significantly and have positive effect on military expenditures with the largest response observed to occur after 5 years from the original shock to oil revenue. Other categories of public expenditures were however not statistically significant to a shock in oil revenue. In all, oil revenue strongly influences military expenditure in Iran with little or no effect on education, health and other variables studied. This study is similar to the study carried out by Omojimite (2012) who investigated the premise that military expenditure crowds out expenditure on education in Nigeria. The study found that defense spending crowds out expenditures on education in Nigeria.

Lucas (1988) and Romer (1990) analyzed the importance of education and human capital in the growth process. They found that school enrolment positively correlates with growth rate of real per capita output and argued that any developing country that plans on closing the development gap must increase investment in human capital components such as education and health.

Ramirez,Ranisand Stewart(1997) employed panel data over a number of countries and examined the path through which investment in human capital affects economic growth and vice versa. They argued that economic growth may lead to an increase in human capital investment and also investment in human capital could ultimately lead to virtuous or vicious cycles of economic growth. The study finds that countries which promote economic growth tend to achieve the vicious economic growth while countries which favored investment in human capital experience virtuous cycle of economic growth.

Gupta and Chakraborty (2004) developed an endogenous growth model for a dual economy using human capital accretion as a source of economic growth and argued that the duality that exists between the poor and the rich can be attributed to differences in human capita accretion between the two groups. Rich members of the society allocate labour time not only for production but also for knowledge accumulation. Bratti, Bucci, and Moretti, (2004) carried out a similar work by formulating a model of economic growth and human capital investment on a sample of a number of countries at different stages of development and found that increase in enrolment in primary and secondary levels of education positively impacts the level of real output in the economy.Haous and Yagoubi (2005) on the other hand examined economic openness and human capital investment as a source of productivity for MENA countries whilst controlling for fixed effects in the model, they found that investment in human capital significantly influence growth but does not have any underlying effect on productivity growth.

Employing vector auto-regression (VAR) method of analysis, Ibrahim &Ohwofasa (2015) examined the determinants of education expenditure in Nigeria for a period of 33 years and found that oil revenue happens to be the most important factor that determines the level of funding and investment in education. This finding was further confirmed by Omotor(2004) whose findings proved that oil revenue is the most important determinant of educational expenditure in Nigeria. Using the same method of analysis with Ibrahim&Ohwofasa (2015), Babatunde and Adefabi (2005) investigated the relationship between investment in education and economic growth in Nigeria from 1970-2003. The paper examined two channels through which education can affect economic growth in Nigeria, one is when education acts as a direct input in the production function and the second channel is when education combines with technology. The result established a long run positive relationship between education and economic growth in Nigeria. Following a completely new approach, an empirical analysis of 69 developing countries was conducted using tertiary degrees in law, management and social science as proxy for less productive activities and degrees in engineering, manufacturing and pure science as proxy for more productive economic activities, Ebeke and Omgba (2011) showed that countries rich in oil rent and blessed with good governance tend to have more graduates with degrees in science and engineering related courses from the university while countries rich in oil rent with

poor governance or efficient utilization of oil revenue tend to have a large proportion of their talents orientated towards university degrees in courses such as law and social sciences.

Model Specification and Estimation Technique

Data for the work were sourced from the World Bank data bank for the year 1995-2015. Four oil producing countries were identified based on the World Bank classification of countries in Africa into Middle East & North African (MENA) countries and Sub-Saharan African countries (SSA). Algeria and Egypt represent MENA countries while Nigeria and Cameroun represent SSA countries.

We carried out a trend analysis and employed the use of the generalized least square random effect and the within fixed effect methodology as well as the Hausman test statistics to choose the method that best explains the model.

We also employed the use of Data envelopment analysis (DEA) to measure the relative efficiency of decision making units (DMUs) with numerous inputs and various outputs as initiated by Charnes, Cooper and Rhodes (1978). This non-parametric approach solves the linear programming problem by obtaining an aggregate efficiency score to each DMU. Efficiency frontier analysis methods are therefore mathematical programming optimization tools used to measure the technical efficiency of multiple-input and/or multiple-output cases by constructing a relative score of technical efficiency. An efficient frontier analysis expands the application of production function, as the concept of an efficient boundary is evaluated. This productivity differentials help in identifying economic conditions that create inefficiency given an amount of input. The main purpose of productivity analysis studies is to evaluate numerically the performance of a certain number of decision-making units from the point of view of technical efficiency, i.e. their ability to operate close to or on the boundary of their production set.
The functional forms of our models are specified as follows:

HTH =f (ORT, MRT, HXPC, GDPC) (1)

EDU =f (ORT, MRT, GDPGR) (2)

Where

HTH= Health. Our proxy for healthcare delivery is under-5 mortality

ORT= Oil rent. This is the difference between the price of oil in the international market and the cost of production in respective countries

MRT= Mineral rent. The refers to rent from all other natural occurring minerals other than oil

HXPC= Health expenditure per capita

GDPC= GDP per capita

EDU= Education. Our proxy for education is Basic school enrolment

GDPGR= GDP growth

The linear specifications of the models are as follows:

Accordingly, the mathematical form of the models is stated as:

$$HTH_t = \beta_0 + \beta_1 ORT_t + \beta_2 MRT_t + \beta_3 HXPC_t + \beta_4 GDPC_t + \mu_{2t} \quad (3)$$

$$EDU_t = \phi_0 + \phi_1 ORT_t + \phi_2 MRT_t + \phi_3 GDPGR_t + \mu_{3t} \quad (4)$$

Where:

GDPC, HTH, EDU, HDI, CPT, HAPP, ORT, MRT, HXPC, GDPGR, IFL, ORPC and OLP as earlier defined

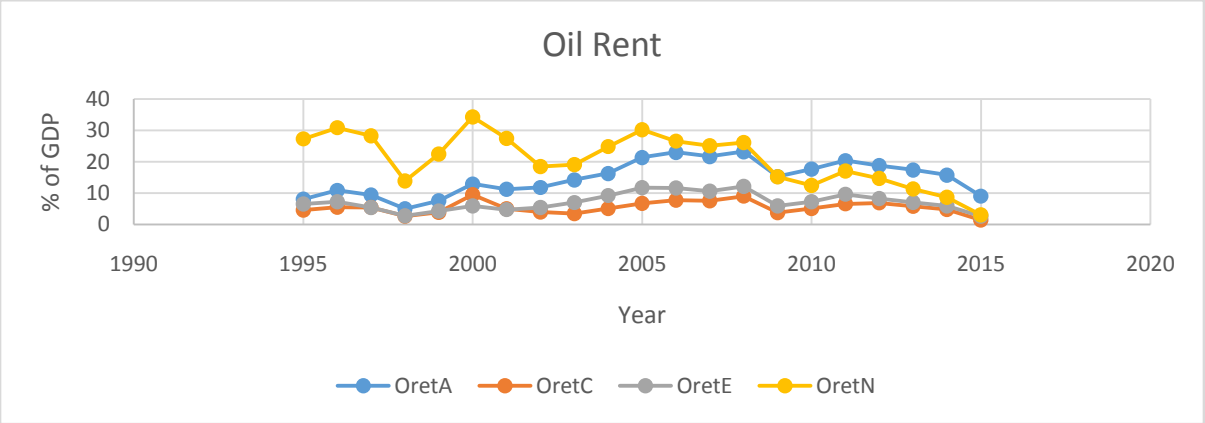
β_0- $\beta_3$andϕ_0 - ϕ_3 = Parameter estimates

μ_{1t} = Error term and assumed to be normally distributed.

IV. Empirical Analysis and Discussion

We shall briefly carry out a trend analysis of major variables as follows:

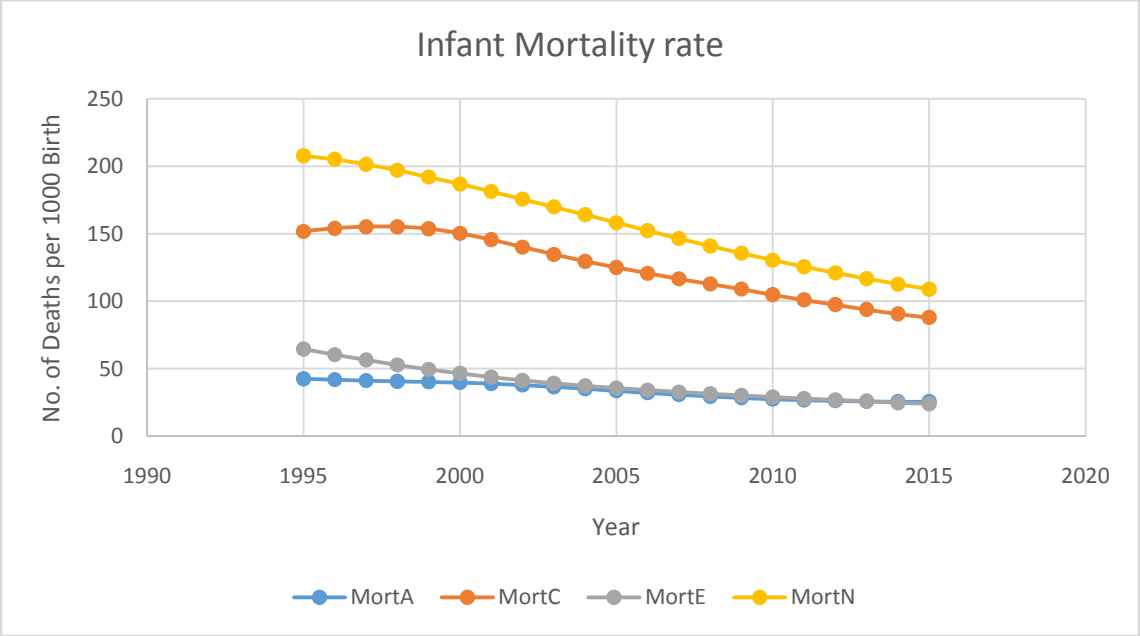
Figure 1- Trend Analysis of Oil Rent



Source: *Author's Computation (2018)*

From the figure above, we find that Nigeria (OretN) recorded the highest rent from oil in 1995 compared to the other three countries that seem to be on the same level within the period with marginal differences. Rent from oil slumped in 1998 due to slow down in the world economy which severely affected the oil producing countries as can be seen above, but this quickly picked up in 2000 which accounts for the peak period of Nigerian oil rent. In 2008, oil rent in Nigeria (OretN) and Algeria (OretA) were the same; however, Algeria began increasing while Nigeria rent from oil began falling due to a number of reasons not limited to militancy in the Niger Delta region of Nigeria which reduced oil production. Ultimately, we have a situation where the rents from oil have been falling for all countries studied.

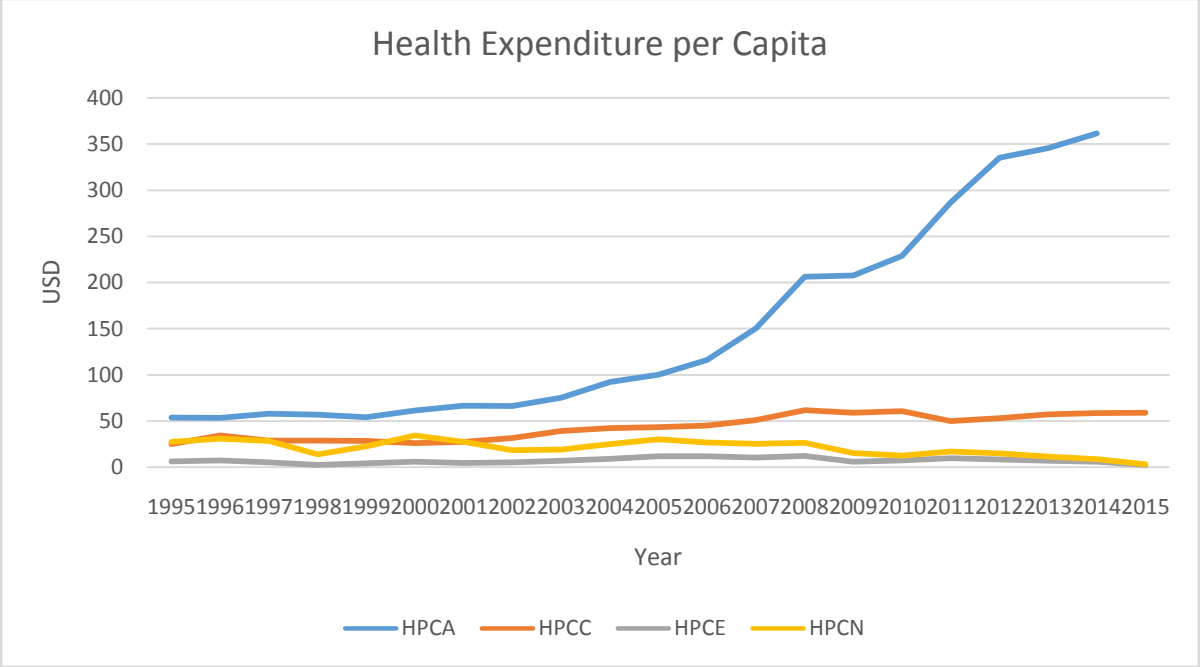
Figure 2- Trend Analysis of Under- FiveChild Mortality



Source: *Author's Computation (2018)*

We can see from the above that Nigeria (MortN) and Cameroun (MortC) reported very high levels of infant mortality in 1995 compared to the Algeria (MortA) and Egypt (MortE). This Implies that the Middle East and North African (MENA) countries fared better than their Sub-Saharan African (SSA) counterpart. The gap between Nigeria and Algeria is alarming, despite gradual reduction in mortality rate experienced as at 2015, Nigeria still experiences more than a hundred infant death per year while the MENA countries infant mortality rates have been falling recording less than 50 infant death in 2015.

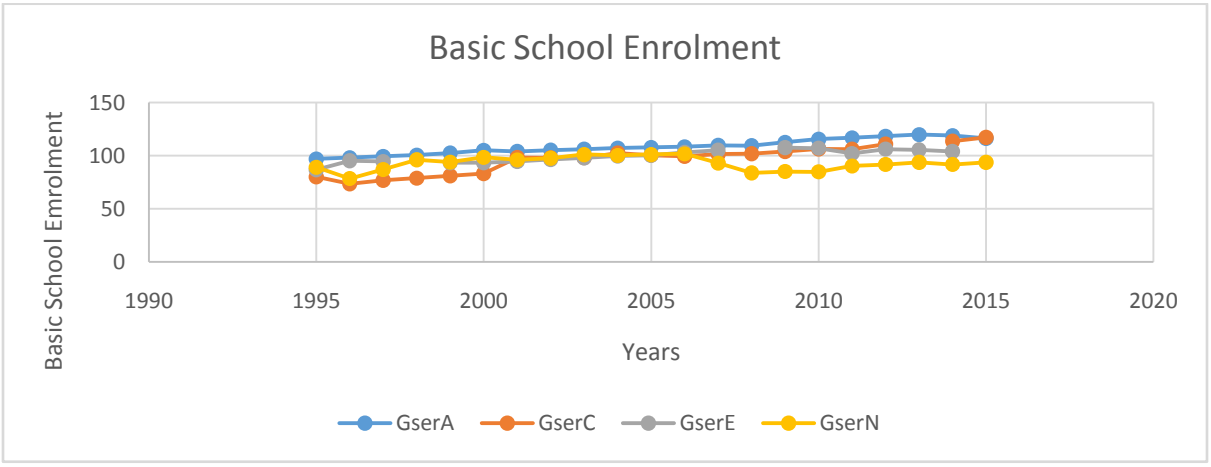
Figure 3- Trend Analysis of Government Health Expenditure per Capita



Source:*Authors Computation (2018)*

The trend above clearly explains the exceptional results Algeria posted in figure 2. In figure 3, Algeria's capital expenditure on health have steadily been increasing since 1995 up to 2015 while every other country seem not to take health expenditure serious hence the dismal performance in the infant mortality rates.

Figure 4- Trend Analysis of Basic School Enrolment



Source:*Authors Computation (2018)*

All four countries here seem to have the same trend in basic school enrolment, however if we examine closely, while every other country seem to have increased school enrolment marginally

between 1995 to 2015, Nigeria (GserN) however seem to have remained stagnant at the same level in 2015 as they were in 1995.

Table 1- Result Presentation

Dependent Variables Independent Variables	Mortality **MODEL 1**		Gross Basic School Enrolment **MODEL 2**	
	FE	RE	FE	RE
Oil Rent	1.66 (4.95)	2.94 (12.22)	0.27 (1.29)	0.11 (0.79)
Mineral Rent	-5.77 (-0.42)	-12.22 (-0.91)	32.6 (3.88)	39.9 (4.50)
Capital Expenditure on Health	0.15 (2.94)	0.29 (6.24)		
GDP per Capita	-0.013 (-6.26)	-0.019 (-20.2)		
GDP growth			-0.04 (-0.20)	0.16 (0.76)
Constant	131.2 (15.03)	141.5 (31.77)	93.69 (34.55)	93.88 (34.55)
R^2 Within	0.58	0.56	0.22	0.21
R^2 Between	0.97	0.99	0.16	0.41
R^2 Overall	0.91	0.92	0.20	0.23
Hausman Test		Reject H_0	Reject H_0	

Source: Author's Computation (2018). FE= Fixed Effects, RE= Random Effects, (0.00) = t-values

Hausman test- Accept H_0 = RE best explains model; Reject H_0= FE best explains model

Table 1 above shows the results of our models estimated by the generalized least square (GLS) random effect method and the within fixed effect method which is best suited for panel data and it produces efficient results. The models are estimated at levels due to the uniqueness of the data used in the study.

In model 1, we find that oil rent positively impacted on the rate of mortality in both the fixed effect and the random effect, while mineral rent shows a negative relationship in both effects. Government capital expenditure on health and GDP per Capita impacts mortality positively and negatively respectively in both models. In other to chose the best method to explain our model, we employed the Hausman test which specifies its null hypothesis as accept random effect while the alternative hypothesis is reject random effect. The Hausman test statistics was not significant thus we reject the null hypothesis; hence we shall interpret our result based on the fixed effect method. The result of the fixed effect model reveals that the regression coefficient of oil rent is

1.66. This means that a unit increase in oil rent increases child mortality by almost 2 percent. The positive sign does not conform to our a priori expectation in line with economic theory. Arising from the above, the study therefore rejects the null hypothesis which says that there is no significant relationship between oil rent and health. Also, the coefficient of government health expenditure per capita is 0.15, meaning that a unit increase in government health expenditure per capita increases mortality by about 0.15 percent. The positive sign does not conform to economic theory. The coefficient here is however statistically significant with mortality at 5 percent level with a t-value of 2.94. Furthermore, the result of the analysis reveals that the coefficient of mineral rent is -5.77. This implies that a unit increase in mineral rent decreases the rate of child mortality by about 5 per cent in the oil producing countries studied. The negative sign here conforms to our a priori expectation in line with economic theory. The coefficient of mineral rent in this instance is however not statistically significant at 5 percent level. This is so because the value t-calculated is -0.42. The coefficient of per capita income is -0.019. This implies that as per capita income rises in the oil producing countries, the rate of child mortality decreases by about 0.19 percent. The negative sign of per capita income here conforms to our a priori expectation in line with economic theory. The coefficient of per capita income here is also statistically significant with mortality at 5 percent level.

Model 2 specifies the results of our gross basic school enrolment. Findings show that oil and mineral rent are positively related to school enrolment in both our random and fixed effect methods. GDP growth rate however shows positive relationship in the random method but negative in the fixed method. The random method failed the null hypothesis of the Hausman test; hence we reject the null hypothesis and accept the alternative hypothesis, thus interpreting the fixed effect model.

The result of the fixed effect method reveals that the regression coefficient of oil rent is 0.27; meaning that a unit increase in oil rent increases basic school enrolment by about 0.27 percent. The positive sign of the coefficient here conform to our a priori expectation in line with economic theory. This positive relationship between oil rent and basic school enrolment however is not statistically significant. Arising from the above, the study therefore accepts the null hypothesis which says that there is no significant relationship between oil rent and school enrolment which is our proxy for education. Also, the coefficient of mineral rent is 32.6, meaning that a unit increase in mineral rent increases school enrolment, our proxy for education by about 32.6 percent. The positive sign of the coefficient conform to a priori expectation in line with economic theory. Most importantly is the fact that this coefficient is statistically significant. This is because the t-value calculated of 3.88 is greater than the t-tabulated of 2.110. Strangely, our result shows that the coefficient of GDP growth is -0.04 implying that a unit increase in GDP growth reduces basic school enrolment by about 0.04 percent in the countries studied. This coefficient however is not statistically significant as the t-value calculated (-0.20) is less that the t-tabulated (2.110).

Partial Efficiency Result Presentation

According to Kunst (2013), if the within and overall R^2 are close, this is evidence for individual effects being not so important. We shall therefore present the within R^2 and overall R^2 below:

Table 2- Goodness of Fit for Models

Model	Within R^2	Overall R^2
Model 1- Mortality	58%	91%
Model 2- Gross Enrolment	22%	20%

From the table above, we find that the gap between the within R^2 and overall R^2 of model 1 is 33% while the gap for model 2 is 2%. The gap for model 1 is wide implying that individual effects are important and necessary to explain the differences amongst the countries studied.This is evidenced by the trend analysis on child mortality above where two countries (Algeria & Egypt) performed far better than the other two countries. In addition, the trend of the government capital expenditure on health shows that Algeria performs far better than the other countries.We therefore employ the use of the partial efficiency frontier which is an input output comparative analysis that measures the countries or institutions that make the best use of inputs (oil rent in this instance) to produce expected outputs (IV). The partial equilibrium measures efficiency on output on a range of 0 (very low efficiency) to 1 (very high efficiency). We present the results of the efficiency analysis below:

Table 3- Partial Efficiency Analysis (Input= Oil rent, Output= Child mortality)

Country	Efficiency Score	Efficiency Rank
Algeria	0.13	4
Cameroon	0.53	1
Egypt	0.22	3
Nigeria	0.49	2

Source: Author's Computation (2018)

From the efficiency analysis above, Cameroon and Nigeria lead the pack with an efficiency score of 0.50 and 0.49 respectively. This result is not entirely surprising. From our trend analysis, we can see that these two countries recorded the highest under five mortality in their countries compared to Egypt and Algeria. We can conclusively say that the Middle East and North African (MENA) countries perform better than the sub-Saharan African (SSA) Countries in terms of healthcare due to their very low level of child mortality.

Between the years 2005 to 2014 for instance, Algeria government expenditure on health as a percentage of GDP rose from 3.2% to 7.2% while health expenditure per capita stood at $362 in 2014. Cameroonian government expenditure on health as a percentage of GDP fell from 4.8% in 2005 to 4.1% in 2013 with health expenditure per capita of $138 in 2013. Nigeria also followed the trend of Cameroon by reducing health expenditure as a percentage of GDP from 4.1% in 2005 to 3.7% in 2014 and health expenditure per capita of $118 in 2014.

Discussion of Findings

Here we shall discuss our finding based on the fixed effect method for each of the model specification.

Relationship between Oil Rent and Child Mortality

The positive and also significant relationship between government expenditure on health per capita also buttresses the point that rent from oil clearly does not lead to increase in government expenditure on health, thus an increase in child mortality as well.On the other hand, a negative relationship exists between mineral rent and child mortality, implying that an increase in mineral rent reduces child mortality.

The findings here are instructive. Rent from oil in the selected oil producing countries rather than reduce child mortality, tends to increase it within the period studied. This effect is significant for oil rent alone. This implies that rent from oil which is ordinarily expected to improve healthcare have rather become a factor in increasing child mortality due to mismanagement of the resource. Looking at the coefficient of GDP per capita, which is rightly signed, implies that if societal welfare is well taken care of and people can meet their existential needs, the rate of child mortality will be greatly reduced because a high level of per capita income denotes a higher level of economic wellbeing. Unfortunately, the coefficient of health expenditure per capita shows that this budget line does not improve healthcare using child mortality as our proxy in the oil producing countries studied. This result is not surprising. While this seems to be a paradox, it is glaring that oil dependent countries have low health profiles due to a wide number of reasons which also includes but not limited to environmental pollution, lack of portable water, poor nutrition for the citizens etc. While GDP per capita significantly improves healthcare by reducing mortality, inequality which is usually high in resource rich countries may be making primary health care services unaffordable for majority of the citizens. Our result is given fillip by a study carried out by Karl, Kaldor and Said(2007) where they found that for each 5-point increase in oil rent dependence; the under-five mortality rate rises by 3.8 per thousand, similar to our study that for each 1-point increase in oil rent, under-five mortality rises by 1.7 per thousand. In addition, Wigley (2017) concludes that governments in oil abundant countries often fail to effectively use resource windfall at their disposal to improve child health. Paradoxically, the more countries are dependent on oil, the less they spend on health as a percentage of GDP. This trend unfortunately is not abating in Nigeria.

Relationship between Oil Rent and Gross Basic School Enrolment

Our result shows that an increase in oil rent does not significantly increase school enrolment in the oil producing countries studied. The model also shows that an increase in economic growth significantly reduces school enrolment in the oil producing countries studied.The finding shows the potential of oil rent to increase school enrolment through increases in the level of government investment and expenditure on education, but this positive relationship unfortunately is not significant. This is not surprising because the ratio of government expenditure on education to GDP has been on the decline in the period under review, implying that as oil rent increases, government expenditure on education have remained constant compared to expenditures on other sectors. This low level of funding leads first to un-conducive and deplorable learning environment in schools at all levels where the infrastructure have been over stretched. Also, low investment in education leads to poor conditions of services for workers in the sector resulting in

brain drain. Finally, the poor funding of in the educational sector of the country have led to the sector churning out half baked graduates as well as an increase in the number of children out of school. Ademola, Olasode, Raji and Adedoyin(2015) however found a significant positive relationship between oil revenue and primary school enrolment.

Economic growth ordinarily is supposed to increase income both for the poor and rich in society and thus improve their health and education. Our result show the opposite and the reason for this can be attributed to income inequality whereinthe economy grows, the rich get richer while the poor find it difficult to access educational services hence they drop out of school because growth in oil producing countries are usually not inclusive. Thisfindingssupports the view ofHanif and Arshed (2016) that a negative relationship between education and economic growth.

V. Conclusion and Recommendations

It is an acknowledged fact that when properly managed, oil rent has the capacity to improve the wellbeing of citizens as well aslead to increase ininnovation and productivity in society.The reverse has been the case in the countries studied. In other to change the tide, we recommend that government in these countries should work towards increasing budgetary allocation to education and health to attain the minimum of twenty-six and thirteen percent respectively as required by the United Nations Scientific and Education Organisation and the World Health Organization. This will enable the government provide free quality basic education as well as free maternal healthcare services especially for the rural poor to reduce inequality in society by increasing the ability of people to live healthy increase their ability to innovate and get employed as an outcome of quality education. Government should also create the enabling environment and incentives for medical personnel's and teachers to work in the rural areas. The provision of education grants and loans to indigent students is also recommended.

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