ACADEMIC INN INTERNATIONAL

ISSN: 2708-079X (Online) ISSN: 2708-0781 (Print)

Asian Journal of SUSTAINABLE BUSINESS RESEARCH

open access

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To cite the article: *EWUBARE, Dennis Brown & OBAYORI, Elizabeth Lizzy Obiadazie*. (2020). Natural Resource Rent and Education Development in Nigeria and Cameroon, 1995-2017, *Asian Journal of Sustainable Business Research*, 2 (1): 13-19.

Link to this article: http://aiipub.com/journals/ajsbr-200404-031125/

Article QR

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NATURAL RESOURCE RENT AND EDUCATION DEVELOPMENT IN NIGERIA AND CAMEROON, 1995-2017

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ARTICLE INFO
Article Type: Research
Received: 13, Jan. 2020.
Accepted: 04, April. 2020.
Published: 04, April. 2020.

Keywords:
Nigeria, Cameroon, Gross, School, Enrolment, Oil Rent, Mineral Rent,

ABSTRACT
The paper examined natural resource rent and education development in Nigeria and Cameroon from 1995 to 2017. The objectives of the study were to; determine the effect of oil on education development in Nigeria and Cameroon; and examine the effect of mineral rent on education development in Nigeria and Cameroon. A model was estimated via multiple regression techniques to establish the relationship between oil and mineral rents on gross school enrolment (education development) in Nigeria and Cameroon. Panel data were sourced from World Bank data base and the techniques of Generalised Least Squares (GLS) was used for the analysis. Based on the empirical result, the study found that increase in oil and mineral rents will have a direct effect on Nigeria and Cameroon education development. Meaning that judicious use of dividend from natural resource rent increases gross basic school enrolment in Nigeria and Cameroon. Based on the aforementioned findings, the paper recommended that there is the need to properly utilise the revenue from both oil and mineral rents in the development of education sector so that the disadvantaged in society will be opportune to have the basic education that will make them employable in the labour market.

1. INTRODUCTION

Natural resource rent is the revenue accrued by a country from the extraction of its natural resources after making deductions for its cost of production (Abbas, 2018). They are called rent because they are not man-made but rather extracted. Without a doubt, the use of natural resource rents is an improvement since these information consider the world price of the resource and local cost of extraction (Opaleye, Okowa & Ohale, 2018). Conversely natural resources rents are classified into oil rents, mineral rents and natural gas rents (World Bank, 2011). Of great import in this study is oil and mineral rents. This is because the study is Africa based and the countries for consideration depends solely or partly on one or two of the oil or mineral rents to drive their economies.

Meanwhile, oil rent is basically the difference between the value of crude oil production at world prices and total costs of production. The rents from oil can thus be categorize as the rent from liquid natural resources. On the other hand, mineral rents are the difference between the value of production for a stock of minerals at world prices and their total costs of production. Minerals included in the calculation are tin, gold, lead, zinc, iron and phosphate. Thus, the rents from mineral can be categorize as the rent from solid natural resources (Ewubare & Obayori, 2019).

Meanwhile, both Nigeria and Cameroon are blessed with natural resources such as crude oil, coal, iron ore amongst others and these contributes over 70% of their revenue. In Nigeria, oil contributes

about 90% of foreign exchange earnings with foreign reserves of US$30bn as at 8th March 2017. While Cameroon foreign reserve was US$2.26bn. If these enormous revenues are efficiently utilized, it would be expected that oil-producing countries in the African will perform well than countries in Europe and North America in terms of education development and other developmental indices (World Bank, 2016).

Over the years, one of the problems of oil-producing nations in Africa have been low level of investment in education. For instance in Nigeria, recent research and CBN publications showed that the yearly budget has been on the increase but the increase does not translate to huge allocation in the education sector in such that on the average between 2011 and 2018 less than 8percents has been allocated to the education sector against the 26 percent UNESCO recommendation (CBN, 2018). Thus, the issue of poor funding in education results to reduction in the quality of research and development, production of unskilful and unemployable graduates (Inimino, Tubotamuno & Shaibu, 2017). As a follow-up, the situation of poor funding in Cameroon though better than Nigeria but is also not encouraging; as less than 15% was allocated to the education sector in the same period. For instance, in Nigeria, polio which was eradicated made a comeback recently due to misinformation spread by anti-American Islamic groups. This can only happen in societies characterized by low literacy levels. This explains the 59.6% and 83.8% literacy in Nigeria and Cameroon compared to 99.7% in Russia, both oil-producing countries in 2015 (Opaleye, Okowa & Ohale, 2018). Thus, sub-Saharan Africa has the highest number of out of school children as well as low literacy level. This is because most of the oil-producing countries in Africa countries particularly Nigeria and Cameroon did not invest up to 20% of their revenue from natural resources such as oil and other solid minerals in the education development of their countries (Ewubare & Obayori, 2019). Given the development above, the paper examines the effect of natural resources rents on education development in Nigeria and Cameroon.

2. EMPIRICAL NEXUSES BETWEEN NATURAL RESOURCES RENT AND EDUCATION DEVELOPMENT

Existing literature on the effect of natural resource rent include the works of Ishola, Olaleye, Olajide and Abikoye (2015) who used literacy rate as a proxy for education to examine the relationship between revenue from oil and government expenditures and economic growth in Nigeria for a period of 29 years. They found 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.

Baldacci, Clement, Gupta and Cui (2008) explored the channel that connects social spending, economic growth and human capital using panel data for 118 developing countries for the period 1971 – 2000. They found that expenditure on education significantly impacts educational quality, thus increasing productivity and economic growth. Omojimite (2012) investigated the premise that military expenditure crowds out expenditure on education in Nigeria, found that defence spending crowds in expenditures on education in Nigeria as it reveals a positive and significant relationship between defence spending and education expenditures.

Ebeka 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, arts, management and the social sciences. The result demonstrates that the resource curse

occurs partially, through an inefficient reallocation of human resources and is the first paper that empirically finds that the Dutch disease can be studied and identified through the composition of the specialization or degrees in tertiary education.

Zita and Ogugua (2014) traced the role education plays in increasing economic growth as a means of achieving the desired socio-economic development goals using recurrent education expenditure as proxy for education and gross domestic product as proxy for economic growth. They found that there exists a positive relationship between education and growth in the short run and found the absence of a long-run relationship over the study period of 1981 - 2012. Salch (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.

Ewubare and Obayori (2019) hypothetically carried out a comparative analysis of oil rent and socioeconomic status in Nigeria and Cameroon. They averred that the dismal performance of oil rent and socioeconomic statuses such as infant mortality rates, education and poverty reduction is as result of the failure to judiciously invest the revenue from rent from oil in the oil-producing states.

3. METHODOLOGY

Panel data were collected on Gross School enrolment, Oil Rent and Mineral Rent from World Bank data archive from 1995-2017; and was analysed with the graphical approach and Generalized Least Square (GLS) fixed and random effects.

3.1 Model Specification

The functional model was formalized in four models as follows:

EDT=f(ORET, MRET) (1)

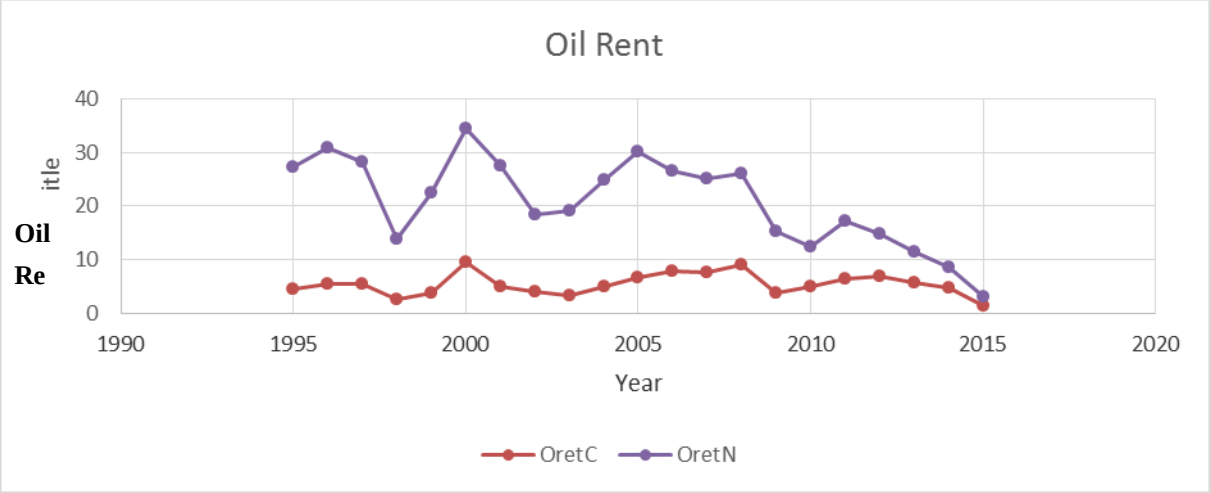
Accordingly, the econometric form of the model is stated as:

$EDT_t = \lambda_0 + \lambda_1 ORET_t + \lambda_2 MRET_t + \mu_{3t}$ (2)

EDT = Education development (proxy by gross basic school enrolment), ORET = Oil Rent, MRET = Mineral Rent, μ = Stochastic term

4. RESULTS AND DISCUSSION

4.1 Graphical Analysis of Oil Rent in Cameroon and Nigeria

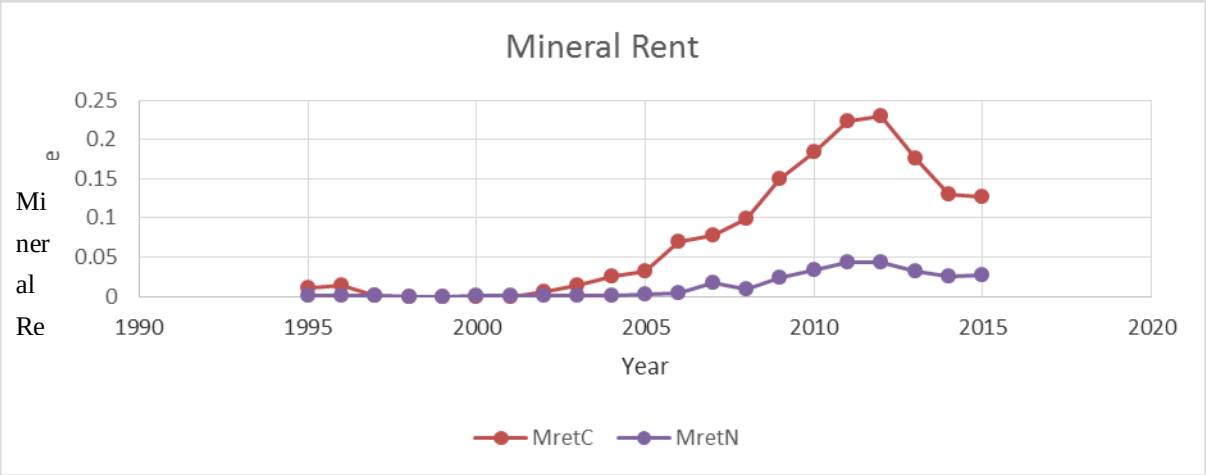


Source: Researchers *Computation (2019)*

Figure 1: Trend Analysis of Oil Rent for Cameroon and Nigeria

From Figure 1 above, in 1995, Nigeria oil rent was higher than that of oil rent from Cameroon. Regrettably, oil rent collapsed in 1998 as a result of a global economic meltdown which affected the prices of oil but this later picks up in 2000 for the peak period of both countries. In 2008, oil rent in Nigeria and Cameroon fall. But, the rate of falling of Nigeria oil rent was greater than Cameroon. Thus, from the graph, it was noticed that rent from oil in Nigeria have been falling faster than Cameroon.

4.2 Graphical Analysis of Mineral Rent in Cameroon and Nigeria

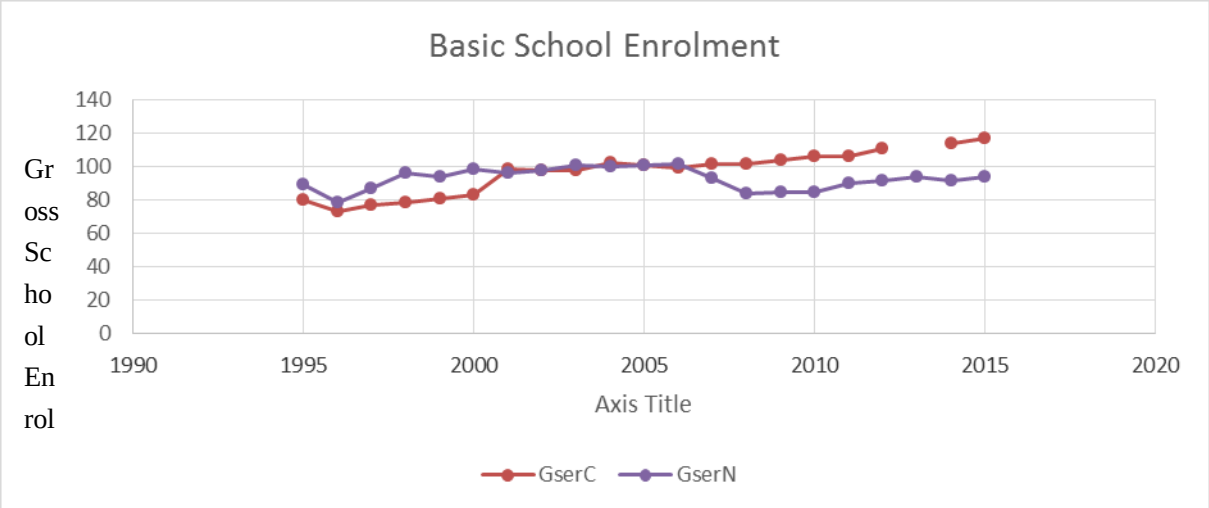


Source: Researchers *Computation (2019)*

Figure 2: Trend Analysis of Mineral Rent for Cameroon and Nigeria

The figure above reveals that mineral rents of both countries between 1995 -2005 were virtually low. Cameroon (MretC) started to grow after 2005 but not significantly, got to its peak in 2011 and started falling while Nigeria mineral rent (MretN) was still at a lower ebb. Cameroon witnessed the peak in rent in 2012 from minerals though this began to fall in 2013. Generally, it can be concluded that Cameroon fared better in rents from minerals than Nigeria.

4.3 Graphical Analysis of Gross School Enrolment in Cameroon and Nigeria



Source: Researchers *Computation (2019)*

Figure 3: Trend Analysis of Gross Basic School Enrolment of Cameroon and Nigeria

From figure 3, the two countries seem to have the same trend. But, a cursory inspection showed that Cameroon seems to have increased school enrolment marginally between 1995 and 2017, Nigeria seems to remain stationary between 2010 and 2017.

4.4 Fixed Effects Vs Random Effects and Hausman test

Table 1 Results of Fixed Effects Vs Random Effects and Hausman test

Dependent and Independent Variables	Education (Basic School Enrolment)	
	FE	RE
Oil Rent	0.27 (1.29)	0.11 (0.79)
Mineral Rent	3.26 (3.88)	39.9 (4.50)
Constant	93.69 (34.55)	93.88 (34.55)
R^2 Within	0.22	0.21
R^2 Between	0.16	0.41
R^2 Overall	0.20	0.23
Hausman Test	Reject H_0	
Chi-Square Prob	**(0.0000); t-table 2.110**	

Note: Hausman Test- Accept H_0 = RE best explains model; Reject H_0= FE best explains the model

Source: Researchers Computation (2018). FE & RE, (0.0000) = P- values at 5%

The results in Table 1 showed that both oil and mineral rent are positively related to basic school enrolment (education development) in both the random and fixed effect methods. The random method failed the Hausman test; hence the null hypothesis was rejected and the alternative hypothesis accepted, thus interpreting the fixed effect model.

The result of the fixed effect method revealed that the regression coefficient of oil rent is 0.27; meaning that a unit increase in oil rent increases gross school enrolment by about 27per cent. The positive sign of the coefficient here conforms to the a priori expectation in line with economic theory. This positive relationship between oil rent and gross school enrolment, however, is not statistically significant. Arising from the above, the study, therefore, accepts the null hypothesis which states that there is no significant relationship between oil rent and gross school enrolment which is the proxy for education development. The result corroborated the empirical finding of Abbas, (2018) on the subject matter of natural resource rent.

Also, the coefficient of mineral rent is 32.6; meaning that a unit increase in mineral rent increases gross school enrolment, (a proxy for education development) by about 326 per cent. But most importantly is the fact that the coefficient of mineral rent is statistically significant. This is because the t-value calculated of 3.88 is greater than the t-tabulated of 2.110. Thus, the alternative hypothesis accepted. The finding is in line with Ewubare and Obayori (2019) who claimed that oil rent has a direct effect on socioeconomic status as infant mortality rates and education.

5. CONCLUDING REMARK

The paper examined natural resource rent and education development of Nigeria and Cameroon from 1995 to 2017. Panel data were collected on education development (proxy by gross school enrolment) oil rent and mineral rent and was analysed using a graphical approach and Generalized Least Square

of Fixed and Random Effects. Based on the empirical findings from the fixed-effect model, oil and mineral rents are positively related to gross school enrolment in both Cameroon and Nigeria. Comparatively, Cameroon had highest in gross school enrolment per increase in oil rent than Nigeria. Given the finding above, it is recommended that dividend from rents (liquid and solid minerals) should be properly utilised and reinvested into productive sectors for the welfare of the citizens. Thus, there should be investments in free education especially to the disadvantaged in society.

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