

The Impact of Crude Oil Price Fluctuation on Tertiary Education Survival in Nigeria

Olatunbosun Odunsayan

Federal University of Oye-Ekiti, Ekiti State, Nigeria

Abstract: *This paper examined the impact of crude oil price fluctuation on tertiary education survival in Nigeria from 2011-2018. Ex-post facto research design was used. Data were extracted from Education Trust Fund (ETF), Federal Ministry of Education (FME), and National Bureau of Statistics (NBS). The data were analyzed using multiple regression analysis with the aid of Statistical Packages for Social Sciences (SPSS) version 20.0 software package. The findings of this study revealed that Crude oil price fluctuation is a critical determinant of tertiary education survival in Nigeria. There is a significant relationship between crude oil price fluctuation and budget allocation to tertiary education in Nigeria. This paper recommend that a policy that permits tertiary education survival through education tax fund allocation from profits of registered petroleum companies proceed should be extended and apply to established Alumni Tax Fund. The Alumni Tax Fund will generate pool of fund from graduate of Nigeria Universities, Colleges of Education and Polytechnic Education.*

Keywords: Crude oil, crude oil price, price fluctuation, tertiary education survival, Budget Allocation

1. INTRODUCTION

Crude oil is a naturally occurring substance which is found in widely differing amounts in various countries throughout the world. Oil is not used directly for any important purpose, rather it is refined and split into different products which are either used directly for final consumption or are in turn further processed. Different crude oils yield different proportions of these refined products, and since the value is related to the end uses, those crude oils yielding higher proportions of valuable by-products (petroleum motor spirit, diesel fuels, jet fuels, petroleum gas etc.) will tend to sell at a premium relative to other crude oils.

Nigeria depends a lot on oil price. Oil is the mainstay of the economy. Change in price is definitely bound to affect us. Oil price can change any time. Anything can affect it. It is all about international politics. Oil price fluctuation is not a new thing in global crude oil market. Price fluctuation is making planning very difficult for countries that depend solely on crude oil as their main source of foreign earning and fund generation. The implication of this sole dependence on revenues from oil meant that the country was exposed to the vagaries of international oil market. That clearly explains the recent crash in the price of crude oil resulted in short fall in revenue inflows to the government. The effect was the inability of the government at various levels in Nigeria to fund their budgets leading to reduction on budget allocation to education, abandonment of capital projects, non-payment of contractors and salaries of government workers. The spiral effect on the economy was the

weakened capacity of consumers which affected the economy negatively. This is coupled by the general hike in the prices of goods and services due to high cost of manufacturing and imports due to the fall in the value of the naira (Nigeria's currency against other currencies). Budget planning in Nigeria is determined and control by crude oil price fluctuation. Therefore, dwindling crude oil price globally is bound to affect all aspect of Nigeria Economy. Nigeria economy is sustained and survives by global crude oil price. Nigeria education sector is not exempted from damning consequence of crude oil price fluctuation.

Crude oil price is a key determinant in budgetary allocation to Nigeria education sector. In Nigeria, funds allocated to education sector by Federal Government are usually distributed to the various tiers of education, such as the primary, secondary, and tertiary. Tertiary education relates to all forms of post-secondary education such as the Universities, Polytechnics, Colleges of Education, Monotechnics and Professional schools (Abdu 2003). In the quest for development, developing countries have acknowledged that investment in and adequate funding of higher education are viable conditions that facilitate change since the value of education hinges on teaching, learning, research and the production of qualified personnel which are needed for national development (UNESCO, 2002). It is a fact that out of the three levels of education, the tertiary level is favoured in terms of allocation of funds in Nigeria (Saint, Hartnett & Strassner, 2003). It is even worthy

of note that the Education Tax Fund (generated by Federal Government from 2% tax imposed on profits of companies in Nigeria) favours higher education, being shared at the ratio: higher education (50%); primary education (40%); and secondary education (10%) (Nwagwu, 2015).

Statement of the Problems

Oil prices have witnessed profound fluctuations and this strongly determines the allocation of fund to education sector and poses great challenges for budget planning in Nigeria. Crude oil price falling have negative impact on Nigeria education sector. The effect of crude oil price fluctuation is evident in the decrease in budget allocation to tertiary education during period of crude oil price changes.

This decrease in budget allocation to tertiary education may have a significant relationship with tertiary education survival in Nigeria. The findings of many researchers have established significant effects of inadequate funding on the standard and sustainability of tertiary education in Nigeria. However, few research work has been carried out on the influence of crude oil price fluctuation on the survival of tertiary education in Nigeria. Therefore, this study is aimed at investigating the impact of crude oil price fluctuation on survival of tertiary education in Nigeria.

Objectives of the Study

This study is aimed at examining the impact of crude oil price fluctuation on survival of tertiary education in Nigeria. Other objectives are as follows;

- Find out whether crude oil price fluctuation is a critical determinant of survival of tertiary education in Nigeria.
- Discover whether there is a significant relationship between crude oil price fluctuation and budget allocation to tertiary education in Nigeria.
- Recommend on how to sustain tertiary education in Nigeria without depending on crude oil revenue.

Research Questions

The following research question were sought so as to provide solutions to the problems of the study.

- i. Is there a significant relationship between crude oil price fluctuation and budget allocation to tertiary education in Nigeria?

- ii. Does crude oil price fluctuation determine the survival of tertiary education in Nigeria?
- iii. How can tertiary education be sustained and survived in Nigeria without depending on crude oil revenue?

2. REVIEW OF LITERATURE

Crude oil is a major source of foreign exchange earnings and the dominant source of revenue for the Nigerian government. According to Oguchukwu (2016) Oil price fluctuation have had a damning multiple effect on crude oil price and economic activity. The Nigerian economy has been completely reliant on oil and the basis upon which government budgeting, revenue distribution and capital allocations are determined. Fluctuation is an upward and downward movement of oil prices globally. Fluctuation in price of crude is a common phenomenon in the global oil market as the world economy has witnessed a number of changes in the price of crude oil at different times. This assertion thus translates that these oil prices are exogenous because it's determined by external influences that negatively impact the Naira and Nigeria cannot moderate the causes of these oil price slides. Statistic revealed that 80% of Nigeria's energy revenues flow to the government; 16% cover operational costs, and the remaining 4% go to investors (Atukeren 2003).

The recent crash in crude oil prices has resulted in a massive financial decline in oil producing countries (Oguchukwu 2016). Some researchers projected the likely impact of oil prices on different aspects of economy of oil producing countries (Olomola 2006; Habib & Kalamova 2007; Aliyu & Usman 2009; Ricken 2009). For instance, Olomola (2006), conducted a study to investigate the likely effect of oil prices on the total economic activity in Nigeria. The author discovered that changes in oil prices affected the foreign exchange rate in Nigeria. The author also documented that oil prices did not have any effect on the rate of inflation and general output in the country. The effect of oil prices on the exchange rate in Saudi Arabia, Norway and Russia was investigated by Habib & Kalamova (2007). The authors reported that there was a positive relationship between exchange rate and oil price in Russia. However, oil price did not have a significant impact on the exchange rate in Saudi Arabia and Norway. According to Ricken (2009), the influence of oil prices on foreign exchange rate is as a result of the unavailability of solid institutions and the country's complete dependence on the exportation of oil. The negative effects of fluctuating oil prices can be

reduced by the diversification of the Nigerian economy (Aliyu & Usman, 2009).

The current decrease in oil price has significantly affected the Nigerian economy (Olomola, 2006; Ogochukwu, 2016). Crashing crude oil prices have resulted in inflation, massive laying off of employees in private companies, increased cost of living, non-payment of salaries by Nigerian state governments, increased foreign exchange rate, reduced amount of funds flowing into the foreign reserve and depletion of the account of excess crude oil (Adeoye & Atanda 2005). The previous fluctuations in crude oil prices (\$95.16 per barrel in January 2008, \$146.15 per barrel in July 2008, and \$76.15 dollars per barrel in October 2008) eventually took a major dive in the year 2016 to less than \$28 per barrel (Sanusi 2010).

The current decrease in oil price is an eye-opener for the Nigerian economy to consider the need for diversification (Ogochukwu 2016). The country must explore other avenues to make its economy viable rather than depending solely on oil commodity. This will forestall the effect of present or future crude oil crisis on the Nigerian economy. Hence, there is a need for Nigeria to shift to other sectors that were previously neglected when it experienced a boom in oil prices. Currently there has been an increased cry for diversification in Nigeria; this is due to the negative effects of oil prices on the country’s economy. Diversification is considered to be the nostrum for neutralization of the harsh effects of dwindling oil prices and stabilization of Nigeria’s financial economy.

The Nigerian economy has also begun to explore other non-oil sectors. For instance, one of the recent priorities of the financial economy of Nigeria is Small and Medium Scale Enterprises (SME)’s (Ogochukwu 2016). He opined that Small and Medium Scale Enterprises (SME)’s increases output and per capita income, creates job opportunities, play crucial roles in the process of economic growth and industrialization, and improve sectoral and/or regional economic balance via the promotion of resource use and industrial dispersal. Thus, the Central Bank of Nigeria directed Nigerian banks to diversify as well as increase their lending portfolio to non-oil sectors of the economy.

3. METHODOLOGY

Research Design

Ex-post facto method was adopted in this study because the independent variable has already occurred and the researcher starts with observation of

the dependent variable. The study involves collection of existing data to access the contributions of crude oil price fluctuation on tertiary education survival in Nigeria. The independent variable is the crude oil price fluctuation and the dependent is the Education Tax Fund Allocation for tertiary education survival.

Method of Data Analysis

Data collected for the study was extracted from Education Trust fund (ETF), Federal Ministry of Education (FME) and National Bureau of Statistics. The data were analyzed using multiple regression analysis with aid of Statistical Package for Social Sciences (SPSS) version 20.0 software package.

Model Specification

To establish the effect of crude oil price on tertiary education survival and this model was developed:

$$\text{SurvivalTE} = \beta_0 + \beta_1\text{UNITFt} + \beta_2\text{COGEDUt} + \beta_3\text{PLYTECHt} + \epsilon_1 \dots \dots \dots 1$$

Where

SurvivalTE represents tertiary education survival

UNITFt represents University ETF Fund Allocation

COGEDUt represents College of Education ETF Fund Allocation

PLYTECHt represents Polytechnic Education ETF Fund Allocation and

ϵ_1 represents stochastic variable (error term)

4. RESULTS

1. Research Question 1: *Does crude oil price fluctuation determine the survival of tertiary education in Nigeria?*

Table 4.1 Trend of Crude Oil Price Fluctuation and ETF Fund to Tertiary Education in Nigeria

Years	Average Crude Oil Price	ETF Fund Allocation
2011	\$102.58	N26,852,940,000
2012	\$101.09	N125,800,000,000
2013	\$98.12	N147,900,000,000
2014	\$89.63	N215,400,000,000
2015	\$46.34	N50, 923,000,000
2016	\$38.17	N213, 418,124,493
2017	\$48.73	N69,180,000,000
2018	\$50.59	N133,800,000,000

Source: The Author Compilation (2018 edition)

Table 4.1 above shows the trend of fluctuation in crude oil price and fund allocation to tertiary education through Education Tax Fund (ETF). It indicates that when the average price was 102.58 dollar in 2011, ETF allocated least fund to tertiary education. In 2014, when crude oil price declined to 89.63 dollar, tertiary education had highest fund. It is clear to infer that during economic recession in the

country in 2016, the average price fluctuated to 38.17 dollar which was insignificant to the Education Tax Fund allocation to tertiary education.

Table 4.2: Multiple Regression Between Independent Variable (Crude Oil Price Fluctuation) and Dependent Variable (Tertiary Education Survival)

Model Summary^b

Model	R			Std. Error of the Estimate	Change Statistics				Sig. F Change	Durbin-Watson
	R	Adjusted R Square	R Square		R Square Change	F Change	df1	df2		
1	.783 ^a	.613	.611	.83054	.613	282.342	1	178	.000	1.940

- a. Predictors: (Constant), Crude Oil Price
- b. Dependent Variable: Tertiary Education Survival

The Multiple regression analysis outcome on crude oil price fluctuation and tertiary education survival are presented in Table 4.2 above with the significant predictor ($R = 0.78$). This indicates that crude oil price fluctuation contributes to tertiary education survival in the country. Crude oil price fluctuation predicts a significant effect size of 61 percent variability towards tertiary education survival. The findings are consistent with Ugwuanyi (2014) whose study revealed that Education Tax Fund has helped in enhancing the educational development Tertiary Institutions and Oraka & Okenwa (2017) that ETF has impacted positively in Nigerian Educational Development with particular focus on Tertiary institutions.

2013	\$98.12	N4.987 TRN	N426.53 BN	8.55
2014	\$89.63	N4.962 TRN	N493.00 BN	9.94
2015	\$46.34	N5.068 TRN	N392.20 BN	7.74
2016	\$38.17	N6.061 TRN	N369.60 BN	6.10
2017	\$48.73	N7.444 TRN	N550.00 BN	7.38
2018	\$50.59	N8.612 TRN	N605.80 BN	7.03

Source: Author Compilation (2018)

Table 4.3 above shows that 2014 has the highest record of budget allocation to Education by the Federal Government of Nigeria from 2011-2018. The highest percentage of education budget allocation compares to total budget allocation was recorded in 2012, 2013 and 2014. Hence, we could infer that crude oil price fluctuation is a predictor of budget allocation to tertiary education in Nigeria. This finding agree with Ugwuanyi (2014) study of the activities of Education Tax Fund (ETF) upon Nigerian tertiary institutions with the target of revealing how Education Tax Fund has helped in enhancing the educational development of Nigerian Tertiary Institutions. There is indicative that ETF has the potential of alleviating the chronic under-funding of the educational sector.

2. Research Questions 2: *Is there a significant relationship between crude oil price fluctuation and budget allocation to tertiary education in Nigeria?*

Table 4.3 Relationship Between Crude Oil Price Fluctuation And Budget Allocation to Education In Nigeria

Years	Average Crude Oil Price	Budget	Education Allocation	% of Budget
2011	\$102.58	N4.972 TRN	N306.3 BN	6.16
2012	\$101.09	N4.877 TRN	N400.15 BN	8.20

Table 4.4: Multiple Regression Between Independent Variable (Crude Oil Price Fluctuation) and Dependent Variable (Budget Allocation to education)

Model Summary ^d											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson	
1	.801 ^a	.642	.640	.97521	.642	318.67	1	178	.000		
2	.862 ^b	.743	.740	.82830	.101	69.736	1	177	.000		
3	.868 ^c	.754	.750	.81257	.011	7.921	1	176	.005	1.881	

- a. **Predictor: (Constant), Crude Oil Price Fluctuation**
- b. **Dependent Variable: FG Budget**
- c. **Dependent Variable: Education Allocation**

The Multiple correlations that tested for crude oil price fluctuation and budget allocation to tertiary education in Nigeria are presented in **Table 4.4** with the significant predictor ($R = 0.86$). This indicates that crude oil price fluctuation contributes to tertiary education survival in this study. Crude oil price fluctuation states a significant effect size of 75 percent variability towards budget allocation to tertiary education in Nigeria.

5. CONCLUSION AND RECOMMENDATION

This study examined the impact of crude oil price fluctuation on tertiary education survival in Nigeria and certain truth were revealed in the course of this study. The findings of this study revealed that Crude oil price fluctuation is a critical determinant of tertiary education survival in Nigeria and that there is a significant relationship between crude oil price fluctuation and budget allocation to tertiary education in Nigeria. This paper has given rise to the following recommendations.

- i. The policy that permits tertiary education survival through education tax fund allocation from profits of registered petroleum companies proceed should be extended and apply to established Alumni Tax Fund. The Alumni Tax Fund will generate pool of fund from graduate of Nigeria Universities, Colleges of Education and Polytechnic Education.

- ii. The Federal Government of Nigeria should strive to meet the UNESCO minimum standard of 26% of national budget and promote private sector investment on education in Nigeria.
- iii. The intervention agency should be encouraged towards prompt tax collection and budget allocations and cooperation from Federal Inland Revenue Services (FIRS) for an efficient service that can induce more wonderful outcome from ETF efforts.

REFERENCES

1. Adeoye B. W. and Atanda, A. A (2005) Exchange volatility in Nigeria; consistency, persistency and severity analysis. CBN Journal of Applied Statistics, Vol. 2 No 2
2. Aliyu, S. and Usman, R (2009) Impact of oil price shock and exchange rate volatility on economic growth in Nigeria. An empirical investigation
3. Atukeren, E (2003) Oil price and the Swiss economy. Journal series working paper vol 77
4. Habib, M. M and Kalamova, M. M (2007) The real exchange rate of oil exporting countries-European Central Bank, <http://www.ecb.eunpa.eu>
5. Oguchukwu, O. N (2016) The oil price fall and the impact on the Nigeria economy: A call for diversification, journal of law, policy and globalization vol 48
6. Olomola, P (2006) Oil price shocks and aggregate economic activity in Nigeria. African Economic and Bussiness Review, 4; 40-45

7. Oraka, A. O and Okenwa, O. (2017) Effect of value added tax on the Nigeria economy; Academic Article <http://www.researchgate.net>
8. Ricken, T (2009) A multiphase finite element simulation of Biological conversion process in Landfills, <https://www.transfermarket.com>
9. Saint, W. Hartness, T and Stranssner, E (2003) Higher education in Nigeria: A status Report Published in Higher Education Policy.
10. Sanusi, L. S (2010) Growth prospect for the Nigeria economy. Central bank of Nigeria. Convocation Lecture Delivered at the Igbinedon University Convocation Ceremony, Okada, Edo State. <http://www.cbn.gov.ng>
11. UNESCO, (2002) Annula Report 2002: UNESCO Institute for Education, <http://unesco.org>annual-report-2002une>