Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

Matthew Chinedum Ezeh (PhD)[1], Alexander Ugbome Onyekeni[2]
[1,2] Department of Economics, Dennis Osadebay University, Anwai, Asaba
Orcid iD **https://orcid.org/0009-0000-1840-6664**[1]

ABSTRACT	ARTICLE DETAILS
This study examines poverty reduction with emphasis on the implications of fuel subsidy removal and government educational expenditure in Nigeria spanning between 1990 and 2022. Vector Error Correction Model (VECM) technique and Pairwise Granger Causality tests was adopted since the variables of the model are all integrated in order I(1) using ADF Unit Root Test and the data was extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin, US Energy Information Administration and World Bank Development Indicator for Nigeria. The study found that PPP exact a negative and none significant relationship with PCI, GEE shows a positive relationship with PCI and not significant while EXR was found to indicate negative relationship with PCI and statistically significant. Further, there is no causal link between PCI, PPP and GEE but there is unidirectional link running from GEE to PPP and from EXR to GEE. It is therefore strongly recommended that Nigeria government should sustain the policy of fuel subsidy removal and strategically channel the inflows originally budgeted and spent on fuel subsidy to more productive sectors of the economy particularly education sector and others such as health sector, road construction to reduced transportation cost and the reactivation of local production and refining of petroleum product in Nigeria.	

1.   INTRODUCTION

Fuel subsidies are designed by the government to permit consumers to pay less than the actual costs of fuel due to the fact that they are given at a reasonable discount to the market price of fossil fuels. Globally, fossil fuels subsidy has been on the increase particularly between 2018 and 2022 from US$325 billion to US$1 trillion, which prompted the attention of governments, resulting to the globally interest on its elimination to create access to fund for the poor and vulnerable particularly in the less developed nations of the world (Gamette & Oteng, 2024).

In Nigeria, about 206.5 trillion cubic feet natural gas reserves were proved at the beginning of 2023 which satisfies the level of natural endowment of the country (ISA, 2023). Unfortunately, about four none-functional refineries exist in Nigeria resulting to over dependency on importation of refined petroleum products from Europe leading to high costs of fuel and part of the costs being shouldered mostly by the Nigerian government as subsidies to reduce the costs of fuel paid by the consumers who consumes about 70 million litres of fuel daily by her population (Adetayo, 2023). Given to global rise in demand and prices of petroleum products, which determines the cost of goods and services, the Nigerian government then introduced fuel subsidy to cushion the effects of rising price. Irrespective of the expected advantages of fuel subsidy, its administration in Nigeria has been beleaguered with serious allegations of corruption and mismanagement. Around 2012 parliamentary inquiry uncovered a $6 billion fraud, involving officials at the state-run Nigerian National Petroleum Company (NNPC), and in 2015 the former president Muhammadu Buhari referred to the subsidy as "fraud" and "non-existent" even when it was retained in his administration, spending over 11.7 trillion naira ($26bn) between 2016-2023 (Adetayo, 2023). Annually, a substantial portion of the national inflows are committed to funding the fuel subsidy scheme as shown in Figure 1.
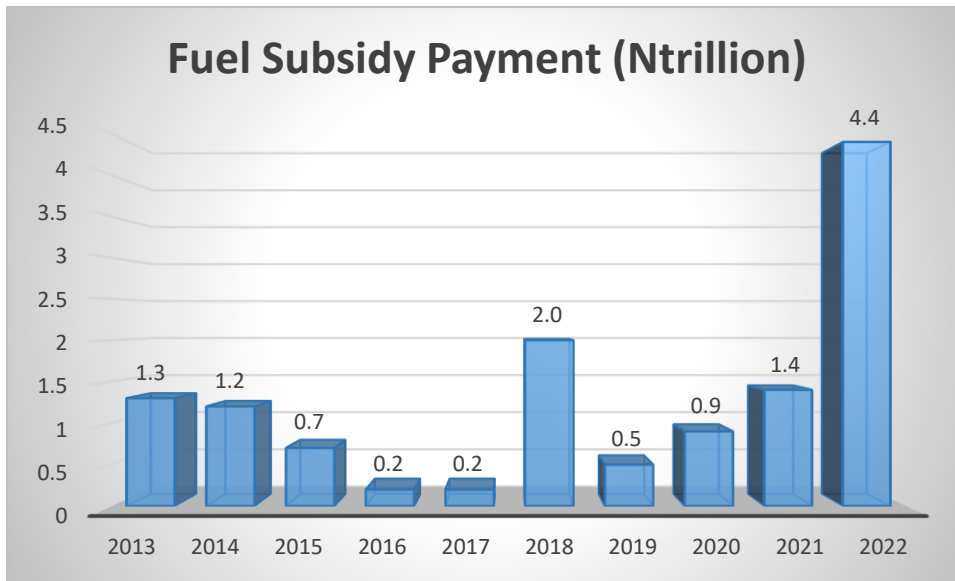
Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

Fuel Subsidy Payment (Ntrillion)

Year	Value
2013	1.3
2014	1.2
2015	0.7
2016	0.2
2017	0.2
2018	2.0
2019	0.5
2020	0.9
2021	1.4
2022	4.4

Figure 1: Nigeria Fuel Subsidy Payment (₦trillion)
Source: Authors using Excel – data adopted from (Taiwo, Ayo, Emeka, & Olufemi, 2023)

The federal government recently admitted that Nigeria has spent more money on fuel subsidy, which is almost more than ten years capital expenditure budget for health, education, agriculture, and defense. In addition, Mr. Boss Mustapha, who is the Secretary to the Government of the Federation (SGF) noted that between 2005 and 2021 the cost of subsidy on petrol could be more than ₦13 trillion ($74 billion) if computed in financial terms based on economic and opportunity costs of the policy (Nse, 2023). Yet the resultant effect of fuel subsidy on the Nigerian economy has been questionable leading to high level of unemployment, poor standard of living, low standard of education, poor health and high poverty level in Nigeria. This further implies that the social sector, which include education receives insignificant investment from the government due to fuel subsidies (Ogunode & Aregbesola, 2023). This birthed the idea of fuel subsidy removal which by theory is expected to channel resources to more productive sectors of the economy such as education and health which in turn will reduce the level of poverty.

Increase in government educational expenditure is expected to improve the human capital force of the economy which will drastically reduce the level of poverty to the best minimum. This is also in tandem with work of Dauda (2021) who investigated the implications of fuel subsidy removal on social spending in Nigeria. The stylized facts indicate that fuel subsidies in Nigeria tighten the fiscal burden of the government. Government spending on fuel subsidies exceeded total health and education sectors spending respectively in Nigeria. Reforming fuel subsidies (fuel subsidy removal) in Nigeria can ease the financial burden on the government to invest in the health and education sectors as well as other productive sectors. As capital investment in education sectors increases, education outcomes will improve human capital, leading to resilience in the economic sustainability and in turn reduce poverty to its best minimum.

Figure 2 shows the trend of Federal Government recurrent expenditure on education in billion naira. This is far lower than that spent on fuel subsidy in Nigeria. The growth of the educational sector of the economy if funded appropriately will improve the work force of the nation and influence positively the level of welfare of the people thereby reduce poverty. In Nigeria, about 40.1% of people are poor according to the 2018/2019 national monetary poverty line and 63% are multi-dimensionally poor according to the National MPI 2022. Multidimensional poverty is higher in rural areas, where 72% of people are poor, compare to 42% of people in urban areas (Ichedi, 2022). Table 1 (a) shows that the Nigeria poverty rate have been on increase. 2018 indicates 90.80% under US$5.50 per day compared to 2015 of 89.50%. This increase is higher compared to similar country ranking as shown in Table 1 (b) where the level of percentage rate of Nigeria appears to be higher amongst other nations. Though recently in 2022, there is 0% change from 2021, which implies that the percentage of the population that live on less than $5.50 a day has failed to decrease.
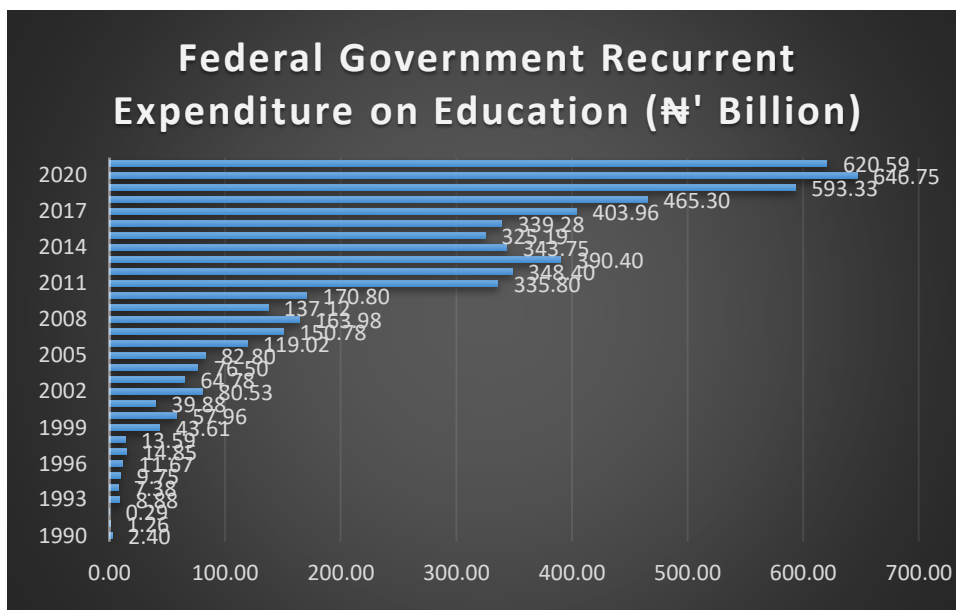
Figure 2: Federal Government expenditure on education
Source: Authors using data CBN Statistical Bulletin

Table 1: (a) Poverty Rate in Nigeria

Nigeria Poverty Rate - Historical Data		
Year	% Under US$5.50 Per Day	Change
2022	**0.00%**	**0.00%**
2018	90.80%	1.30%
2015	89.50%	-1.00%
2012	90.50%	-0.30%
2010	90.80%	-3.20%
2003	94.00%	1.30%
1996	92.70%	0.30%
1992	92.40%	-1.00%
1985	93.40%	-1.00%

Source: *Author extracted from World Bank data*

Table 1: (b) Country Ranking of Poverty Rate

Similar Country Ranking	
Nigeria	90.80%
Pakistan	84.50%
India	82.60%
Angola	78.99%
Lao PDR	70.50%
Kyrgyz Republic	66.10%
Indonesia	62.80%
Georgia	53.90%
Philippines	53.50%
Honduras	51.30%
Mongolia	38.30%
El Salvador	33.00%
Vietnam	22.20%
Bolivia	19.10%
Moldova	14.60%
Ukraine	9.40%

Source: *Author extracted from World Bank data*

Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

Given this trending level of poverty in Nigeria, the question then is to what extent could funds be channeled from none productive sector like fuel subsidy to productive sector of education in other to reduce poverty level to the best minimum? Consequently, this study examines poverty reduction with emphasis on the implications of fuel subsidy removal and government educational expenditure in Nigeria.

Apart from the introductory section, the remaining part of this paper is organized as follows: the second section present the theoretical literature which is organized into theoretical framework and empirical literature review while the third section is research methods. The fourth section presents the results and findings and finally the fifth section present the conclusion and recommendations.

2. THEORETICAL LITERATURE

2.1 Theatrical Frameworks

The imbroglio of fuel subsidy removal in Nigerian perception can be settled from diverse theoretical frameworks that covers the economic, political, social and environmental dimensions. These theories tried to give solutions to the complex nature of fuel subsidy removal by spotting out the consequences associated with fuel subsidy removal. The theoretical frameworks include: the Rational Choice Theory, the Public Choice Theory, Theory of Social Conflict and the Ecological Modernization theories among others.

The Rational Choice Theory: This theory is based on economic framework implication of fuel subsidy removal. This posits that the individuals act to maximize their self-interests within constraints (Van Valkengoed & Van der Werff 2022 and Evans, et al., 2023). This theory expresses the reactions of the consumers given price increase. In this case of fuel subsidy removal, consumers altered their consumption patterns immediately price changed. Apeloko & Olajide (2012) affirmed that the 2012 subsidy removal protests, which lead to sudden hike in fuel price, there was shifts in consumer's behaviour. This is also inline with the recently adjusted petroleum pump price resulting from the announcement of President Bola Ahmed Tinubu in 2023, which caused total shifts in consumers demand for petrol.

The Public Choice Theory: This political theory offer insight into how government decisions on subsidy removal are influenced by power dynamics and public opinion. The public choice theory argues that political actors aim to maximize their interests, leading to policies that may not always align with the public's welfare (Obasi, Ezenkwa, Onwa, & Nwogbaga, 2017). This emphatically explains the rivalry between the citizen's interest and government decisions as regard subsidy removal imbroglio of 2012 and recently 2023 to date in Nigeria.

The Social Conflict Theory: This is expressed from societal varying perspective of interest as regard fuel subsidy removal. It explains how societal groups with differing interests may engage in conflict when policies threaten their well-being (Apeloko & Olajide, 2012). The Theory provides a lens through which an analysis of the tensions and clashes that arise when policies like subsidy removal have differential impacts on various societal groups can be carried out without considering the economic implications of the policies as only more important but also their social and distributional effects also. By understanding these dynamics, policymakers can anticipate and address potential conflicts, striving for policy solutions that are more equitable and socially acceptable (Evans, et al., 2023).

The Ecological Modernization Theory: This is an environmental theory which consider the ecological effects of subsidy removal as it pertain to climate action. It examines how policy shifts can lead to more sustainable practices, like reducing fossil fuel consumption given hike in price of petrol products (Van Valkengoed & Van der Werff, 2022). The theory proposes that societies can transit towards greater environmental sustainability through a process of modernization that integrates ecological considerations into economic and policy decisions. It suggests that technological innovations, shifts in production methods, and changes in societal values can collectively contribute to reducing environmental impacts. In the context of subsidy removal, this theory becomes relevant as it prompts a consideration of how the removal of subsidies on fossil fuels could incentivize the adoption of cleaner energy sources and more energy-efficient technologies (Evans, et al., 2023). The integration of these four frameworks will be used to analyze this empirical study of fuel subsidy removal, government educational expenditure and poverty reduction in Nigeria.

Keynesian growth Theory

In addition to the above stated theories, the Keynesian growth model (1936) which regards government expenditures in an economy as exogenous factor utilized as policy instrument to promote positive and significant economic growth. Thus, increase in government expenditure on education lead to poverty reduction (Ndanusa, 2019). Aggregate demand (AD): Household (H) = that is Consumption (C) and Investment (I), Government expenditure (G), Net income from abroad (X-M) is symbolically represented as

$$AD = C + I + G + (X\text{-}M) \qquad (1)$$
$$C = a + bY \qquad (2)$$
$$M = X \qquad (3)$$
$$m + m_o \qquad (4)$$

This Keynes theory further suggested that active government policy could be effective in managing the economy. According to Keynes when people are gainfully employed it will create income which will help in poverty reduction in the economy. This theory

is relevant in this study because Keynes advocated active involvement of the government in the economy. This is also in tandem with the work of (Ndanusa, 2019).

2.2   Empirical Literature Review

The empirical studies showing the link connecting fuel subsidy removal, government educational expenditure and poverty reduction are presented in four parts. The first analyzes the relationship between fuel subsidy removal and government educational expenditure. The second part reviews the influence of government educational expenditure on poverty reduction. The third part reviews the direct link existing between fuel subsidy removal and poverty reduction if it actually exist and the fourth part will finally review the multidimensional link flowing from fuel subsidy removal to government educational expenditure to poverty reduction.

Fuel subsidy removal and government educational expenditure

Dauda (2021) examined full subsidy and implications for social spending in Nigeria. The study found that government spending on education is insignificant. That is government spending on fuel subsidies exceeded total health sector spending and education sector spending. This is as a result of the fact that fuel subsidies in Nigeria tighten the fiscal burden of the government.

Widodo, Sahadewo, Setiastuti, & Chaerriyah (2012) investigated the impact of fuel subsidy removal on government spending on the Indonesian economy. Social Accounting Matrix (SAM) technique was adopted in their study. They found that removal of fuel subsidy affects income distribution of households, firms, and governments and that the reallocation of subsidy to education and other sectors would be relative smaller than that of fuel subsidy removal. Ogunode & Aregbesola (2023) examined the impact of fuel subsidy removal on Nigerian educational system giving specific interest to school administration, teaching, learning and school supervision. The study found that removal of subsidy negatively affects school administration by increasing the cost of running schools, affects teaching programme, learning programme and reduce school supervision activities in Nigerian educational institutions.

These reviewed studies uniquely agreed that government investment on fuel subsidy crowd out investment on the social economic sectors of the economy. Investment in education is far lower than that of fuel subsidy. They all supported fuel subsidy removal which by implication as suggested will influence the level of education.

Government educational expenditure and poverty reduction

Ndanusa (2019) examined the impact of government education expenditure on poverty reduction in Nigeria. The study employed vector autoregressive approach using time series data for the period of 1981 to 2016. The study found that there is a significant and negative relationship between government expenditure on education, youth trained, entrepreneurship scheme, open apprenticeship scheme and loans to small scale enterprises on economic growth in Nigeria. It implies that the level of government educational expenditure has not been able to influence the level of poverty reduction in Nigeria. This is also in line with studies reviewed above, since government expenditure over the years has been heavily channeled to fuel subsidy in Nigeria.

Akpan, Yunana, & Brown (2023) focused on the effect of money supply and government expenditure on poverty reduction in Nigeria from 1981 to 2019. The study found that there is no long-run link between the variables. Secondly government expenditure on education is not statistically significant but negatively related to poverty reduction. Which means that an increase in government expenditure on education will reduce poverty to its best minimal.

Oriavwote & Ukawe (2018) investigated the relevance of government expenditure on poverty reduction in Nigeria. Objectively the study determined whether the poverty reduction efforts through government spending has actually translated into a reduction in the poverty level. The study covered the period between 1980 and 2016. The ECM model and cointegration models of the OLS as well as the granger causality techniques were used to analyze the data. The study showed that though the one period lag government expenditure on health has a significant and positive impact on the per capita income, it has a low elasticity. The result indicates further that government expenditure on education has a significant and positive impact on the per capita income. A bidirectional relationship however exists between government expenditure on education and per capita income. Sunkanmi & Abayomi (2014) concluded that government expenditure on education (especially rural); targeted poverty alleviation; power generation and rural roads are significant in stimulating growth and reducing the poverty level in Nigeria.

Contrarily to the opinion of Oriavwote & Ukawe (2019), Omodero (2019) who examined the role of government sectoral expenditure on poverty alleviation using a secondary form of data covering a millennium period from 2000 to 2017. The study employs ordinary least squares technique and the regression result indicates that government expenditure on agriculture, building and construction, education and health do not have any significant impact on poverty alleviation in Nigeria. Also Edeh, Obi, & Obi (2018) study is in tandem with that of Omodero (2019). Edeh et al (2018) found that that education expenditure does not impact poverty reduction over the period of their study.

Amire (2020) concluded differently but in consonant with Oriavwote & Ukawe that there exists a long-run relationship between government expenditures on health and education and poverty alleviation in Nigeria. It was also found out that expenditure on health and education exhibit positive relationship on the dependent variable (Poverty Alleviation), this means that increasing government spending on health and education translates to increases in poverty alleviation.

Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

Fuel Subsidy removal and Poverty Reduction

Rentschler (2016) found that uncompensated subsidy removal increases the national poverty rate by 3–4% on average. Uniform cash compensation failed to mitigate price shocks in 16 of 37 states – which puts livelihoods at risk. Yunusa, et al. (2023) examined the rationale behind the fuel subsidy removal, the socio-economic implications of fuel subsidy removal and suggested palliative measures to cushion the effects of fuel subsidy removal in Nigeria. Using content analysis method, the paper reveals factors such as private sector participation in the importation of petroleum products, availability of petrol at all times for all Nigerians and permanently banishing queues from petrol stations across the nation and free the country from the endless pains and sufferings that come with fuel scarcity, revenue generation, stimulating economic development among others as rationales behind fuel subsidy removal. The paper equally pointed at high cost of living, high rate of crime, and increase in poverty level as people and businesses struggle for survival among other socioeconomic implications of fuel subsidy removal in Nigeria.

Fuel Subsidy Removal, government educational expenditure and poverty reduction

This part is expected to review empirical studies showing multidimensional links flowing from fuel subsidy removal to expenditure on education and poverty reduction. But to the best knowledge of this researchers, there is no existing literature for now that have reviewed or examined fuel subsidy removal, government educational expenditure and poverty reduction, which is the major gap this study tend to close. Harmonizing the above three parts of specific review, the literature shows that there is likely connection between fuel subsidy removal and government educational expenditure and poverty reduction.

3.   RESEARCH METHODS

This study examined the fuel subsidy removal, government educational expenditure and poverty reduction in Nigeria spanning between 1990 and 2022. Vector Error Correction Model (VECM) was adopted given the order of stationarity of the variables in the model and Pairwise Granger Causality tests were carried out to determine the casual links of the variables. The data used for the analysis were extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin, US Energy Information Administration and World Bank Development Indicator for Nigeria. The empirical model of the study is presented below

PCI = f(PPP, GEE, EXR)   (5)

$PCI_t = \beta_0 + \beta_1 PPP_t + \beta_2 GEE_t + \beta_3 EXR_t + \varepsilon$ (6)

Where PCI is per capita income as proxy for welfare, an increase in welfare is an indication of a reduction in poverty (Oriavwote & Ukawe, 2018), PPP is petroleum pump price as proxy for fuel subsidy, GEE is government educational expenditure and EXR is exchange rate. β_0 is the intercept, β_{1-3} are the coefficient to be estimated.

4.   RESULTS AND FINDINGS

Table 2: Unit Root Test

Variables	Level (ADF)	First Difference (ADF)	Critical 5%	Order	Remarks
Dependent variables					
PCI	-0.322046	-3.562045	-2.963972	*I*(1)	Reject H_0
Independent variables					
PPP	0.908193	-5.924517	-2.960411	*I*(1)	Reject H_0
GEE	1.136409	-4.230696	-2.963972	*I*(1)	Reject H_0
EXR	1.959586	-3.908460	-2.960411	*I*(1)	Reject H_0

Source: Authors

Table 2 shows the result of unit root test using Augmented Dickey-Fuller (ADF) test statistic. It suggests that PCI, PPP, GEE and EXR were all *I*(1).

Table 3: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.798499	98.83300	47.85613	0.0000
At most 1 *	0.704735	53.97802	29.79707	0.0000
At most 2 *	0.484787	19.82132	15.49471	0.0104
At most 3	0.043744	1.252429	3.841466	0.2631

Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

The trace test indicate three cointegrating equations at the 0.05 level of significance. This implies that a long run equilibrium relationship exists among the variables in the model on this basis the vector error correction model is estimated in determine the speed of adjustments within which the model will restore to equilibrium following the disturbances.

$$PCI = -39.01PPP + 8.34GEE + 2.00EXR \qquad (7)$$

Equation (7) shows the normalized cointegrating equation of Johansen model which is representing the long run. PPP is positive and significant which implies that an increase in PPP will lead to increase in PCI. While GEE and EXR are respectively negative and significant. An increase in GEE and EXR will decline PCI.

Table 4: Error Correction

Error Correction:	D(LOG(PCI))	D(LOG(PPP))	D(LOG(GEE))	D(LOG(EXR))
CointEq1	-0.156088	0.949461	-0.120187	0.162662
	(0.04727)	(0.25141)	(0.67915)	(0.44704)
	[-3.30195]	[3.77650]	[-0.17697]	[0.36386]

The coefficient of error correction techniques (ECT) as indicated in Table 4 with PCI and GEE are negative and statistically significant for PCI but not significant for GEE indicating that there is a convergence from short run dynamics towards the long run equilibrium. The adjustment coefficients were 0.15 percent and 0.12 percent respectively towards long run equilibrium in case of disequilibrium situation.

Table 5: Short Run Analysis of VECM

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.156088	0.047272	-3.301947	0.0032
C(2)	-0.026386	0.017713	-1.489680	0.1505
C(3)	0.027852	0.020412	1.364519	0.1862
C(4)	0.169136	0.142133	1.189986	0.2467
C(5)	0.028997	0.031818	0.911323	0.3720
C(6)	-0.014278	0.012498	-1.142387	0.2656
C(7)	-0.090244	0.025572	-3.528999	0.0019
C(8)	0.021284	0.007777	2.736690	0.0120

From Table 5 which is the short run coefficient analysis of the VECM indicates that a percentage increase in PPP and EXR respectively will lead to 0.02 and 0.09 percent decline in the PCI while a percentage increase in GEE will lead to 0.03 increase in PCI. The F-test statistic result indicates that all the explanatory variables (PPP, GEE and EXR) have significant impact on PCI that is they are all important variables to be taken into consideration when explaining the changes in the PCI. The Coefficient of determination (R^2) implies that 60% of variation in PCI is explained by PPP, GEE and EXR taken together. The Causality test only found unidirectional link running from GEE to PPP and from EXR to GEE and there is no causal link between PCI, PPP and GEE.

Discussion of Results

From the short run coefficient firstly, PPP indicate negative relationship with PCI but not significant. This implies that increase in petroleum pump rice will result in decline of per capita income thereby reducing the welfare of the people, which in turn increase the poverty level. This further implies that in the short run, a policy that requires fuel subsidy removal will trigger rise in petroleum pump price, which will affect negatively the welfare of the people, leading to increase in poverty level. The normalized equation shows that the long run PPP on the PCI is positive. This implies that increase in PPP as a result of fuel subsidy removal will result in increase in PCI which in turn will improve the welfare of the people thereby result to poverty reduction. Secondly, GEE indicate positive relationship with PCI but not significant. This also agrees with a priori expectations of their relationship. An increase in GEE will improve human capital development leading to increase in PCI, which in turn will improve the welfare of the people thereby result to poverty reduction. The insignificant nature of GEE to PCI is a strong indication that in Nigeria little percentage of inflows are budgeted for educational expenditure and as such per capita income is affected leading to high level of poverty. In the long run GEE will negatively reduce PCI particular when appropriate funds are not channeled to the sector which will result to decline in PCI leading to high level of poverty. Finally, EXR indicate negative relationship with PCI and statistically significant.

Poverty Reduction: The Implications of Fuel Subsidy Removal and Government Educational Expenditure in Nigeria

This implies that an increase in EXR will result to decline in PCI which affect the level of welfare resulting to increase in poverty. In the long run, when exchange rate is put to a check, it will positively influence the level of PCI which will result to improved welfare thereby lead to poverty reduction.

5. CONCLUSION AND RECOMMENDATIONS

This study examines poverty reduction with emphasis on the implications of fuel subsidy removal and government educational expenditure in Nigeria using time series data spanning between 1990 and 2022. Vector Error Correction Model (VECM) technique was adopted. The study found that PPP exact a negative and not significant relationship with PCI, GEE shows positive relationship with PCI and not significant while EXR was found to indicate negative relationship with PCI and statistically significant. Further, there is no causal link between PCI, PPP and GEE but there is unidirectional link running from GEE to PPP and from EXR to GEE. From the findings of this study, the researchers recommend as follows:

1. That Nigeria government should sustain the policy of fuel subsidy removal and strategically channel the inflows originally budgeted and spent on fuel subsidy to more productive sectors of the economy particularly education sector and others such as health sector, road construction to reduced transportation cost and the reactivation of local production and refining of petroleum product in Nigeria.
2. Government educational expenditure is positive but not statistically significant, it is important that government should harness policies to improve the level of budget for educational expenditure that will lead to improve the human capita development in Nigeria.
3. Exchange rate negatively impact per capita income in the short run. Since the Nigerian government is operating flexible exchange rate policy in the midst of low level of productivity and high level of dependency on importation, a fixed exchange rate policy is recommended to check mate Naira to Dollar ratio.

REFERENCES

1) Adetayo, O. (2023). Nigeria fuel subsidy cut and spiralling costs: What to know. *https://www.aljazeera.com/news/2023/5/31/nigeria-fuel-subsidy-cut-spiralling-costs-all-you-need-to-know*.
2) Akpan, J. E., Yunana, T., & Brown, U. A. (2023). Money supply, government expenditure and poverty alleviation in Nigeria. *Nigerian Journal of Management Sciences, 24*(2b), 304-309.
3) Amire, C. M. (2020). Impact of health and education expenditure on poverty alleviation in Nigeria. *Caleb International Journal of Development Studies, 3*(1), 199-213.
4) Apeloko, D. O., & Olajide, O. J. (2012). Chapter eight newspaper coverage of oil subsidy removal remonstration: A thoughtful analysis of 2012 experience in Nigeria. *Environmental Conflicts and Peacebuilding in Africa, 125*.
5) Dauda, R. O. (2021). Fuel subsidy and implications for social spending in nigeria: A research note. *EPR Journal H1'2021*, 25-36.
6) Edeh, C. E., Obi, A., & Obi, C. O. (2018). Impact of education spending on poverty reduction in a democratic dispensation in Nigeria. *International Journal of Economics and Financial Management, 3*(3).
7) Evans, O., Nwaogwugwu, I., Vincent, O., Wale-Awe, O., Mesagan, E., & & Ojapinwa, T. (2023). The socio-economics of the 2023 fuel subsidy removal in Nigeria. *BizEcons Quarterly, 17*, 12-32.
8) Gamette, P., & Oteng, C. (2024, June). Fuel sunsiody removal in global south oil-prodcuing economies: A review of literature. *The Extractive Industries and Society, 18*. doi:https//dio.org/10.1016/j.exis.2024.101468
9) Ichedi, S. (2022). Nigeria launches its ost extensive national measure of multidimensional poverty . *National lBureau of Statistics NBS*.
10) ISA. (2023). Country Analysis Brief: Nigeria. *U.S. Energy Information Administration*.
11) Ndanusa, A. (2019). Public expenditure on education and poverty reduction in Nigeria. *Dutse Journal of Economics and Development Studies (DUJEDS), 8*(1), 2536-6130.
12) Nse, A.-U. (2023). Fuel Subsidy: Federal Govt Spends N13trn, Surpases Health, Education, Agric, Defence cumulative budgets . *Ladership* .
13) Obasi, V. U., Ezenkwa, E. C., Onwa, D. O., & Nwogbaga, D. M. (2017). The political economy of fuel subsidy removal in Nigeria. *African Journal of Politics and Administrative Studies, 9*(1).
14) Ogunode, N. J., & Aregbesola, B. (2023). Impact of subsidy removal on Nigerian educational system. *Middle European Scientific Bulletin, 39*, 104-116. doi:https://cejsr.academicjournal.io
15) Omodero, C. O. (2019). Government sectoral expenditure and poverty alleviation in Nigeria. *Research in World Economy, 10*(1), 80-90.
16) Oriavwote, V. E., & Ukawe, A. (2018). Government expenditure and poverty reduction in Nigeria. *Journal of Economics and Public Finance, 4*(2), 156-163.

17) Oyedeji, O. (2023). *Nigeria's expenditure on fuel subsidy in 17 years adequate to build three 450,000BPD refineries - NEITI.* Dataphyte.

18) Rentschler, J. (2016). Incidence and impact: The regional variation of poverty effects due to fossil fuel subsidy reform. *Energy Policy, 96*, 491–503.

19) Sunkanmi, O. A., & Abayomi, O. O. (2014). Testing public expenditure and poverty reduction nexus in Nigeria. *Developing Country Studies, 4*(6), 116-126.

20) Taiwo, O., Ayo, A., Emeka, C., & Olufemi, O. (2023). Fuel subsidy in Nigeria - issues, challenges and the way forward. *PWC.* doi:ng_pwc.enquiry@pwc.com

21) Van Valkengoed, A. M., & Van der Werff, E. (2022). Are subsidies for climate action effective? Two case studies in the Netherlands. *Environmental Science & Policy, 127*, 137-145.

22) Widodo, T., Sahadewo, G. A., Setiastuti, S. U., & Chaerriyah, M. (2012). 'Cambodia's Electricity Sector in the Context of Regional Electricity Market Integration' in Wu, Y., X. Shi, and F. Kimura (eds.). *Energy Market Integration in East Asia: Theories, Electricity Sector and Subsidies*, 173-206. doi:Jakarta: ERIA

23) Yunusa, E., Yakubu, Y., Emeje, Y. A., Ibrahim, Y. B., Stephen, E., & Egbunu, D. A. (2023). Fuel subsidy removal and poverty in Nigeria: a literature review. *Int. J. Applied Management Science, 04*(09), 14-27.