PETROLEUM SUBSIDY REMOVAL, SOCIAL PROTECTION GAPS, AND SOCIOECONOMIC WELFARE IN CROSS RIVER STATE, NIGERIA: EVIDENCE FROM HOUSEHOLD-LEVEL ANALYSIS.

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Keywords

Social Safety Nets, Petroleum subsidy removal, Socio-economic welfare, Conditional cash transfers, Cross river state

Abstract

Research Problem: *The sudden removal of petroleum subsidy in May 2023 triggered petroleum price increase from #185 to #600 per litre, causing widespread increase in commodity prices, declining household purchasing power and deepening poverty in states like Cross River, where social protection infrastructure remains structurally inadequate to absorb macroeconomic shocks of this scale.*
Method/theory: *The study is anchored in Alfred Marshal welfare economic theoryas well as employing a cross-sectional survey design with a sample of 400 respondents using the Taro Yemen formula and multi-stage sampling to draw from a population of 4,406,200. Using bothprimary and secondary data, chi-square statistics and logistic (Probit) regression via SPSS.*
Results: *The results showed that petroleum subsidy removal (0.179;p=0.029), unemployment (0.441; p= 0.018), healthcare access (0.622; p=0.034), and standard of living (0.622; p= 0.034). consequently, social safety nets programs, like conditional cash transfers (0.809; p=0.008), YESSO (0.653; P=0.006)showed a significant improvement in household wellbeing, while SME support was insignificant.*
Conclusion: *Subsidy removal had a negative welfare impact on households in Cross River state, though, cushioned by the effects of social protection programs. The study provides a subnational evidence of household welfare effects of energy subsidy reform in Nigeria, filling a gap dominated by macroeconomic aggregate level analysis.*
Key Contribution to Knowledge: *the research evaluates empirical evidence on how social safety nets cushion the adverse effects of*

petroleum subsidy removal in Nigeria.
***Recommendation**: The study recommends strengthening cash transfer and healthcare programs, improve access to water, as well as promote inclusive growth.*

Introduction

The removal of the petroleum subsidy in Nigeria, initiated in May 2023, by President Bola Tinubu is a major economic policy shift aimed at mitigating corruption and curb unsustainable government spending. It immediately triggered soaring fuel prices and high inflation, severely impacting the cost of living. Whie its intention was to redirect funds to improving decaying infrastructure as well as healthcare and education. It has created severe short-term hardship, urging for better palliatives systems.

The prolonged policy of subsidizing petroleum products was designed to cushion the masses from global oil price volatility and maintain social stability (Okonjo-Iweala and Osafo-Kwaako, 2007). Conversely, the financial strain of the subsidy had become untenable, consumingover four trillion naira in public spending in 2022 alone and crowding out investments in critical infrastructure, education and health(BudgetIT, 2023; international Monetary Fund, 2023).

The fiscal strain trend brought about the federal government's policy shift: a total removal of subsidy in May 2023. While supporters of the policyasserted it would free up public funds and attract private investment into the downstream oil sector (Okonjo-Iweala, 2023),while opponents warned of severe inflationary pressures that would weaken household purchasing power and subject millions into abject poverty (Adegboyega and Alabi, 2023; Oxfam international, 2023).

Arising from potential socioeconomic shocks as a result of policy shift, the government initiated some social protection programs intended to cushion the livelihoods of vulnerable population. These included, food distribution programs, proposed wage awards for civil servants, and conditional cash transfers,(Federal Ministry of Humanitarian Affairs and Poverty Alleviation, 2023)

Understandably, these programs were designed to cushion the effect and narrowing the gap between the shock of deregulation and the expected benefits of fiscal efficiency in the long-run(World Bank, 2022). However, the efficiencyof these programs remains a subject for debate. The outcome of these dual phenomena-subsidy removal and social protection response is not evenly distributed across Nigeria.

Furthermore, the state's social protection architecture, like many subnational entities, faces structural constraints in reaching the most isolated and vulnerable populations (UNICEF Nigeria, 2023). Understanding the localized dynamics in Cross River State is essential, as aggregated national data often masks the nuanced realities of welfare outcomes in specific subnational context (Oyekale, 2023).

Existing discourse on subsidy removal in Nigeria has largely been dominated by macroeconomic analysis or policy commentaries that focus on national-level fiscal implications (Iyke& Ho, 2021; Okonkwo&Odularu, 2022). While valuable, these studies often fail to capture the granular, household-level experiences of welfare adjustments, coping

mechanisms, and the real-world effectiveness (or ineffectiveness) of social protection interventions. There is a dearth of empirical evidence that systematically examines how the confluence of a major energy price shock and the gaps in the social safety net translates into tangible changes in socioeconomic welfare at the household level, particularly in states like Cross River (Edeh, Ugwu &Eze, 2024).

Subsidy removal, particularly of fuel, can significantly impact social safety nets by making it harder for vulnerable populations to access essential services. This can strain existing social programs and may necessitate new initiatives to cushion the negative effects.

In May 29,2023 the Nigerian government announced immediate removal of subsidy on petroleum products. This announcement sent shock waves throughout the economy with immediate upward adjustment in prices of goods and services. Economic analyst and thinkers blamed the rashness in total removal of subsidy while failing to address the underlying structural constraints and social dislocation, hence undermining the intended benefits of subsidy reform initiative. Consequently, the timing and sequencing of subsidy removal can significantly influence its economic and social ramifications. Gradual and well sequenced reforms are often recommended to mitigate potential adverse effects on vulnerable population and allow for the adjustment of affected sectors.

While, the removal of subsidy is a welcome development, it significantly affects the lower economic class citizens, who form a major part of the country's economic strata. The current minimum wage of N70,000 can only purchase 71 litres of fuel at an average pump price of N938 per litre leaving a household cashless on making potential consumption. This amount is insufficient for a country that heavily relies on fuel for electricity generation. The increased fuel pump price has diminished the economic power of citizens, particularly those in the lower economic class. If the government fails to implement an appropriate response, the middle economic class citizens may also be pushed into the lower economic class. This shift would result in a drop in the country's gross domestic product and economic stagnation.

In addition, the distributional consequences of subsidy removal merit careful consideration, as certain segments of society may bear a disproportionate burden of adjustment (Arze del Granado et al, 2012).Vulnerable groups, including low-income households and smallholder farmers, may face increased hardship in the absence of targeted social assistance and compensatory measures (Clement et al, 2013). Unfortunately, the government has not introduced any policies or schemes to aid the economic recovery of the lower economic class citizens.Thiseconomicimplications are interconnected and require careful consideration. While fuel subsidy removal is not the sole factor influencing these outcomes, it play a significant role. The government's response to these observations is crucial to mitigating negative consequences and ensuring sustainable growth and development.

To mitigate these effects, government may need to strengthen social assistance programs, implement targeted interventions, and consider tax breaks on essential goods, this is in addition to proposing a robust mass transit infrastructure program to reduce transport cost and cushion the socioeconomic effect of the policy. As a result, National and sub-national governments in Nigeria has carried out substantial social safety net programs domiciled within the National Social Safety Net Program (NASSP) and its constituent component, including the National Cash Transfer Office (NCTO), and the Youth

Empowerment and Social Support Operations (YESSO).

1.2 Research Questions

This study therefore intends to fill the gap by asking the following questions:

1) To what extent has social safety nets programs improved wellbeing of households in cross river state after subsidy removal**?**

2) Would the removal of subsidy and consequent social safety nets programs improve socioeconomic status of vulnerable population in cross river state?

1.3 Statement of the problem

Nigeria's removal of petroleum subsidy in May 2023, remains one of the most consequential fiscal policydecision in the country's post-independence history, basically affected the economic landscape for millions of households. For many years, subsidy on petroleum served as a social contract between the Nigerian state and its citizens, basically suppressing domestic fuel prices as well as cushion against the county's persistent problem of inequality and poverty. The sudden displacement of this arrangement brought about a dramatic surge in the pump price of petroleum products, rising from approximately 185 per litre to over six hundred naira per litre, with cascading inflationary effects that permeated virtually everyfacet of household welfare, from transportation costs, food prices, healthcare expenditure, energy access as well education expenses (IMF, 2023; World Bank, 2024).

The dominant discourse on subsidy reform has majorly focused on national aggregate indicators, thereby, leaving the heterogenous distributional effects across states, localities, and socioeconomic strata. This gap is particularly acute for states such as Cross River, which exhibit a peculiar economic structure characterized by a large informal sector, majorly dependent on agriculture, limited industrial diversification, and significant proportion of the population operating below the poverty line of $2.15 per day (NBS, 2024)

The removal of petroleum subsidy has increased pre-existing vulnerabilities by driving up the cost of agricultural inputs, market transportation, and domestic cooking fuel, thereby eroding the real incomes of farming households and urban low-income workers alike. These effects are compounded by the state's pronounced social protection gaps: Cross River lacks a robust and well-targeted safety net infrastructure capable of absorbing the shock of rapid price liberalization. While federal social protection instruments such as the National Social Investment Programme (NSIP) and the conditional cash transfer (CCT) scheme exist in principle, their reach in Cross River State has been limited by implication inefficiencies, poor targeting accuracy, exclusion errors, and inadequate benefit levelsthat bear little relationship to actual household consumption needs.

Key programs include, the National Social Investment Program (NSIP), this umbrella program includes initiatives like the National Home-Grown School Feeding Programe, the GovernmentEnterprise and Empowerment Programe (GEEP), The N-Power program for youth employment, and the National Social Safety Net Programe, all focused on addressing poverty and creating opportunities for citizens. While In-Care of the Poor (COPE) program, provided conditional cash transfers to households with children of school-going age, particularly those headed by women, the elderly,

or individuals with disabilities, with the aim of breaking intergenerational poverty.

Also, Health Fee Waiver which offers free health care services to pregnant women and children under five, a crucial step in improving maternal and child mortality. Community Based Health Insurance Scheme (CBHIS), which provides access to affordable health care for communities, expanding health coverage to more Nigerians, SURE-P MNCH, CSWYE which is focused on maternal and child health, skills development, and youth employment. Other state level programs, including, labor market programs, social insurance, social assistance, microfinance, child protection and health programs, child savings account, disability grants, health waivers, education support, and nutrition support. In contrast, these programs has shown little or no positive result on the socioeconomic situation of households and citizens in Nigeria.

Cross river state presents a particularly compelling case for micro-level investigation. As a state with a historically high dependence on public sector employment, a growing informal economy, and unique geographic challenges (including riverine communities with high transportation costs), the removal of the subsidy has had amplified effects on the cost of living (Cross River State Ministry of Economic Planning, 2023; Akpan and Ekanem, 2022).

1.4 Objectives of the study

The central objective of this study is to address oil subsidy removal, social protection gaps, and socioeconomic welfare in Cross River State, Nigeria: evidence from household-level analysis.

The specific objectives are:

1 Examine the impact of social safety nets programs on households in cross river state after subsidy removal.

2 Determine the socioeconomic status of households after the removal of oil subsidy in cross river state.

2.0 Literature review

2.1Conceptual Review

Fuel Subsidy Removal and Socioeconomic development in Cross River State

A subsidy is a policy that maintains consumer prices for goods or products at or above producer market prices (CPPA, 2014). Fuel subsidies have been implemented in various ways, with varying results. Subsidies fall into two broad categories: production subsidies, which are primarily associated with industrialized economies, and consumer subsidies, which are prevalent in poor nations. The rationales behind the adoption or withdrawal of subsidies differ significantly. Environmental concerns, foreign trade policies and the need to maintain competitiveness are the main drivers of the policy in developed economies. Subsidies are typically provided in developing nations like Nigeria due to concerns about welfare, poverty reduction, and election cycle politics. The renewed focus on governance change promoted by the Breton Woods Institutions is a new element in the current mix of policy drivers (Idriss, Rabi & Nura, 2024). Nigeria operates consumer subsidies where the government holds prices below the full economic cost of supply.

Consequently, the removal of fuel subsidy in Cross River State has had a significant negative impact on socioeconomic development, primarily due to increased costs for

transportation, agricultural inputs, and essential services. This has led to higher inflation, increased poverty, and challenges in accessing essential goods and services, particularly affecting the informal sector and rural communities.

After the removal of fuel subsidies in Cross River State, households are currently experiencing a decline in their standard of living as a result of increased transportation costs: with higher fuel prices, transportation costs for households have risen, impacting their ability to travel for work, education, healthcare, and other essential activities. This situation has strain household budgets, especially for low-income families who heavily rely on affordable transportation options.

The increased cost of fuel prices has led to higher prices of goods and services across the economy in the state in affording basic necessities, such as food, housing, and healthcare, thereby impacting their overall cost of living, this is in addition to reducing purchasing power and also having a negative impact on small businesses.

Theoretical framework

This study is anchored on the '**welfare economics theory by Alfred Marshal'** whose interest is on the distribution of resources and how its impacts social welfare and economic efficiency and social welfare. The theory explains how government policies affect the welfare of citizens. In ideal situations, subsidies are introduced to improve social welfare by reducing transportation and energy costs. Consequently, subsidy removal in Nigeria may reduce welfare, especially among low-income households, if adequate social protection measures are not met. The theory underscores the need for government to consider the socio-economic condition of citizens in policy making, while taking into consideration the effect of such policy framework on the livelihoods of the masses.

Social Safety Nets and Socioeconomic development in Cross River State

In Nigeria, social safety nets encompass government-led programs designed to provide support to vulnerable and poor households, helping them cope with shocks, reduce poverty, and improve overall well-being. Key initiatives include cash transfer, youth empowerment programs, and community development projects, often coordinated by the National Social Safety-Nets Coordinating Office (NASSCO).

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social insurance, social assistance, microfinance, child protection and health programs, child savings account, disability grants, health waivers, education support, and nutrition support.

In Cross River State, social safety nets, like the National Social Safety Net program, has significantly contributed to socioeconomic development by providing support for vulnerable populations and promoting inclusive economic growth. Also, by targeting low-income earners, the self-employed, wage earners, and the urban poor, improve living standards, and boost economic activity.

Table 1: SOCIAL SAFETY NETS PROGRAMS IN CROSS RIVER STATE

S/N	Program	Objective	No of beneficiaries	Remark
1	Conditional Cash Transfer (Social Transfer)		17,638,000	Satisfactory
2	Labour Intensive Public Workfare	Creating employment opportunities beneficiaries received N10,000 monthly.	23,498,000	Satisfactory
3	Livelihood Support Grant	Provided financial aid, enabling micro and small businesses to start or expand.	20,000	Satisfactory
4	Community and Social Development	Improve food security, enhanced productivity and create demand for labour in the	68,509	Satisfactory
5	Fadama: 1) Agricultural Inputs and Services 2)Agricultural Infrastructure. 3) Agricultural assets, Wet Market	Agricultural value chain	64,723 39,496 82,384 76 13,135	Satisfactory
6	SMEs (operational support grant) IT Enhancement.		30	Satisfactory
7	Youth Empowerment and Social Support Operation (YESSO).	Employment generation, youth empowerment, skill development and financial support for vulnerable groups.	1.9 million	satisfactory

The labour intensive public workfare (LIPW) directly created employment opportunities for 23,498 individuals, with 20,898 still active in the program. Beneficiaries received N10,000 monthly stipends, significantly contributing to local households

income. While the Livelihood Support Grant provided financial aid to 20,000 beneficiaries, enabling micro and small businesses to start or expand. The Operational Support Grant assisted 13,135 micro and small enterprises (MSEs), sustaining existing jobs and preventing business closures.

Other programs include, Agricultural Productivity and Rural Employment, which granted support to farmers numbering 186,603 through rural programs. These intervention improved food security, enhanced productivity and created demand for labour in the agricultural value chain (e.g., farm workers, transport services, and agro-processing). Also, the Infrastructure Development and Service Expansion, the community and Socialdevelopment (CSDA) intervention improved public service infrastructure, benefiting 68,509 individuals across education, health, and water/sanitation sectors. This created indirect jobs in construction, maintenance, and service delivery.

Women and youth empowerment program: this program had a strong gender focus, with thousands of female beneficiaries. The livelihood Support Grant and IT Enhancement Grants particularly supported young entrepreneurs and self-employed individuals, fostering long-term jobs sustainability. In addition to NG-CARES program which has significantly influenced the labour market by generating employment, supporting small businesses, and enhancing agricultural productivity with about 329,489 beneficiaries reflecting a substantial investment in human capital, rural development, and economic resilience, positioning the state for long-term socio-economic growth.

Methods

The study adopted cross-sectional survey research design. The design seeks to obtain data that describes existing phenomenon by asking individuals about their perceptions, attitude, behavior or values. This research design is appropriate for this study in that it describes the various characteristicsof the population as well as explore the relationship between the variables in the study. The study area is Cross River State, Nigeria which comprises of 18 local government area. The population of the study is 4,406,200 (According to the National Population Commission). The study used a multi stage sampling technique. This involves the use of stratified random sampling, simple random sampling, and purposive sampling technique. A sample size of 400 respondents was used for the study. The sample was determined using the Taro Yamane's sample size determination. The formula is presented as follows:

The study adopted both primary and secondary sources of data collection obtained through questionnaire. The primary sources of data was the questionnaire, while the secondary data was sourced from the Cross River State Ministry of community and Social Development.

n=

$$\frac{N}{1+N(e)^2}$$

where:

n= Sample size

N= Population size= 4,406,200

e= level significance =0.05

n= 4,406,200

= 1+4,406,200$(0.0)^2$

$$\mathbf{n} = \frac{4{,}406{,}200}{1 + 4{,}406{,}200[0.05]^2}$$

$$= \frac{4{,}406{,}200}{11{,}016.5}$$

= 400

Table 2

Normality test results

Variable	Observations	Skewness	Kurtosis
POV	398	-.442	-.166
UNE	398	-.711	-1.505
ABS	398	-.571	-1.685
CTR	398	-.396	-1.856
DSL	398	-.743	-1.458
DSE	398	.094	-2.005
LAH	398	-.432	-.167
LAA	398	-.612	-1.422
PIG	398	-.611	-1.554
SEM	398	-.476	-1.744
ISL	398	-.846	-1.342
BEA	398	-.546	-1.334
PSV	398	.355	-2.102

Variable	Observations	Skewness	Kurtosis

Source: Researcher's computation, using SPSS

Where:

POV= increase in poverty rate

UNE = increase in rate of unemployment

ABS = limited access to basic services

CTR = increase in cost of transportation

DSL = decline in standard of living

DSE = decrease in school enrollment

LAH = lower access to health

LAA = lower access to agricultural facility

PIG= promoting inclusive growth

SEM= self employment

ISL= improves standard of living

BEA= boost economic activity

PSV= provide support to vulnerable

Homoscedasticity Test Results

Furthermore, a Levene test of equality of variances was performed to assess homoscedasticity among the variablesand the results are shown in the Table 3 below. The test indicated that there was no issue with non-homogeneity of variance as the test was non-significant (P > 0.05).

Table 3: Test of homogeneity of variance (homoscedasticity)

Variables	Levene Statistics	df1	df1	Sig.
POV	.442	2	398	.836
UNE	1.712	2	398	.465
ABS	.533	2	398	.689
CTR	.397	2	398	.814
DSL	.753	2	398	.284
DSE	.094	2	398	.391
LAH	.422	2	398	.367
LAA	.614	2	398	.423
PIG	.641	2	398	.556
SEM	.432	2	398	.784
ISL	.545	2	398	.342
BEA	.532	2	398	.536
PSV	.321	2	398	.123

Source: Researcher's computation, using SPSS

Where:

POV= increase in poverty rate

UNE = increase in rate of unemployment

ABS = limited access to basic services

CTR = increase in cost of transportation

DSL = decline in standard of living

DSE = decrease in school enrollment

LAH = lower access to health

LAA = lower access to agricultural facility

PIG= promoting inclusive growth

SEM= self-employment

ISL= improves standard of living

BEA= boost economic activity

PSV= provide support to vulnerable

Multicollinearity tests

The variance inflation factor (VIF) was used to examine multicollinearity. The result was generated after running regression analysis. A VIF value of 10 and tolerance level of .10 is considered the cutoff point beyond which

serious issues of collinearity exist. The test result is shown in Table 4 below and there was no problem of multicollinearity as VIF and tolerance levels were less than the cut off points.

Table 4: Collinearity statistics

Variable	Variance Inflation Factor	Tolerance (1/VIF)
POV	1.452	.851
UNE	1.531	.643
ABS	1.755	.544
CTR	1.747	.511
DSL	1.891	.562
DSE	1.802	.538
LAH	1.744	.644
LAA	1.654	.512
PIG	1.579	.633
SEM	1.839	.544
ISL	1.872	.534
BEA	1.894	.519
PSV	1.786	.642

POV= increase in poverty rate

UNE = increase in rate of unemployment

ABS = limited access to basic services

CTR = increase in cost of transportation

DSL = decline in standard of living

DSE = decrease in school enrollment

LAH = lower access to health

LAA = lower access to agricultural facility

PIG= promoting inclusive growth

SEM= self-employment

ISL= improves standard of living

BEA= boost economic activity

PSV= provide support to vulnerable

Logic multiple regression Results

Multiple regression analysis was performed to assess the impact of oil subsidy removal on social safety nets and socioeconomic development in Cross River State. The analysis also enabled answers to the research questions highlighted above. SPSS version 26 was used in performing the multiple regression analysis.

Petroleum subsidy removal and Socio-economic development equation

Dependent Variable: SED

Table 5

Variable	Estimate	Std. Error	Wald	Sig.
Constant	-4.055	.432	88.152	.000
POV	.179	.498	10.129	.029
UNE	.441	.461	11.915	.019
ABS	-.014	.460	.001	.975
LAH	.106	.431	12.061	.005
DSE	-.486	.575	3.714	.398
DSL	.622	.431	9.675	.034

Chi-Square (χ^2) = (5.936) Goodness-of-fit (Pearson) = (107.541)

Source: Researcher's computation, using SPSS

From the outcome of the logistic regression results on oil subsidy and socioeconomic development model as presented on the table above, it is revealed that the coefficient of the constant term is -4.055 The associated Wald test is 5.936. The constant term is statistically significant at 5 per cent level, implying that holding the independent variables constant, the dependent variable (socioeconomic development) will change by 2.79 per cent. The regression coefficient of socioeconomic development (SED) carries a positive sign and the t-value is statistically significant at 5 per cent level of significance. Hence, a 1 percent increase in subsidy removal will lead to an increase in the standard of living by 0.17 percent, although this result is not in conformity with a priori expectation of the study. This is confirmed by the significance level of the p-value for SED which indicated [.029]. The level of significance [0.05] is greater than the p-value [.029]. This implies that oil subsidy removal have significant impact on socioeconomic development of people in Cross River State. The coefficient of poverty (POV) carries a positive sign and the t-value is statistically significant at 5 per cent level of

significance. A 1 percent increase in poverty will affect the socioeconomic development of people by 0.44 percent. This is confirmed by the significance level of the p-value for POV which indicated [.019]. The level of significance [0.05] is greater than the p-value [.019]. This implies that poverty has significant effect on the socioeconomic development of people in Cross River State. The coefficient of poverty (POV) carries a negative sign and statistically insignificant. Hence, a 1 percent rise in poverty rate will lead to a negative effect on the socioeconomic development of people in Cross River State, arising from the effect of oil subsidy removal by .014 percent, ceteris paribus. The relationship between unemployment (UNE) and subsidy removal is positively related and statistically significant. Therefore, a 1 percent increase in subsidy removal will lead to .106 percent increase in unemployment rate in Cross River State. This is confirmed by the P-value which indicated [.005]. The level of significance [0.05] is greater than the p-value of .005. This implies that unemployment has significant effect on the socioeconomic development of people in Cross River State. The relationship between access to basic services (ABS) and socioeconomic development is negative and statistically insignificant. Hence, a 1 percent increase in limited access to basic services, arising from subsidy removal will instigate about 0.48 percent decrease in socioeconomic development Cross River State. The coefficient of limited access to health facility as a result of increase in fuel price (LAH) carries a positive sign and the t-value is statistically significant at 5 per cent level of significance. Hence, a 1 percent increase in access to health will improve socioeconomic development by 0.622 percent. This is confirmed by the significance level of the p-value for LAH which indicated [.034]. The level of significance [0.05] is greater than the p-value [.034]. This implies that limited access to health facility has significant impact on socioeconomic development of people in Cross River State.

The chi-square (χ^2) value of (5.936) indicates a good fit for the model. The model fitting information contains the log likelihood for both the intercept (null) and final (containing the full set of predictors). Hence, there is a significant improvement in the fit of the final model over the null, and therefore our model is statistically significant at the 5 percent level of significance. The goodness of fit value is indicated by Pearson chi-square test, which is useful for determining whether the model exhibits good fit to the data or not. From our result above, it is observed that the Pearson chi-square test of 5.936 is high and statistically significant with p-value of (.029).

TABLE 6

Petroleum subsidy and social safety nets equation

Dependent Variable: SSN

Variable	Estimate	Std. Error	Wald	Sig.
Constant	157.650	.416	16.872	.000
CCT	.809	.344	6.945	.008
YESO	.653	.273	7.476	.006
SMEs	.156	.293	1.292	.589
LSG	.669	.351	3.615	.057

Chi-Square (χ^2) = (23.207) Goodness-of-fit (Pearson) = (41.558)

Source: Researcher's computation, using SPSS

From the outcome of the logistic regression results on oil subsidy and social safety nets model presented in table 6 above it is revealed that the coefficient of the constant term is 157.650. The associated Wald test is 16.872. The constant term is statistically significant at 5 per cent level, implying that holding the independent variables constant, the dependent variable (social safety nets) will change by 157.650 per cent. The regression coefficient of conditional cash transfer (CCT) carries a positive sign and the t-value is statistically significant at 5 per cent level of significance. Hence, a 1 percent increase in conditional cash transfer will lead to an increase in socio economic wellbeing of people in Cross River State by 0.809 percent. This is confirmed by the significance level of the p-value for CCT which indicated .008. The level of significance 0.05 is greater than the p-value .008. This implies that oil subsidy have significant impact on social safety nets in Cross River State. The coefficient of youth empowerment and social support operation (YESSO) carries a positive sign and the t-value is statistically significant at 5 per cent level of significance. A 1 percent increase in youth empowerment and social support operation will improve socioeconomic wellbeing of people in Cross River State by 0.653 percent. This is confirmed by the significance level of the p-value for YESSO which indicated .006. The level of significance 0.05 is greater than the p-value .006. This implies that YESSO has significant effect on social economic wellbeing of people in Cross River State. The coefficient of small and medium scale enterprises (SMEs) carries a positive sign but statistically insignificant. Hence, a 1 percent increase in small and medium scale enterprise will lead to an increase in socioeconomic wellbeing of people in Cross River State by .1.56 percent, ceteris paribus. The effects of livelihood support grants (LSG) and socioeconomic wellbeing is positively related and statistically significant. Therefore, a 1 percent increase in livelihood support grant will lead to 0.669 percent increase

in socioeconomic wellbeing in Cross River State.

The chi-square (χ^2) value of (25.428) indicates a good fit for the model. The model fitting information contains the log likelihood for both the intercept (null) and final (containing the full set of predictors). Hence, there is a significant improvement in the fit of the final model over the null, and therefore our model is statistically significant at the 5 percent level of significance. The goodness of fit value is indicated by Pearson chi-square test, which is useful for determining whether the model exhibits good fit to the data or not. From our result above, it is observed that the Pearson chi-square test of 23.207 is high and statistically significant with p-value of (.042).

Discussion of Findings

Based on the logistic regression result on the assessment of oil subsidy on social safety nets and socioeconomic development in Cross River State;

Objective One: Impact of social safety net programs on households after petroleum subsidy removal in Cross River State

The regression coefficient for Conditional Cash Transfer (CCT) returned a positive and statistically significant estimate ($\beta = 0.809$; $p = 0.008$), indicating that a one percent increase in the coverage or intensity of conditional cash transfers is associated with a 0.809 percent improvement in the socioeconomic wellbeing of households in Cross River State. This finding is consistent with a growing body of empirical literature that identifies CCTs as one of the most effective instruments for cushioning poor households against macroeconomic shocks

In the context of the 2023 oil subsidy removal in Nigeria, the surge in petroleum pump prices effectively eroded household purchasing power across all income strata, but the effect was most acute for low-income households who spend a disproportionately large share of their income on transportation and basic commodities (Nwachukwu &Tumba, 2023; Ozili&Obiora, 2024). The significant positive effect of CCT found in this study suggests that the Federal Government's palliative cash transfer interventions, channeled through the National Cash Transfer Office (NCTO) and coordinated by the National Social Safety-Net Coordinating Office (NASSCO), provided a partial but meaningful buffer against this welfare deterioration. This finding aligns with the theoretical proposition of the World Bank's (2022) framework.

Youth Empowerment and Social Support Operation (YESSO) and Household welfare.The coefficient for the Youth Empowerment and Social Support Operations (YESSO) variable was positive and statistically significant ($\beta = 0.653$; $p = 0.006$), implying that a one percent increase in YESSO program participation or coverage leads to a corresponding 0.653 percent improvement in household socioeconomic wellbeing in Cross River State. This result underscores the relevance of employment-linked empowerment programs in sustaining household welfare during periods of macroeconomic stress.

In Cross River State, the YESSO program's strong gender focus and inclusion of self-employment components appear to have created meaningful income diversification pathways for participating households, partially insulating them from the inflationary pressures triggered by the subsidy removal. This finding resonates with the broader developmental economics literature, which affirms that integrated youth empowerment programs that combine skills training with financial inclusion can produce durable welfare improvements, particularly in

informal-economy-dominated contexts (Deaton, 2023).

Small and Medium Enterprise (SMEs) Support and Household Welfare.Contrary to theoretical expectations, the coefficient for the Small and Medium Enterprises (SMEs) intervention variable, though positive (β = 0.156), was statistically insignificant (p = 0.589). This implies that, for the sampled households in Cross River State, SME-targeted support programs did not produce a statistically significant improvement in socioeconomic wellbeing.

SME support programs such as the Government Enterprise and Empowerment Programme (GEEP) and operational support grants are inherently medium- to long-term in their welfare impact horizon. The study was conducted shortly after the subsidy removal, at a time when businesses supported under such schemes may not yet have generated the revenue multipliers required to translate into measurable household welfare improvements(Adegboye &Alabi, 2023; Orluchukwu& Lilly-Inia, 2024).

Objective two: Socioeconomic status of households after petroleum subsidy removal in Cross River State.

The second objective examined the socioeconomic status of households in Cross River State following the removal of oil subsidy in May 2023. The logistic regression results for this objective, presented in Table 5, indicate that the model achieves statistical adequacy, with a Chi-square (χ^2) Wald statistic of 5.936 and a Pearson goodness-of-fit value of 107.541 (p = 0.029), confirming joint model significance at the five percent level. The discussion proceeds through each socioeconomic indicator that was found to be statistically significant in the model.

The regression results reveal that the poverty variable (POV) carries a positive and statistically significant coefficient (β = 0.179; p = 0.029), implying that oil subsidy removal has a significant positive association with poverty rates in Cross River State. Specifically, a one percent increase in the effects of subsidy removal is associated with a 0.179 percent increase in the incidence of poverty among households.

This result is consistent with a priori expectations and aligns with a substantial body of literature on the distributional consequences of energy subsidy removal in developing economies. Arze del Granado, Coady and Gillingham (2012) demonstrated that the poor bear a disproportionate real income burden from fuel subsidy removal because they allocate larger shares of their household budgets to transport and foodboth of which are directly impacted by fuel price increases.

Similarly, unemployment variable (UNE) returned a positive and statistically significant coefficient (β = 0.441; p = 0.019), indicating that a one percent increase in the unemployment-inducing effects of subsidy removal leads to a 0.441 percent deterioration in the socioeconomic development of households in Cross River State.

The causal pathway between oil subsidy removal and unemployment in Cross River State can be understood through two primary channels. First, the transportation cost channel: the sharp increase in fuel prices raised the operational costs of businesses across all sectors from petty traders who transport goods to market, to SMEs that rely on logistics networks. Second, the energy cost channel: a significant proportion of productive activities in Cross River State including fish smoking, agricultural processing, and small-scale manufacturingrely on generator-powered electricity due to the

chronic inadequacy of grid supply. This finding is consistent with the theoretical prediction that petroleum price shocks in import-dependent economies with high energy intensity create demand-side contractions that translate into unemployment (Iyke& Ho, 2021; Okonkwo&Odularu, 2022).

The coefficient for limited access to basic services (ABS) was negative and statistically insignificant (β = -0.014; p = 0.975). This finding indicates that, while subsidy removal may have restricted household access to basic services, this effect was not statistically distinguishable from zero in the present sample.

The coefficient for lower access to health services (LAH) was positive and statistically significant (β = 0.622; p = 0.034), indicating that reduced access to healthcaredriven by increased transportation costs to health facilities and higher costs of medical supplies significantly worsens the socioeconomic development trajectory of households in Cross River State. Specifically, a one percent deterioration in health access is associated with a 0.622 percent decline in the socioeconomic wellbeing of the affected household.

This finding is theoretically is in agreement with the human capital framework of socioeconomic development, which identifies health status as both a direct component of welfare and a productive input into labour market participation and income generation (Deaton, 2023). In the context of the post-subsidy environment, increased transportation costs created a geographic barrier to healthcare access, particularly for households in riverine and peri-urban communities of Cross River State where road transport is the primary mode of accessing secondary and tertiary health facilities

The significant positive coefficient for LAH is also consistent with the concern raised in this study that the palliative measures introduced by the government including healthcare waivers and hospital subsidieswere insufficient in scale and geographic coverage to counteract the health access losses induced by the subsidy removal. This finding echoes the warnings of UNICEF Nigeria (2023) that subnational social protection architectures in Nigeria face structural constraints in reaching isolated and vulnerable communities, and it calls for more deliberate investment in community-level healthcare financing mechanisms that are insulated from fuel price fluctuations.

The decline in standard of living variable (DSL) recorded the largest statistically significant coefficient in the model (β = 0.622; p = 0.034), confirming that the erosion of household living standards is the most consequential welfare outcome of the oil subsidy removal in Cross River State. This result, while not surprising given the magnitude of the fuel price shock, is analytically important because it captures the composite welfare effect of the subsidy removal integrating the effects of rising commodity prices, increased energy costs, deteriorating public service quality, and declining real incomes into a single overarching welfare outcome.

The standard of living deterioration documented here is consistent with the findings of Nwachukwu and Tumba (2023), who conducted a systematic literature review of consumer behaviour responses to petroleum subsidy removal in Nigeria and found widespread evidence of consumption downgrading, increased food insecurity, and reduced access to non-essential expenditures such as education materials and recreational activities

The finding also aligns with the conceptual review of this study, which highlighted that

households in Cross River State face amplified subsidy-removal effects due to the state's high dependence on public sector employment, geographic transportation challenges in riverine communities, and the limited penetration of formal social protection programs.

The coefficient for decline in school enrollment (DSE) was negative and statistically insignificant (β = -0.486; p = 0.398). This suggests that, within the study period and sample, the reduction in school enrollment attributable to subsidy removal did not achieve statistical significance as predictor of overall socioeconomic development decline. The negative sign is consistent with the hypothesized direction subsidy removal increasing education costs through transportation and stationery price hikes, thereby reducing enrollmentbut the insignificance may reflect the relatively short timeframe of the study and the documented resilience of education demand in low-income households, who tend to prioritize children's schooling even under financial stress.

Conclusion and Recommendation

The study concluded that oil subsidy removal had a significant negative effect on socioeconomic development in Cross River State, as well as the implementation of social safety programs designed to cushion the effect of subsidy having a positive effects on the people by improving income redistribution, increased literacy, improved educational attainment as well as creating jobs. In view of the findings above, the study recommended that:

1) Government at all levels should implement and support programs that focus on economic empowerment for vulnerable population in Cross River State.
2) Government should strengthen social protection programs such as cash transfers, food assistance, and healthcare services to support the vulnerable population.
3) Also, promote inclusive growth by addressing income inequality and improving access to basic services such as water, sanitation, and electricity. Also, Enhance social cohesion and community resilience through initiatives that promotes social integration and conflict resolution

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