



Fuel Subsidy Removal and Consumer Spending Patterns in Etsako-West LGA

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Abstract

This study examines the effect of fuel subsidy removal on consumer spending patterns in Etsako-west local government area of Edo state in perspective. The subsidiary objectives are to assess how factors such as fuel subsidy removal (FSR), consumer coping mechanisms (CCM), perceptions (CPR), adoption of alternative energy and transportation (AET), and inflation (INF) influence spending behaviour. A quantitative approach was used, with data collected using Likert-scale questionnaires administered across the region. Ordinal regression was employed for data analysis. Model fitting results showed that the full model significantly improved over the intercept-only model (Chi-square = 138.806, $p < 0.001$), with Pseudo R-square values (Cox & Snell = 0.431; Nagelkerke = 0.448) indicating moderate predictive power. The deviance goodness-of-fit test was satisfactory ($p = 1.000$), although the test of parallel lines was significant ($p = 0.000$), suggesting a violation of the proportional odds assumption. Among the predictors, only AET ($\beta = 2.272$, $p = 0.000$) and INF ($\beta = 1.209$, $p = 0.000$) were significant, indicating that inflation and the shift to alternative energy sources are key drivers of changes in spending patterns. FSR, CCM, and CPR were not statistically significant. The study concludes that economic constraints, not awareness or perception, drive consumer adjustment. It recommends government intervention to curb inflation and invest in accessible alternative energy and transport infrastructure. Future studies should explore income level as a moderating factor and consider alternative models for more robust analysis.

Keywords: *Fuel Subsidy, Fuel Subsidy Removal, Consumer Spending Patterns, Ordinal Regression, Etsako-west Local Government Area*

Introduction

Fuel subsidies, though intended to make energy affordable, impose heavy fiscal and social costs (Ovaga & Okechukwu, 2022). Global subsidy spending rose to \$1 trillion in 2022, exceeding aid allocations (International Energy Agency, 2022), with critics urging redirection to development (Couharde & Mouhoud, 2020; Ozili & Ozen, 2021). In Nigeria, subsidies introduced in the 1970s persisted despite failed removals in 1986 and 2012; by 2022, they consumed ₦4 trillion (23% of the budget), leading to their withdrawal in June 2023. While some studies highlight environmental benefits (Adekunle & Oseni, 2021; Asare et al., 2020), others stress corruption and economic instability (Omotosho, 2020; Umeji & Eleanya, 2021). The 2023 removal, lacking cushioning measures, caused fuel price hikes, inflation, and reduced household spending (Smith, 2016, as cited in Nwachukwu, 2023). Fuel subsidy removal (FSR) in

Nigeria has fueled inflation, reduced savings, and weakened SMEs, prompting coping strategies like carpooling (Francis & Lucas, 2023), and adoption of alternative energy e.g electric vehicles, solar powered electricity instead of fuel or diesel generators, etc.

Statement of the Problem

In Etsako-West Local government area, rising fuel costs strain households and businesses, cutting essential spending and deepening inequality. Despite its goal of fiscal stability, little research explores its local impact; this study examines how subsidy removal affects consumer spending patterns in the Etsako-west local government area.

Research Objectives:

The main objective of this research is to: examine the effect of fuel subsidy removal (FSR) on consumer spending patterns (CSP) in Etsako-west Local Government Area in perspective.

Specific objectives are to:

- i. determine the effect of consumer coping mechanisms (CCM) on consumer spending patterns (CSP) following fuel subsidy removal in Etsako-west Local Government Area.
- ii. assess the effect of consumer perceptions of fuel subsidy removal (CPR) on consumer spending patterns (CSP) in Etsako-west Local Government Area.
- iii. analyze how shifts to alternative energy sources and transportation (AET) affect consumer spending patterns (CSP) in Etsako-west Local Government Area.
- iv. evaluate the effect of inflation (INF) on consumer spending patterns (CSP) in response to fuel subsidy removal (FSR) in Etsako-west Local Government Area.

Based on the objectives provided, the researcher hereby posits the following hypotheses:

H₀₁: Fuel subsidy removal has no significant effect on consumer spending patterns in Etsako-West Local government area in of Edo state in perspective.

H₀₂: Consumer coping mechanisms (CCM) have no significant effect on consumer spending patterns (CSP) in Etsako-west Local Government Area.

H₀₃: Consumer perceptions of fuel subsidy removal (CFR) do not significantly affect consumer spending patterns (CSP) in Etsako-west Local Government Area.

H₀₄: Shifts to alternative energy sources and transportation (AET) have no significant effect on consumer spending patterns (CSP) in Etsako-west Local Government Area.

H₀₅: Inflation (INF) has no significant effect on consumer spending patterns (CSP) in Etsako-west Local Government Area.

Review of Related Literature

Concept of Subsidy: A subsidy is government financial support that reduces costs through direct payments, tax relief, or price controls to enhance welfare and affordability (Investopedia, 2015; Merriam-Webster, n.d.; Oxford Advanced Learner's Dictionary, n.d.). Subsidies may be direct, lowering prices immediately, or indirect, via regulations and investments (Alozie, 2009; Adebisi, 2011).

Concept of Fuel Subsidy: Fuel subsidy refers to selling petroleum products below production or importation costs, mainly Premium Motor Spirit (PMS) in Nigeria, as a market intervention to reduce public

burdens (Bakare, 2012; Gordon & Suzanne, 2023). These may take financial, labor, or consumption forms (Francis & Lucas, 2023).

Concept of Fuel Subsidy Removal (FSR):

Fuel subsidy removal is the withdrawal of government interventions that lower fuel costs, often sparking debate over its socio-economic implications (Centre for Public Policy Alternatives, 2012).

History of Fuel Subsidy Removal from 1973-2023

Since 1973, Nigeria has witnessed repeated subsidy removals and fuel price hikes under successive regimes, culminating in Tinubu's 2023 policy that raised prices to over ₦600 per litre (NNPC, 2024). The success of such reforms depends on phased implementation, transparency, and public trust, as poorly managed removals have fuelled protests, inequality, and corruption (CSEA, 2010; World Bank, 2010; Ikpeze et al., 2004). Nonetheless, potential benefits include fiscal savings for infrastructure and social services, as well as competition and investment in the petroleum sector (Oluwabukola, 2023; Civic Keypoint, 2023).

Fuel Subsidy Removal (FSR) and Consumer Spending Patterns (CSP):

Subsidy removal has reshaped consumption, particularly among low-income earners. Rising fuel and energy costs have encouraged shifts toward bicycles, electric vehicles, solar power, and compressed natural gas (Statista, 2024; Nwohu et al., 2023; Mutsaka, 2023).

Consumer Coping Mechanisms

Coping mechanisms include income diversification, cost-cutting, and carpooling, though these disproportionately burden poor households (Algorani & Gupta, 2022; Orluchukwu & ThankGod, 2024).

Fuel Subsidy Removal (FSR) and its effect on Inflation:

The policy has fuelled sharp inflation, reducing purchasing power and consumption expenditure, while increasing transport and production costs (Al-Awlaqi et al., 2018; Mohammed et al., 2020; Houeland, 2020; Ozili & Obiora, 2023). Although demand for petrol has declined, reliance on global oil prices suggests continued high costs, pushing consumers toward renewable alternatives (Raji, 2018).

Consumer Perceptions:

In areas like Etsako-West Local Government Area, consumers largely view subsidy removal as unfair and elite-driven, reflecting distrust in government and concerns over poor reinvestment of savings (Okereke et al., 2024). Households report significant erosion of purchasing power, forcing spending shifts toward

essentials (Salihu, 2023). Scepticisms persists regarding alternatives like CNG due to poor infrastructure (Mutsaka, 2023), while regional perspectives frame the

policy as deepening economic injustice in oil-producing communities (Meludu et al., 2024).

Table 2: Average Monthly Consumption of PMS (Petroleum Methylated Spirit) before and after Subsidy Removal

Month	Average Consumption	% Change
Jan., 2023	62.31 Million Litres	
Feb., 2023	66.44 Million Litres	↑6.63%
Mar., 2023	72.39 Million Litres	↑8.96%
April, 2023	69.62 Million Litres	↓3.83%
May, 2023	69.54 Million Litres	↓0.11%
June, 2023	49.84 Million Litres	↓28.33%
July, 2023	45.47 Million Litres	↓8.77%

Source: NMDPRA (Nigerian Midstream and Downstream Petroleum Regulatory Authority)

Data

Based on the data above, PMS consumption increased steadily from January to March 2023 due to economic activities and anticipated price changes, rising from 62.31 to 72.39 million litres. Demand stabilized from April to May, with minimal fluctuations, indicating market balance. However, subsidy removal in June led to a sharp decline (↓28.33%), followed by a further drop in July (↓8.77%) as consumers adjusted by reducing fuel usage. This decline impacts transportation, logistics, and overall economic activity. Policy interventions, such as public transport subsidies, could help stabilize consumption. The shift in consumer behaviour suggests a long-term reduction in fuel use unless prices are moderated.

Concept of Consumer Spending Patterns (CSP):

CSP refers to household purchasing behaviours shaped by income, prices, inflation, credit, consumer confidence, technology, and socio-cultural factors (Mankiw, 2019; Kotler & Keller, 2016). As the largest component of aggregate demand (Krugman & Wells, 2018), CSP shifts with economic cycles and social trends. Classical theories like Keynes' Absolute Income Hypothesis (1936) and Friedman's Permanent Income Hypothesis (1957) explain consumption behaviour relative to income levels.

Factors Influencing Consumer Spending Patterns (CSP):

Income determines consumption capacity (Case et al., 2020), while inflation reduces purchasing power and prioritizes essentials (Blanchard, 2021). Consumer confidence influences saving vs. spending (Deaton, 1992). Credit access stimulates but may later restrain consumption (Mishkin, 2016). Technology fosters online and impulse spending (Laudon & Traver, 2021), and socio-cultural shifts drive trends like eco-friendly purchases (Solomon, 2018).

CSP and Fuel Subsidy Removal (FSR):

Subsidy removal raises costs of fuel, transport, and goods, driving inflation and forcing households to prioritize basics over discretionary spending (World Bank, 2023; NBS, 2024; IMF, 2023). In Nigeria, the 2023 removal reduced purchasing power, triggered poverty, and shifted behaviour toward survival-focused consumption (World Bank, 2023).

Theoretical Framework:

Consumer Behaviour Theory (CBT) explains how price changes lead consumers to prioritize essentials, cut non-essentials, and seek alternatives (Howard & Sheth, 1969; Kotler & Keller, 2016). Rational Choice Theory (RCT) emphasizes cost-benefit decisions to maximize utility (Becker, 1976; Elster, 1989). This study adopts CBT for its focus on consumer responses to price shifts.

Empirical Review:

Studies show subsidy removal alters energy and transport choices, with households shifting to cheaper alternatives (Obinna, 2020; Lin & Kuang, 2020; Harring et al., 2023). In Nigeria, rising fuel prices increased reliance on public transport and ride-sharing (Akpan & Uford, 2024), while inflation eroded savings and widened inequality (Ogboru & Akinyotu, 2024; Abd Obaida et al., 2020). Evidence supports the inclusion of Alternative Energy & Transportation Shifts (AET) and Inflation Impact (INF) as key determinants of CSP post-FSR.

Methodology

This study adopted a descriptive survey design to examine the effects of fuel subsidy removal on consumer spending patterns in Etsako-west LGA. The population was 294,000 (NPC, 2022), and a sample size of 246 was determined using Freund and Williams' formula (1967) with parameters: $P = 0.8$, $Q = 0.2$, $Z =$

1.96, and $e = 0.05$ (Agbadudu, 2004). A pilot test 100 questionnaires (test-retest method) confirmed $P = 0.8$ and $Q = 0.2$. Respondents were selected via random sampling across towns and villages. Data were collected using a 5-point Likert questionnaire, and

analyzed with descriptive statistics (mean, SD) and ordinal regression, with hypotheses tested at $p < 0.05$. This approach ensured reliable assessment of subsidy removal's impact on consumer spending in the area.

Table 4.0: Presentation and Analysis of Data

Fuel Subsidy Removal (FSR)								
S/No	Questionnaire Item	SA	A	UD	DA	SD	STD	M
FSR1	The removal of fuel subsidies has led to a significant increase in my transportation costs.	246	0	0	0	0	105.1	49.2
FSR2	The prices of essential goods and services have increased since the fuel subsidy was removed.	235	7	4	0	0	99.95	49.2
FSR3	My household expenses have increased due to higher fuel prices.	230	8	0	8	0	99.87	49.2
Consumer Coping Mechanisms (CCM)								
CCM1	I have had to reduce my spending on non-essential items due to rising fuel costs	228	11	4	3	0	94.7	49.2
CCM2	I have switched to using more cost-effective transportation options	240	5	1	0	0	101.1	49.2
CCM3	I have adjusted my monthly budget to cope with the increased cost of goods and services.	223	15	2	6	0	94.7	49.2
Consumer Perception of Fuel Subsidy Removal (CPR)								
CPR1	I believe the removal of fuel subsidies was necessary for economic growth.	107	68	0	51	20	37.34	49.2
CPR2	I think the government made the right decision by removing the fuel subsidy.	82	30	2	78	54	30.08	49.2
CPR3	The fuel subsidy removal has had more negative effects than benefits for consumers.	230	15	1	0	0	90.58	49.2
Shift to Alternative Energy Sources and Transportation (AET)								
AET1	Due to high fuel prices, I am considering switching from fuel-powered vehicles to electric vehicles.	201	12	0	33	0	76.85	49.2
AET2	I have already adopted or plan to adopt solar power to reduce my electricity costs.	120	100	0	20	6	50.46	49.2
AET3	The use of electric vehicles and solar power is a viable solution to the current fuel crisis.	180	66	0	0	0	70.22	49.2
Impact of Inflation on Consumer Spending (INF)								
INF1	Inflation has significantly reduced my purchasing power	120	124	2	0	0	59.46	49.2
INF2	The high inflation rate has made it difficult for me to afford essential goods and services.	130	93	0	14	9	57.4	49.2
INF3	The rising cost of goods due to inflation has forced me to cut down on my savings and investments.	134	112	0	0	0	60.66	49.2
Consumer Spending Patterns (CSP)								
CSP1	Due to increased fuel costs, I have reduced my spending on essential goods and services.	190	50	0	6	0	72.85	49.2
CSP2	My monthly savings have decreased since the fuel subsidy was removed.	183	60	1	2	0	70.70	49.2
CSP3	I struggle to afford basic necessities due to rising living costs.	145	101	0	0	0	61.82	49.2
CSP4	My purchasing power has significantly reduced since fuel subsidy removal.	130	111	0	5	0	58.55	49.2

Source: Field survey, 2025

Descriptive Analysis of FSR, CCM, AET, INF, and CSP

Fuel Subsidy Removal (FSR): Findings show near-unanimous agreement that FSR raised transport costs, prices of essentials, and household expenses, with 100% confirming transport hikes and over 97%

acknowledging higher living costs. Mean responses (49.2) and SDs (99.87–105.1) confirm significant impact, highlighting need for policy support (World Bank, 2023). **Consumer Coping Mechanisms (CCM):** About 96% reduced non-essential spending, 99% shifted to cheaper transport, and 95% revised budgets,

indicating widespread behavioural adjustments to rising costs (NBS, 2024).

Consumer Perception (CPR): Public opinion remains divided—41% see FSR as necessary for growth, 29% disagree, and 53% oppose government’s decision. Yet 95% believe negative effects outweigh benefits, underscoring dissatisfaction and demand for mitigating policies (IMF, 2023).

Alternative Energy & Transport (AET): Many respondents consider solar power and electric vehicles as alternatives, signaling readiness for sustainable energy shifts, though affordability and infrastructure remain barriers (Harring et al., 2023).

Inflation Impact (INF): High inflation eroded purchasing power, curtailed access to essentials, and reduced savings/investments, worsening financial strain (Blanchard, 2021).

Consumer Spending Patterns (CSP): Rising fuel costs reduced savings, lowered purchasing power, and forced cutbacks even on essentials, reflecting declining financial stability in affected households (Akpan & Uford, 2024).

Demographic Analysis of the Respondents

Table 4.1: Gender Distribution Analysis

Gender	Frequency	%	Valid %	Cumulative %
Male	116	47.2	47.2	47.2
Female	130	52.8	52.8	100.0
Total	246	100.0	100.0	

Source: Field survey, 2025

The gender distribution analysis of respondents in Etsako-west local government area shows that 52.8% were female and 47.2% were male, indicating a slightly higher female participation. This suggests that women, who often manage household expenses, are more directly affected by rising costs due to fuel subsidy removal. Women may experience financial strain in budgeting for food, transportation, and healthcare, while men, especially in business and transport sectors,

may face income challenges due to increased operational costs. This highlights the need for gender-sensitive policies, such as transport subsidies for market women and financial support for male-dominated industries. Overall, both genders feel the impact, but women may bear a greater financial burden, necessitating targeted economic interventions to mitigate the effects of subsidy removal.

Table 4.2: Monthly household income

Source: Field survey, 2025

Income level	Frequency	%	Valid %	Cumulative %
Less than ₦50,000	141	57.3	57.3	57.3
₦50,000 - ₦100,000	34	13.8	13.8	71.1
₦101,000 - ₦200,000	22	8.9	8.9	80.1
₦201,000 - ₦500,000	27	11.0	11.0	91.1
Above ₦500,000	22	8.9	8.9	100.0
Total	246	100.0	100.0	

The analysis of monthly household income in the study indicates that 57.3% of respondents earn less than ₦50,000 per month, showing that the majority of households in Etsako-west local government are in the low-income category. Another 13.8% earn between ₦50,000 and ₦100,000, bringing the total percentage of respondents earning below ₦100,000 to 71.1%. This suggests that a significant portion of the population struggles with financial constraints, especially in light of fuel subsidy removal and rising costs. Only 28.9% of

respondents earn above ₦100,000, with 8.9% earning over ₦500,000. This small percentage of higher-income households suggests that a minority can absorb the economic shocks caused by subsidy removal. Given that most households have low earnings, the impact of fuel subsidy removal is likely severe, leading to reduced purchasing power, increased cost of living, and possible changes in spending patterns. Government interventions such as wage adjustments, price control policies, and social assistance

programs may be necessary to support low-income earners.

Table 4.3: Means of Transportation

Means of Transportation	Freq.	%	Valid %	Cumulative %
Private Vehicle	53	21.5	21.5	21.5
Public Transportation	65	26.4	26.4	48.0
Motorbike/Tricycle	66	26.8	26.8	74.8
Walking/Cycling	62	25.2	25.2	100.0
Total Respondents	246	100.0	100.0	

Source: Field survey, 2025

The analysis of means of transportation among respondents reveals diverse commuting patterns in Etsako-west local government area. The most commonly used mode of transportation is motorbikes/tricycles, with 66 respondents (26.8%) relying on them. This suggests that these informal transport options play a significant role in mobility, possibly due to affordability and accessibility, especially in areas with poor road infrastructure. Public transportation follows closely, accounting for 26.4% (65 respondents). This highlights the reliance on buses and taxis for daily commuting, which may be influenced by fuel prices and public transport

availability. Walking or cycling is another significant mode, with 62 respondents (25.2%), indicating that a substantial portion of the population either prefers non-motorized transport or has limited access to motorized alternatives. Private vehicle ownership is the least common, with 53 respondents (21.5%) using their own cars. This relatively low figure suggests that the high cost of fuel and vehicle maintenance might be discouraging private car use. The findings align with the economic constraints affecting consumer spending patterns, as rising transportation costs could force individuals to adopt more cost-effective means of travel.

Table 4.4:

Tests of Normality

	Kolmogorov-Smirnova ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
CSP1	0.378	246	0.000	0.624	246	0.000
CSP2	0.403	246	0.000	0.591	246	0.000
CSP3	0.399	246	0.000	0.581	246	0.000
CSP4	0.403	246	0.000	0.604	246	0.000

Source: SPSS 25.0 Data Output

a. Lilliefors Significance Correction

All the four CSP variables significantly deviate from normality. This is because all the p-values (Sig.) are less than 0.05, leading to rejection of the null hypothesis for both tests. Therefore, the data is not normally distributed for any of the variables. This

Table 4.5: Test of Parallel Lines^a

Model	-2Log Likelihood	Chi-Square	Df	Sig.
Null Hypothesis	365.599			
General	287.864 ^b	77.735 ^c	40	0.000

a Link function: Logit.

Source: SPSS 25.0 Data Output

implies that a non-parametric test will be appropriate for the analysis. It is therefore expedient for the researcher to apply ordinal regression which is also called ordinal logistic regression or PLUM in SPSS since it does not require normality of the independent or dependent variables.

The p-value is significant (0.000), the parallel lines assumption is violated. This means the effects of

predictors are not constant across categories of CSP.

Table 4.6: Model Fitting Information

Model	-2Log Likelihood	Chi-Square	Df	Sig.
Intercept only	504.405			
Final	365.599	138.806	5	0.000

Link function: Logit

Source: SPSS 25.0 Data Output

Intercept Only -2 Log Likelihood = 504.405, this is the **baseline model** with no independent variables. It represents how well we can predict the dependent variable using only the average tendency (intercept). A higher -2LL value means poor fit — this model does not explain much. Final Model -2 Log Likelihood = 365.599, this model includes your predictors (independent variables — possibly CSP1 to CSP4). The sharp drop in the -2Loglikelihood value from 504.405 to 365.599 shows that: Adding the predictors has significantly improved the model's explanatory power. Chi-Square = 138.806 with df = 5, Sig. = 0.000. This

tests whether the final model is significantly better than the null model. Since $p = 0.000$, this is highly significant. **Interpretation:** There is strong evidence that at least one of your predictors significantly influences the dependent variable. We can reject the null hypothesis that "the predictors have no effect. The ordinal regression model significantly fits the data better than a model with no predictors. This means the independent variables (e.g., CSP1–CSP4) do help explain changes in the dependent variable (Likert-scale based), and the model is statistically valid for interpretation.

Table 4.7: Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	937.117	418	0.000
Deviance	305.182	418	1.000

Link function: Logit

Source: SPSS 25.0 Data Output

Pearson Chi-Square: Chi-Square = 937.117, df = 418, Sig. = 0.000. This result tests whether the observed responses match what the model predicts. Because $p = 0.000$ (less than 0.05): It suggests a poor fit — that is, the model's predictions don't perfectly match the data.

Deviance Chi-Square: Chi-Square = 305.182, df = 418, Sig. = 1.000. This is a better indicator of model fit in

ordinal regression, $p = 1.000$ (greater than 0.05), this means the model fits the data well — the predicted responses are consistent with what was actually observed. This is the result that should be trusted when there is a conflict. Although the Pearson test flags a problem, the Deviance test confirms that the model is a good fit for the data.

Table 4.8: Pseudo R-Square

Cox and Shell	0.431
Nagelkerke	0.448
McFadden	0.171

Link function: Logit

Source: SPSS 25.0 Data Output

Cox and Snell $R^2 = 0.431$ **Suggests the model explains 43.1% of the variation in the dependent variable.** Nagelkerke $R^2 = 0.448$, this **adjusts Cox & Snell so that the maximum value can be 1.0. The model explains about**

44.8% of the variation in the dependent variable (CSP), which is moderately strong. McFadden $R^2 = 0.171$ **suggests acceptable model performance.**

Table 4.9: Parameter Estimate

		Estimate	Standard Error	Wald	Df	Sig
Threshold	CSP=2.00	13.923	3.842	13.131	1	0.000
	CSP=2.75	14.430	3.844	14.092	1	0.000
	CSP=3,25	15.418	3.847	16.066	1	0.000
	CSP=3.50	16.201	3.850	17.705	1	0.000
	CSP=3.75	16.596	3.854	18.546	1	0.000
	CSP=4.00	18.551	3,891	22.731	1	0.000
	CSP=4,25	19.326	3,909	24.442	1	0.000
	CSP=4.50	19.573	3,914	25.004	1	0.000
	CSP=4.75	19.958	3.921	25.903	1	0.000
Location	FSR	0.613	0.583	1.103	1	0.294
	CCM	-0.224	0.402	0.309	1	0.578
	CPR	0.258	0.905	0.081	1	0.776
	AET	2.272	0.423	28.868	1	0.000
	INF	1.209	0.257	22.138	1	0.000

Source: SPSS 25.0 Data Output

Based on the table above, the key predictors shows that AET (statistically significant): Consumers shifting to alternative energy/transport strongly influences spending pattern. INF (statistically significant): Inflation has a powerful, direct influence on how consumers adjust their spending. Other variables (FSR, CCM, CPR) are statistically insignificant in this model context.

Fuel Subsidy Removal's Impact is Indirect, Not Direct. While fuel subsidy removal (FSR) is a critical economic policy change, the results indicate that its effect on consumer spending is not direct but rather manifests through other factors. The increase in fuel prices caused by subsidy removal has forced consumers to adapt in specific ways, primarily through changes in energy consumption and transportation choices (AET) and adjustments to inflation-induced price increases (INF). Shift to Alternative Energy and Transportation (AET) Captures Behavioural Adjustments. Rising fuel costs have compelled consumers to modify their spending

patterns by seeking alternatives such as public transportation, carpooling, or renewable energy sources for household and business use. This aligns with the study's objective of identifying how consumers adjust their spending priorities in response to policy-induced economic shocks. The removal of fuel subsidies has contributed to higher inflation, leading to an increase in the prices of goods, services, and overall cost of living. Since inflation reduces purchasing power, consumers are forced to reallocate spending, impacting their consumption habits across various sectors. The statistical significance of INF confirms that rising costs are a dominant factor shaping consumer spending decisions in the post-subsidy period.

Discussion of Findings

The findings of this study provide empirical support for the arguments and conclusions drawn by prior researchers regarding the impact of fuel subsidy removal on consumer spending patterns.

FSR (Fuel Subsidy Removal), CCM (Consumer Coping Mechanisms), and CPR (Consumer Perception of Fuel Subsidy Removal) from the study, were not statistically significant in influencing consumer spending patterns (CSP). Only AET and INF are the strongest and most reliable predictors, improving the explanatory power and robustness. The significant p-values (0.000) for AET and INF confirm that these variables have a strong, and have systematic effect on Consumer spending patterns (CSP).

Alternative Energy & Transportation Shift (AET) and Consumer Spending Patterns. The study reveals a strong positive relationship between shifts to alternative energy sources and transportation (AET) and consumer spending patterns. This finding is consistent with the work of Harring et al. (2023), who highlighted that socio-economic factors influence attitudes towards subsidy removal during energy transitions. Similarly, Lin and Kuang (2020) demonstrated that energy subsidy removal in China led to increased energy costs, forcing low-income households to adjust consumption behaviours. The significant effect of AET in the revised model underscores how Nigerian households and businesses are altering their spending priorities by adopting alternative energy sources e.g. fuel powered generators to solar powered electricity, fuel powered vehicles to Compressed Natural Gas (CNG) powered vehicles, and modifying transportation habits in response to rising fuel prices.

Impact of Inflation (INF) on Consumer Spending Patterns

The study also establishes that inflation has a statistically significant impact on consumer spending patterns. This aligns with Ogboru and Akinyotu (2024), who found that rising fuel prices reduce household purchasing power, leading to lower savings, limited access to

essential services, and increased poverty, particularly among vulnerable groups. Similarly, Akpan and Uford (2024) confirmed that inflationary pressures stemming from fuel price increases elevate the costs of consumer goods and services, affecting overall spending behaviour. The strong relationship observed in this study between inflation and consumer spending suggests that as prices rise, consumers are forced to prioritize essential goods while cutting back on discretionary expenditures, which mirrors findings in previous research.

Broader Economic and Social Implications

The study's findings reinforce Obinna (2020), who demonstrated that fuel subsidy removal in Maiduguri negatively impacted household livelihoods, with family size, dependency ratios, and education levels influencing the extent of the impact. The current study corroborates these observations by showing that inflationary pressures and shifts in energy use significantly reshape household financial decisions. Furthermore, Abd Obaida et al. (2020) explored how subsidy removal affects tax compliance behaviour among SMEs, which aligns with the present study's suggestion that businesses are experiencing operational cost increases, leading to changes in their financial planning and expenditure patterns. The findings of this study are in line with existing literature, reinforcing the argument that fuel subsidy removal significantly alters consumer spending behaviour through inflationary pressures and shifts in energy and transportation usage. These results confirm that Nigerian households and businesses are adapting by prioritizing essential expenditures, seeking alternative energy sources, and making adjustments to transportation choices to mitigate rising costs.

Conclusions and Recommendations

Conclusions

This study examined the impact of fuel subsidy removal on consumer spending patterns in Etsako-west local government of Edo state, Nigeria. The findings revealed that AET and INF significantly influence consumer spending behaviour, confirming previous studies that highlighted the economic strain caused by fuel price fluctuations and inflationary pressures. The results indicate that rising fuel costs drive consumers to seek alternative energy sources and modify their transportation choices, which in turn affects overall expenditure patterns. Furthermore, inflation exacerbates the financial burden on consumers, leading to reduced discretionary spending and altered consumption behaviour.

The study thus aligns with existing literature, which underscores the adverse effects of subsidy removal on low-income households, small businesses, and economic stability. The revised model effectively captures the essential drivers of consumer spending shifts in response to subsidy removal, emphasizing the need for targeted economic policies that mitigate these adverse effects.

Recommendations

Based on the study's findings, the following recommendations are hereby proposed:

1. *Government Policy Intervention:* Policymakers should implement cushioning mechanisms such as targeted subsidies for essential commodities, transportation support, and incentives for alternative energy adoption to reduce the economic burden on consumers.
2. *Investment in Alternative Energy Sources:* The government and private sector should invest in affordable and sustainable energy solutions, such as solar and compressed natural gas (CNG), to provide cost-effective alternatives to fuel-dependent transportation and household energy needs.

3. *Monetary and Fiscal Policy Adjustments:* Inflation control measures, such as stabilizing the exchange rate and reducing import duties on essential goods, should be prioritized to minimize inflationary pressures on consumer spending.

4. *Consumer Awareness and Adaptation Strategies:* Public awareness campaigns should be initiated to educate consumers on cost-saving measures, energy-efficient alternatives, and strategic financial planning in response to changing economic conditions.

5. *Support for Small and Medium Enterprises (SMEs):* Special financial aid programs, tax incentives, and low-interest credit facilities should be provided to SMEs to help them cope with rising operational costs due to subsidy removal.

6. *Further Research:* Additional studies should explore the long-term implications of subsidy removal on economic growth, household welfare, and business sustainability, considering regional variations and evolving policy landscapes.

These recommendations, if implemented, will help mitigate the adverse effects of fuel subsidy removal, promote economic stability, and support consumer resilience in Nigeria's dynamic economic environment.

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