

EFFECT OF FUEL SUBSIDY REMOVAL ON THE CONSUMPTION OF PETROLEUM PRODUCTS IN DELTA STATE**IYAMABHOR Martins¹, Justice Taiwo OGUNDARE²**¹,Department of Business Management,²,Department of Marketing,

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Abstract

This study investigates the effect of fuel subsidy removal on the consumption of petroleum products in Delta State. The study specifically examines how the withdrawal of subsidy influences consumption patterns, how rising fuel prices shape consumer behaviour, and the general implications for households, transport operators, and small businesses in the state. A descriptive survey design was adopted, and data were collected from a sample of 150 respondents drawn from petroleum product consumers in Asaba, Delta State. Findings indicate that the removal of fuel subsidy has significantly impacted consumption levels, as increased fuel prices compel consumers to reduce usage, adopt alternative transportation choices, or adjust their spending priorities. The results further reveal that subsidy removal leads to behavioural adjustments such as reduced non essential travel and increased reliance on fuel efficient options. The study concludes that subsidy removal exerts a strong influence on the demand and consumption of petroleum products in Delta State. It recommends that government and policymakers introduce mitigating measures such as public transportation improvements, targeted welfare interventions, and support for small businesses to cushion the economic pressure associated with higher fuel prices and ensure sustainable energy accessibility for residents of the state.

Keywords: Subsidy Withdrawal, Fuel Pricing Policy, consumption patterns,**Introduction**

The removal of fuel subsidy in Nigeria has become one of the most significant economic policy decisions in recent years, with far-reaching implications for households, businesses, and the national economy. For decades, the fuel subsidy system was implemented to make petroleum products more affordable to citizens. While it helped cushion the cost of living, it also

encouraged excessive consumption, placed a heavy burden on government finances, and distorted market dynamics in the downstream petroleum sector. With the eventual removal of subsidy, fuel prices increased substantially, prompting major adjustments in consumption behaviour across the country (Audu et al, 2024). In Delta State an oil producing region heavily dependent on transportation, commerce, and

small scale industrial activities, the effect of subsidy removal is particularly pronounced. The state's socioeconomic landscape relies greatly on petroleum products for mobility, power generation, and commercial operations. As fuel prices rise, households reassess their consumption habits, transport operators adjust fares and routes, and small businesses face increased operational costs. These shifts inevitably reshape the pattern and volume of petroleum product consumption within the state (Raifu, 2024).

Subsidy removal also reveals broader behavioural and structural responses among consumers. Price changes influence purchasing decisions, travel frequency, energy alternatives, and the prioritization of essential versus non-essential fuel use. Existing studies suggest that consumers in fuel dependent economies often reduce consumption, seek cheaper alternatives, or modify lifestyle patterns in response to fuel price hikes. These behavioural adjustments are especially evident in regions where mobility and economic activities are tightly linked to petroleum availability, as seen in Delta State (Abu et al, 2024). Against this backdrop, examining the effect of fuel subsidy removal becomes crucial for understanding how consumers adapt to new price realities and how such changes influence overall fuel demand. This study therefore investigates how the removal of fuel subsidy affects the consumption of petroleum products in Delta State, focusing on shifts in consumer behaviour, expenditure patterns, and the broader socioeconomic implications for households,

businesses, and transport systems (Abu et al, 2024).

Statement of the Problem

The removal of fuel subsidy in Nigeria has triggered significant economic and social adjustments nationwide, yet its implications vary across states depending on their level of dependence on petroleum products. Delta State, an oil producing region with a high reliance on fuel for transportation, commerce, power generation, and daily household activities, is particularly sensitive to shifts in fuel pricing. With subsidy removal resulting in a sharp increase in pump prices, consumers in the state are compelled to modify their consumption patterns, expenditure priorities, and mobility decisions. Prior to subsidy removal, artificially low fuel prices encouraged high consumption, frequent fuel usage for mobility, and dependence on petrol powered generators due to unreliable electricity supply. However, the new deregulated pricing regime has exposed households, transport operators, and small businesses to rising operational costs, reduced purchasing power, and unpredictable market fluctuations. Despite the growing public discourse, there remains limited empirical evidence on how these changes specifically affect fuel consumption behaviour in Delta State. Additionally, rising fuel prices have led to increased transportation fares, reduced business profitability, and shifts toward alternative energy sources yet the extent and nature of these adjustments remain unclear. Many consumers are struggling to balance essential fuel use with escalating living costs, while others are resorting to reduced

travel, fuel rationing, or cutting back on non essential activities. These behavioural shifts raise critical concerns about the economic wellbeing of residents and the sustainability of fuel dependent livelihoods in the state. Given these realities, key questions remain unanswered:

- i. How the withdrawal of subsidy influences consumption patterns in Delta State?
- ii. To what extent has rising fuel prices shape consumer behaviour?

The absence of clear, research based answers to these questions creates a significant gap in understanding the real effects of subsidy removal on petroleum product consumption within the state. This study is therefore necessary to examine the effect of fuel subsidy removal on the consumption of petroleum products in Delta State.

Review of Related Literature

Concept of subsidy and subsidy removal

A subsidy is a transfer, discount or support provided by the government (or public sector) to reduce the cost of a good or service (e.g. fuel, food, utilities) often to make it more affordable for consumers, or to support producers (Dandaneau, 2018). Subsidy removal refers to the withdrawal of that support, so that prices (or costs) of the goods/services revert to (or approach) market determined levels. In other words: the government stops subsidizing or reducing the price/cost, and allows the market to set the price. Economically, removing a subsidy means eliminating the distortion introduced by artificially low

prices, which can restore more efficient allocation of resources (Nasiru et al., 2025). The removal of fuel subsidy has been a critical policy intervention influencing the consumption of petroleum products in Nigeria. Studies show that fuel subsidy, by keeping prices artificially low, historically encouraged high consumption, overreliance on fuel-powered transportation, and widespread use of generators due to inadequate electricity supply (Sethi & Chawla, 2018). Conversely, the removal or reduction of subsidy typically leads to significant adjustments in consumption behaviour as households and businesses respond to higher fuel costs.

Empirical evidence from Nigeria indicates that subsidy removal often results in reduced fuel demand, altered travel patterns, and shifts toward energy efficient alternatives (Lawan & Zanna, 2016). Consumers tend to ration fuel usage, limit non essential travel, and seek cheaper substitutes when faced with price increases. In the context of Delta State, where economic activities are heavily dependent on petroleum products, subsidy removal can have pronounced effects on consumption patterns. Residents may cut back on fuel intensive activities, while transport operators and small businesses are forced to adjust operational costs, which in turn affect overall fuel demand in the state (Ijewere & Odia, 2019). Moreover, price sensitivity and household income levels strongly influence the degree to which fuel consumption is reduced following subsidy removal. Studies suggest that low and middle income households are particularly affected, often

prioritizing essential fuel use for mobility and energy generation over nonessential consumption (Nasiru, et al. (2025). This highlights the direct link between subsidy policy changes and consumption behaviour in fuel-dependent regions such as Delta State (Sani & Hamza, 2025)

Withdrawal of Subsidy and Consumption of Petroleum Products

The withdrawal of petroleum subsidy refers to the removal or reduction of government financial support aimed at keeping fuel prices artificially low for consumers. Globally and in Nigeria, petroleum subsidies have been used to stabilize fuel costs, support low-income households, and encourage economic activity. However, such subsidies often lead to inefficiencies, resource misallocation, smuggling, and fiscal strain on governments (Audu et al, 2024). The removal of fuel subsidy has significant implications for the consumption of petroleum products. Economically, when subsidies are withdrawn, fuel prices increase to reflect true market costs. This price rise directly affects household and business consumption behavior. Studies in Nigeria indicate that subsidy removal reduces petroleum consumption as consumers seek to economize, switch to alternative transport modes, or reduce non-essential travel (Abu et al, 2024). Similarly, SMEs experience increased operational costs, leading to adjustments in production schedules and transportation usage, further affecting petroleum demand (Raifu, 2024). Macro economically, subsidy withdrawal can enhance government revenue and reduce

fiscal deficits, allowing reallocation of funds to productive sectors (Nasiru et al., 2025). Nonetheless, the immediate effect often includes inflationary pressure, rising cost of living, and reduced disposable income, particularly for low-income households, which may initially resist the change (Raifu, 2024) The literature consistently shows that the magnitude of consumption reduction depends on fuel price elasticity, income levels, and availability of alternatives.

Behaviorally, subsidy removal can influence consumption patterns, prompting more rational and efficient fuel usage. Households may adopt energy-saving measures, use public transport, or limit discretionary travel. Businesses, especially those reliant on transportation, adjust routes, consolidate deliveries, or invest in fuel efficient technologies. Leadership and policy transparency also play a role; effective communication and compensatory measures can improve public acceptance and mitigate negative socio-economic effects (Sani & Hamza, 2025).

In conclusion, the withdrawal of petroleum subsidies is a policy tool with both economic and behavioral consequences. While it can lead to more efficient fuel consumption and fiscal gains for governments, its success is moderated by income disparities, market alternatives, and policy implementation strategies. Policymakers must consider these factors to balance fiscal objectives with social welfare and sustained consumption patterns (Raifu, 2024).

Rising Fuel Pricing And The Consumption Of Petroleum Products

In recent years, Nigeria has experienced sharp increases in petroleum product prices, following the removal of fuel subsidies and liberalization of the downstream sector. As pump prices rose substantially reportedly reaching over ₦855 per liter and beyond the ripple effects have been felt across households, transport costs, and the cost of goods and services (Abu et al, 2024). The immediate consequence of higher fuel prices has been inflationary pressure. According to Nasiru et al. (2025), the jump in gasoline costs following the May 2023 subsidy removal contributed significantly to elevated inflation, by increasing transport and production costs. This inflation squeezes household budgets, especially for low income families, as fuel becomes a larger share of essential expenditure. Sani and Hamza (2025), on the consumption side, there is evidence the surge in prices has led to a decline in demand for petrol (Audu et al, 2024). National petrol consumption fell after the subsidy removal as consumers reduced usage or sought alternatives. For example, small and medium sized enterprises (SMEs) have reported increased operational costs, reduced profitability, and difficulty sustaining growth largely attributed to rising petroleum costs. At the same time, businesses in the downstream sector have faced higher procurement and borrowing costs, which they in many cases passed on to consumers in the form of higher fuel prices. Audu, et al (2024), in sum, recent fuel price hikes in Nigeria have contributed to sharper inflation, reduced real income and

purchasing power for many households, and a decline in petroleum consumption. These dynamics highlight the complex tradeoff between market driven pricing and social welfare and underscore the need for policy approaches that mitigate the burden on vulnerable populations while stabilizing fuel supply and prices (Raifu, 2024).

Theoretical Framework

Law of Demand (Economic Theory)

The Law of Demand states that, all else being equal, as the price of a good or service increases, the quantity demanded decreases, and conversely, as the price decreases, the quantity demanded increases. In the context of petroleum products, when the government removes or reduces fuel subsidies, the market price of petroleum products rises. According to the law of demand, higher fuel prices will likely lead to a decrease in consumption as households, transport operators, and businesses adjust their usage to cope with the higher costs (Mankiw, 2023).

Implication for the Study: applying the Law of Demand allows this study to analyze how fuel subsidy removal influences the consumption patterns of petroleum products in Delta State. It provides a theoretical framework to explain why consumers might reduce consumption, seek alternatives, or adjust their expenditure in response to subsidy removal.

Empirical Review

Eruka (2025), Fuel subsidy removal and performance of SMEs in Anambra State Nigeria, Purpose: The decision by the

government to rightly remove the subsidy on fuel has caused conflict and controversies. This study examines the effect of fuel subsidy removal and the performance of SMEs in Awka, Anambra State. Method: The study adopted a survey research design, and data was collected with the aid of a questionnaire. The population of the study consists of 357 respondents randomly selected from four Small and Medium Enterprises in the Awka south local Government Area. The hypotheses were tested using simple linear regression. Results: The findings revealed that Fuel Subsidy removal significantly affects the cost of living and transport fare in the Awka South Local Government Area. Conclusions: It was concluded that the removal of fuel subsidies has led to a significant increase in transport fares and cost of living, particularly in local government areas of Nigeria and recommended that government should invest in vehicles that do not depend on fuel. Limitations: The study encountered drawbacks and limitations due to the uncooperative attitude of the respondents, who refused to fill out the questionnaire and some returned it without filling it. The problem was mitigated by revisiting and convincing them of the need to assist in completing the questionnaire. Contribution: The findings of this study will offer valuable insights that advance our understanding by employing rigorous statistical analysis. Research has quantified the short-term and long-term effects of subsidy removal on inflation, highlighting how fuel prices hikes influence transportation, food prices, and household expenses.

Adeniyi (2025), fuel subsidy removal and small & medium enterprises (SMEs): cost of running business and business performance in delta state, Nigeria. Fuel subsidy removal has become a major economic reform in Nigeria with far reaching implications for various sectors, particularly Small and Medium Enterprises (SMEs). This study examines the impact of subsidy removal on the cost of running businesses and the overall performance of SMEs in Delta State. The research explores how the rising cost of fuel translates into increased production, transportation, and operational expenses, thereby affecting profitability, sustainability, and competitiveness. Resource Dependency Theory was used to explain how fuel subsidy removal have affected the cost of running business and business performance of SMEs in Delta State. Simple percentage and chi-square was used to test the hypotheses while 523 sampled respondents completed a structured questionnaire that was used to collect data from respondents. The study finds that fuel subsidy removal have led to increase in the cost of running business in Delta State and this increase in cost translate to increase in prices of commodities which have affected the purchasing power of consumers thereby leading to low business patronage and hence, low business performance. The study recommend amongst others, the need to develop serviced light-industrial parks in Warri, Asaba, and Ughelli with reliable power, water, and security; link clusters to public procurement quotas and large-firm off-take agreements; and institutionalize quarterly SMEs' cost/performance

dashboards to inform rapid policy tweaks as fuel-price conditions change.

Methodology

The design method employed for this study is the descriptive survey design, as it helps the researcher in the assessment of customer’s opinion using questionnaire and sampling methods. The population of the study consists of all customers of Fuel products in Asaba, Delta State. It was

difficult to estimate the actual number of customers consuming fuel product in Asaba, Delta State. For the purpose of this study, a sample of 150 consumers across Asaba, Delta State was drawn from the study population. Furthermore, the judgmental sampling technique was used in drawing the sample of this study. This sampling technique was selected based on the researcher’ access to data from respondents.

Results and Discussion

Descriptive Statistics of all Variables

Table 1: Summarized Descriptive Statistics of the Variables

Variables	N	Mean	Std. Dev.
Withdrawal of subsidy	150	4.56	0.77
Fuel Pricing policy	150	4.48	0.68
Consumption	150	4.57	0.76

Source: SPSS Computation (2025)

Table 1 presents the summary of the descriptive statistics of all the variables of concern in this study. The dependent variable is consumption while the independent variables are fuel subsidy removal and fuel pricing policy. As indicated in the table, the value of N stood at 150 which show the total number of respondents that participated in this study. The recorded mean for the variables ranges from 4.48 to 4.57. It is worthy of note, that the mean value indicates the average response on each variable, while standard deviation (Std.Dev.) measures the level of variability of the responses on the various items in the questionnaire. The independent

variables (withdrawal of subsidy and fuel pricing policy) recorded standard deviation of 0.77, 0.68, and 0.76 respectively. The low standard deviations are indications that the responses by the participants of this study revolves around the respective mean response with very slight evidence of variations. This is an indication that the bulk of the respondents gave similar responses since they presumably have the same thinking which shows they clearly understood the items in the questionnaire. With this development, our conclusion in this regards is that the responses obtained in the course of this study could be adjudged as reliable, dependable and usable towards the

achievement of the specific objectives specified earlier in this research report.

To confirm whether ambiguous or bias items were adequately eliminated from the questionnaire and that the items in the

questionnaire were clearly understood by the respondents, the responses in the questionnaire were subjected to a reliability analysis test using the Cronbach’s alpha test. The result of the test is presented in Table 2.

Table 2: Reliability Results From Cronbach Alpha Test

Variable	Ave Interim Cov.	Items in Scale	Alpha Value	Remarks
Withdrawal of subsidy	0.5726625	5	0.9615	Reliable
Fuel Pricing policy	0.4062539	5	0.8823	Reliable
Consumption	0.5680785	5	0.9856	Reliable
Overall	0.515665	15	0.9917	Reliable

Source: SPSS Computation (2025)

From Table 2, the obvious is that Alpha values ranged from approximately 0.8823 to 0.9917. This results confirms that the research instrument used in this study is reliable having obtained values above the minimum threshold of 0.50 (Gay & Airasian, 2003). With this result, our

argument is that the responses given can be relied upon in arriving at a dependable conclusion in this study. On this note, we however proceed to the test of hypotheses formulated in the earlier part of this research report.

Hypotheses Testing

Hypothesis One

Ho₁: withdrawal of subsidy does not significantly affect the consumption of petroleum products in Delta State.

Table 3: Results of Model I and Test of Hypothesis I (withdrawal of subsidy and Consumption)

Dependent Variable: Consumption		No. of Obs. = 150			
Variables	Symbol	Coefficient	Std.Err	t-Statistics	Sign.
Constant	_CONS	0.4080172	0.1019849	4.00	0.000
Withdrawal of subsidy	LSC	0.9117338	0.0220392	41.37	0.000
F(1, 281)				1711.37	
(p-value)				(0.0000)	
R-Squared				0.8590	
R-Squared Adj.				0.8585	
Root MSE				0.28563	

Source: Researcher’s Computation via STATA 13.0

The results for the test of hypothesis one of this current study is presented in Table 3. The Table above clearly shows that withdrawal of subsidy obtained a positive coefficient of 0.9117338 and a standard error of 0.0220392, stating that withdrawal of subsidy has positive relationship with consumption of petroleum products in Delta State. Also, withdrawal of subsidy obtained a t-stat. of 41.37 ($P > |t| = 0.000$), which further suggests that on individual basis; withdrawal of subsidy has positive significant relationship on consumption of petroleum products in Delta State.

Furthermore, we observed that the p-value obtained is 0.0000. The R-squared

obtained is 0.8590 and the Adj R-squared obtained is 0.8585. This indicates that withdrawal of subsidy account for about 85.9% changes in consumption of petroleum products in Delta State. From the results presented in the table, judging by the result of the WS, the p-value obtained which is (0.0000) less than 0.05 and significant at 5% level of significance implies that the null hypothesis which states there is no significant relationship between withdrawal of subsidy and consumption of petroleum products in Delta State is rejected. Impliedly, there is a significant relationship between withdrawal of subsidy and consumption of petroleum products in Delta State.

Hypothesis Two

Ho₂: The fuel pricing policy does not significantly affect the consumption of petroleum products in Delta State.

Table 4: Results of Test of Hypothesis (fuel pricing policy and consumption)

Dependent Variable: consumption		No. of Obs. = 150			
Variables	Symbol	Coefficient	Std.Err	t-Statistics	Sign.
Constant	_CONS	0.0053917	0.1253856	0.04	0.966
fuel pricing policy	JAC	1.018177	0.0276657	36.80	0.000
F(1, 281)				1354.46	
(p-value)				(0.0000)	
R-Squared				0.8282	
R-Squared Adj.				0.8276	
Root MSE				0.31526	

Source: Researcher’s Computation via STATA 13.0

The results for the test of hypothesis two of this current study is presented in Table 4. The Table above clearly shows that fuel pricing policy obtained a positive coefficient of 1.018177 and a standard error of 0.0276657. Stating that fuel pricing policy has a positive relationship with consumption of petroleum products in Delta State, Also, fuel pricing policy obtained a t-stat. of 36.80 ($P > |t| = 0.000$), which further suggests that on individual basis; fuel pricing policy (FPP) has positive significant relationship on consumption of petroleum products in Delta State.

Furthermore, we observed that the p-value obtained is 0.0000. The R-squared obtained is 0.8282 and the Adj R-squared obtained is 0.8276. This indicates that fuel pricing policy account for about 82.82% - 82.76% changes in consumption of petroleum products in Delta State.

From the results presented in the table, judging by the result of the FPP, the p-value obtained which is (0.0000) less than 0.05

and significant at 5% level of significance implies that the null hypothesis which states

that the fuel pricing policy does not significantly affect the consumption of petroleum products in Delta State is rejected. Impliedly, there is a significant relationship between fuel pricing policy and consumption of petroleum products in Delta State.

Conclusion

Following the result obtained from the test of hypotheses carried out and a critical review of past literatures, the study concludes that subsidy removal exerts a strong influence on the demand and consumption of petroleum products in Delta State. It is also pertinent to state in the conclusion of this study that the identified

variables factors used in this study has a significant effect on the consumption of petroleum products in Delta State. In specific terms; the study has shown that consumers consider their withdrawal of subsidy when making the decision to consume petroleum products. Fuel pricing policy also plays a major role in affecting the consumption of petroleum products in Delta State.

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Recommendation

On the basis of the findings of this study and in relation to the empirical literatures reviewed, the study recommends, that government and policymakers introduce mitigating measures such as public transportation improvements, targeted welfare interventions, and support for small businesses to cushion the economic pressure associated with higher fuel prices and ensure sustainable energy accessibility for residents of the state.

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