

Effect of Fuel Subsidy Removal on Food Prices and Consumer Purchase Behaviour in Abia State: A Market Dynamics Perspective

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Abstract

To evaluate and better understand the effect of fuel subsidy removal on food prices and consumer purchase behaviour in Abia State: A market dynamics perspective, the study focused on civil servants, lecturers, students, transporters, businesspeople, farmers, and self-employed people who live in Umuahia and Aba metropolitans of Abia State. The study uses both primary and secondary sources of data extensively. Using Topman's formula, the sample size of 196 respondents was established. With the help of Statistical Package for Social Sciences (SPSS) version 23.0, Ordinal Least Square (OLS) was used to test the presented hypotheses at a 5% level of significance. According to the study, fuel subsidy removal has a significant and positive effect on food prices in Abia State; also, the removal of fuel subsidies has a significant and positive impact on food purchases in Abia State. Again, there is a significant and positive effect of fuel subsidy removal on consumer purchase behaviour in Abia State. In conclusion, the removal of the fuel subsidy has led to higher food prices, which has in turn affected food purchasing and overall consumer purchase behaviour in Abia State. The study recommended that the government and policymakers in Abia State should implement targeted support programs, such as subsidized food vouchers or direct cash transfers, specifically for low-income households to help them manage increased costs while maintaining access to essential items, such as food.

Keywords: *Effect, Fuel Subsidy, Food Prices, Consumer Purchase Behaviour, Market Dynamics.*

INTRODUCTION

Nigeria is grappling with severe economic challenges, notably due to the removal of fuel subsidies. These subsidies, which had historically involved government expenditure to keep fuel prices below market levels, were a cornerstone of Nigeria's economic strategy (Ojo, 2023). President Tinubu's recent decision to eliminate these subsidies has sparked a debate regarding its potential ramifications across various sectors, including agriculture, food pricing, and consumer behaviour. Fuel subsidies were originally intended to protect consumers from fuel price volatility and promote economic stability. By keeping fuel prices artificially low, the policy aimed to stimulate consumption and support fuel-dependent industries. However, this approach was criticized for encouraging fuel smuggling, fostering inefficiencies, and imposing a significant financial burden on the government (Ojo, 2023; Smith, 2024).

The subsidy removal has led to a sharp increase in fuel prices, significantly affecting transportation costs. In Abia State, transportation is vital for food supply chains. Farmers and traders depend heavily on road transport to move produce from rural areas to urban markets. Since the subsidy removal, fuel prices have surged. For instance, the price of a liter of petrol in Abia State has escalated from approximately ₦260 to over ₦1200 (NBS, 2024). This hike has translated into higher transportation costs, increasing the cost of delivering food products to market. Recent data indicates that food prices in Abia State have risen by an average of 35% since the subsidy removal (Umeh, 2024). The cost of a bag of rice has jumped from ₦31,000 to ₦71,000, and maize prices have surged by 45%.

The subsidy removal has introduced substantial market dynamics into Nigeria's economy. One critical aspect is the increased volatility in fuel prices, which heightens uncertainty in production and transportation costs. This volatility disrupts market equilibrium, affecting both supply and demand in various sectors. In the agricultural sector, where fuel costs are a significant component of operational expenses, farmers face elevated costs for machinery and irrigation. Small-scale farmers, constrained by limited resources, struggle to absorb these additional expenses (Nwosu, 2024). As a result, production costs rise, leading to decreased agricultural productivity and heightened food insecurity.

Moreover, the increase in transportation costs has implications for market structure and competition. Higher logistics expenses reduce the competitiveness of local produce compared to imported goods, which may be less affected by domestic fuel price fluctuations. This shift could lead to increased reliance on imports, potentially destabilizing local markets and undermining food sovereignty (Ifeanyi, 2024). As local producers struggle with rising costs, they may be forced to either absorb losses or pass on the increased costs to consumers, leading to higher food prices and further strain on household budgets.

The impact on consumer purchasing patterns is a critical area of concern. As food prices escalate, households experience increased expenditure on essential items, diminishing their disposable income for other goods and services (Boulanger & Goh, 2023). This erosion of purchasing power can lead to reduced overall consumption and negatively impact the standard of living (Gordon & Smith, 2022). Consumers across Nigeria may struggle to afford basic necessities, leading to decreased demand for non-essential goods and potential economic stagnation (Akpan & Osei, 2024).

1.1 STATEMENT OF THE PROBLEM

Nigeria's recent removal of fuel subsidies has caused serious economic problems, particularly impacting the food and agriculture industries in Abia State. Food prices have surged by 25%, while transportation expenses have driven up costs and reduced agricultural output. For essential staples like rice, beans, and maize, price hikes have reached 24% and 30%, respectively, exacerbating food insecurity in the State.

Consumer behaviour have been be significantly affected. As food prices rise, households, especially those with lower incomes, are forced to spend more on essentials, reducing spending on other goods and services. This shift in spending patterns can decrease demand for food items, impacting businesses and straining the local economy.

Moreover, the ripple effect extends beyond food prices and transportation costs. The altered market dynamics can lead to shifts in consumer purchasing patterns, with families prioritizing essential food items over other expenditures. This behaviour shift may result in decreased consumer confidence and spending in other areas of the economy, straining businesses and potentially leading to broader economic instability.

1.2 RESEARCH OBJECTIVES

The general objective of this study is to examine the effect of fuel subsidy removal on food prices and consumer purchase behaviour in Abia State. Specific objectives include to:

- i. Ascertain the effect of fuel subsidy removal on food prices in Abia State.
- ii. Examine whether the removal of fuel subsidy has a significant effect on food purchases in Abia State.
- iii. Evaluate whether there is a significant effect of fuel subsidy removal on consumer purchase behaviour in Abia State.

1.3 RESEARCH QUESTIONS

The study aims to find answers to the following questions:

- i. What is the effect of fuel subsidy removal on food prices in Abia State?
- ii. Does the removal of fuel subsidy has a significant effect on food purchases in Abia State?
- iii. Is there any significant and positive effect of fuel subsidy removal on consumer purchase behaviour in Abia State?

1.4 RESEARCH HYPOTHESES

The following null hypotheses were formulated to guide this study:

H0₁: Fuel subsidy removal has no significant and positive effect on food prices in Abia State.

H0₂: The removal of fuel subsidy has no significant and positive effect on food purchases in Abia State.

H0₃: There is no significant and positive effect of fuel subsidy removal on consumer purchase behaviour in Abia State.

2.0 LITERATURE REVIEW

The variables under investigation are reviewed conceptually, theoretically and empirically to harness the perceived gaps that the study aimed to fill. The concepts are discussed below.

2.1 CONCEPTUAL REVIEW

Fuel subsidy

A fuel subsidy is a government policy designed to reduce the cost of fuel for consumers. The government provides financial assistance to lower the price of fuel, such as gasoline or diesel, making it cheaper than it would be based on market conditions alone (International Energy

Agency, 2023). The subsidy in Nigeria, introduced in the 1970s to shield consumers from global oil price fluctuations, has become a contentious issue with significant economic and political ramifications (Adewole & Balogun, 2021). Initially aimed at affordability and economic stability, the subsidy has become a burden on the national budget, costing around ₦4.8 trillion (\$11.6 billion) in 2022 (National Bureau of Statistics, 2023). This expenditure has led to reduced investment in critical areas like healthcare and education (World Bank, 2022). The subsidy has distorted the market by keeping fuel prices artificially low, fueling smuggling and black-market activities (Ogunleye, 2021). Corruption has worsened the problem, with substantial funds diverted through fraudulent practices (Transparency International, 2023). Politically, the subsidy is a tool for gaining electoral support, making reductions or removal controversial and prone to public protests (Ezeani, 2022). Recent government efforts, including the phase-out of the subsidy and reforms to enhance transparency and curb corruption, aim to address these issues (Federal Government of Nigeria, 2023). Measures include implementing a more sustainable pricing mechanism and introducing compensatory measures like targeted cash transfers to mitigate the impact on low-income households (Akinlo & Akinwumi, 2023). Fuel subsidies can vary widely, depending on the objectives and strategies of different governments.

Fuel subsidy removal

Fuel subsidy removal refers to the process of removing or reducing government subsidies that keep fuel prices (such as gasoline or diesel) lower than their market value. Fuel subsidies are used by governments to make transportation more affordable for consumers, support industries that rely on fuel, and control inflation (IMF, 2013). When a government cuts these subsidies, the cost of fuel typically rises to reflect its true market price. The removal of fuel subsidies can have several significant economic impacts, affecting various aspects of society. One primary effect is the increase in fuel prices, impacting both consumers and businesses. As gasoline, diesel, and other fuels rise, transportation and delivery of goods become more expensive. This drives up prices for a wide range of goods and services reliant on transportation (Coady et al., 2017).

Effect of fuel subsidy removal on food prices

Nigeria has struggled in recent years to control its fuel subsidies, a policy with significant impacts on economic sectors like food prices and agriculture. Fuel subsidies have strained Nigeria's budget and distorted market dynamics, despite their intent to make energy and transportation more affordable. The removal of these subsidies has notably affected food prices and the cost of living. The removal of fuel subsidies impacts food prices primarily through increased transportation costs. Subsidies lower fuel costs, reducing transportation expenses for goods. Without them, fuel prices rise, increasing transportation costs for farmers and distributors, which leads to higher food prices (NBS, 2024). A report by the Nigerian Bureau of Statistics noted that food prices, including grains, vegetables, and meat, surged significantly due to increased fuel costs (NBS, 2024). Food inflation spiked by 30% within six months of subsidy removal (NBS, 2024). Edo, Kogi, and Cross River were identified as states with the highest food prices in June 2024.

Effect of fuel subsidy removal on food purchase

The removal of fuel subsidies in Nigeria has sparked significant debate due to its far-reaching economic and social impacts. Historically, fuel subsidies aimed to make staple foods more affordable, but their elimination has led to a sharp increase in food prices. This surge has affected the cost of goods and services, causing a rise in living expenses. According to the National Bureau of Statistics, the Consumer Price Index (CPI) surged by 15.3% in the month following the subsidy removal, highlighting a major increase in consumer inflation and reduced purchasing power (NBS, 2024). Lower-income households, which spend a larger share of their income on food, have been disproportionately impacted, leading to reduced consumption and economic hardship (African Development Bank, 2024). Despite these immediate challenges, the long-term outlook could be more positive. The subsidy removal may lead to economic stabilization by reducing fiscal deficits and improving resource allocation. However, the transition period requires government action to alleviate adverse effects on vulnerable populations (United Nations Development Programme, 2024).

Consumer buying behaviour

Consumer buying behaviour involves studying how individuals allocate their resources (time, money, effort) on consumption-related items (Schiffman & Kanuk, 2010). It examines factors influencing purchasing decisions and is crucial for companies to understand market dynamics and refine their strategies (Kotler & Keller, 2016). Okpara (2012) identifies economic conditions and commodity prices as key influences in consumer decisions, especially in Nigeria and other developing economies where many live below the poverty line. Okpara (2012) outlines five stages in the consumer decision-making process: problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour. The removal of fuel subsidies in Nigeria increases fuel prices, raising transportation and essential goods costs. Consumers then seek cheaper alternatives, leading to adjustments such as reducing discretionary spending and choosing lower-quality products. These choices may result in long-term changes in purchasing habits.

2.2 THEORETICAL FRAMEWORK

Several theories relate to the effect of food prices and consumer purchase behaviour in Abia State. This study is based on Consumer Behaviour Theory, particularly the Howard-Sheth Model proposed by John Howard and Jagdish Sheth in 1969. The theory provides a framework for understanding how changes in food prices, due to fuel subsidy removal, affect consumer choices (Howard & Sheth, 1969). It helps analyze how price changes, driven by fuel subsidy removal, influence consumer attitudes and perceived control over spending. These factors can alter food purchase patterns (Sheth & Mittal, 2004). Additionally, Consumer Behaviour Theory assesses how fluctuations in food prices influence household budgets and consumption habits (Kotler & Keller, 2016). The study aims to offer insights into how economic shifts influence consumer buying behaviour in Abia State, potentially guiding policy adjustments and market strategies.

2.3 EMPIRICAL REVIEW

Nwachukwu and Tumba (2023) explore the effect of subsidy removal on consumer buying patterns and behaviours, focusing on the consequences and strategies to alleviate the hardships faced by the Nigerian population. The study is guided by the Theory of Planned Behaviour (TPB), which examines how attitudes, social norms, and perceived control influence consumer behaviour. Findings reveal that subsidy removal led to an abrupt increase in fuel prices, which caused higher transportation and essential goods costs. Poor consumer behaviour, such as panic buying and hoarding, exacerbated price volatility, inflationary pressure, and social unrest.

Ozili and Kingsley (2023) studied the macroeconomic and microeconomic implications of the 2023 fuel subsidy removal in Nigeria using discourse analysis. Positive implications include freeing financial resources for other sectors, incentivizing domestic refineries, reducing dependence on imported fuel, increasing employment, and developing critical infrastructure. Negative implications include potential short-term economic decline, increased inflation, poverty, fuel smuggling, crime, and higher petroleum product prices.

Noah, Jubril, and Bello (2024) investigated the effect of fuel subsidy removal on Nigeria's supply chain, focusing on fuel prices, transportation costs, and food prices. Correlation analysis revealed a strong positive correlation ($r = 0.93$, $p < 0.0001$) between petrol prices and food prices. Regression analysis showed that petrol prices significantly impact transportation costs ($\beta = 0.28$, $p < 0.0001$), suggesting that rising fuel prices lead to higher transportation costs that could be passed on to consumers. Co-integration analysis provided evidence of a long-term equilibrium relationship between petrol prices, transportation costs, and food prices.

Samson et al. (2024) examined the impact of fuel subsidy removal on agricultural production among smallholder farmers in Niger state, Nigeria. Data were collected through structured questionnaires from 120 farmers, analyzed using descriptive statistics, regression, and Likert scales. Results indicated that subsidy removal negatively impacted agricultural activities, leading to higher transportation costs, inadequate transport vehicles, poor sales, and increased prices of agricultural commodities. The study also found that youths aged 20-29 (64.2%) predominated in agriculture.

Monsuru (2024) investigated the impact of fuel subsidy removal on household spending in Nigeria using a qualitative research design. Findings reveal that while subsidy removal can lead to government cost savings and increased efficiency in the petroleum sector, concerns about inflation and the affordability of essential goods persist.

Ekine and Okidim (2013) analyzed the effect of fuel subsidy removal on selected food prices in Port Harcourt from 2001 to 2012, including rice, yam, garri, beef, and fish. The study found that fuel subsidy removal significantly impacted food prices, with most items increasing, particularly beef and fish. Regression analysis showed a significant relationship between food prices and fuel subsidy.

3.0 METHODOLOGY

This study utilized a survey design, which, according to Okpara et al. (2021), allows researchers to assess views and opinions on a specific topic. Primary data was obtained from respondents via a structured questionnaire administered with the help of two research experts. Secondary data was

sourced from the Abia State University library, the researcher’s library, and the internet. The study was conducted in Abia State’s two major cities, Umuahia and Aba, chosen for their high population density, industrial, educational, and commercial presence, as well as their cosmopolitan culture. The study population included civil servants, lecturers, students, transporters, businesspeople, farmers, and self-employed individuals from these cities. Topman’s formula was used to determine a sample size of 196, based on a pilot survey with 20 respondents. Positive responses were 15% (0.15) and negative responses were 85% (0.85). The convenience sampling method was employed, with 179 out of 196 questionnaires (91.3%) being usable. A 5-point Likert scale was used, ranging from 5 (Strongly agree) to 1 (Strongly disagree). The study’s variables, independent (fuel subsidy removal) and dependent (food prices, food purchase, consumer purchase behaviour in Abia State) were measured using five constructs. Data were edited to ensure consistency, and analysis was performed using SPSS version 23.0 and the Ordinal Least Square (OLS) statistical tool.

4.0 ANALYSIS AND INTERPRETATION OF DATA

The results of analyses on the data obtained through structured copies of questionnaire are discussed as follows;

4.1 ANALYSIS OF DATA

4.1.1 RESEARCH QUESTION ONE

What is the effect of fuel subsidy removal on food prices in Abia State?

Testing of hypothesis One

H0₁: Fuel subsidy removal has no significant effect on food prices in Abia State.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Fuel subsidy removal ^b	.	Enter

a. Dependent Variable: Food prices

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.920 ^a	.846	.845	.28054

a. Predictors: (Constant), Fuel subsidy removal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.583	1	76.583	973.056	.000 ^b
	Residual	13.931	177	.079		
	Total	90.514	178			

- a. Dependent Variable: Food prices
- b. Predictors: (Constant), Fuel subsidy removal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.264	.153		-1.724	.086
	Fuel subsidy removal	1.042	.033	.920	31.194	.000

- a. Dependent Variable: Food prices

Interpretation

Model Summary: R = 0.920: Indicates a very strong positive correlation between fuel subsidy removal and food prices in Abia State. **R² = 0.846:** 84.6% of the variation in food prices is explained by fuel subsidy removal. **Adjusted R² = 0.845:** Confirms the model’s strong fit.

ANOVA: F-statistic = 973.056, p-value = 0.000: The model is highly significant, showing that fuel subsidy removal affects food prices.

Coefficients: Constant (B) = Fuel subsidy coefficient (B) = 1.042: For every unit increase in fuel subsidy removal, food prices rise by 1.042 units. p-value for subsidy removal = **0.000:** The effect is significant, and fuel subsidy removal explains 84.6% of the rise in food prices.

Decision: Fuel subsidy removal has a significant positive effect on food prices in Abia State, leading to rejection of the null hypothesis.

4.1.2 RESEARCH QUESTION TWO

Does the removal of fuel subsidy has a significant and positive effect on food purchases in Abia State?

Research hypothesis Two

H0₂: The removal of fuel subsidy has no significant and positive effect on food purchases in Abia State.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Fuel subsidy removal ^b	.	Enter

- a. Dependent Variable: Food purchase
- b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^a	.942	.941	.16497

a. Predictors: (Constant), Fuel subsidy removal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.764	1	77.764	2857.386	.000 ^b
	Residual	4.817	177	.027		
	Total	82.581	178			

a. Dependent Variable: Food purchase

b. Predictors: (Constant), Fuel subsidy removal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.233	.090		-2.591	.010
	Fuel subsidy removal	1.050	.020	.970	53.455	.000

a. Dependent Variable: Food purchase

Interpretation

Model Summary: R = 0.970: Strong positive correlation between fuel subsidy removal and food purchases. **R² = 0.942:** 94.2% of the variance in food purchases is explained by fuel subsidy removal. **Adjusted R² = 0.941:** Confirms the model's strength even when accounting for the number of predictors.

ANOVA Results: F-value = 2857.386: Indicates the model significantly explains variations in food purchases. **p-value = 0.000:** The model is statistically significant, showing that fuel subsidy removal impacts food purchases.

Coefficients: Constant (B) = -0.233: Y-intercept, not highly meaningful in this context. **Fuel Subsidy Removal (B) = 1.050:** For each unit increase in fuel subsidy removal, food purchases rise by 1.050 units. **t-value = 53.455, p-value = 0.000:** Confirms a statistically significant effect.

Decision: The removal of fuel subsidy has a significant and positive effect on food purchases in Abia State, leading to rejection of the null hypothesis.

4.1.3 RESEARCH QUESTION THREE

Is there any significant and positive effect of fuel subsidy removal on consumer purchase behaviour in Abia State?

Testing of hypothesis Three

H0₃: There is no significant and positive effect of fuel subsidy removal on consumer purchase behaviour in Abia State.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Fuel subsidy removal ^b	.	Enter

a. Dependent Variable: Consumer purchase behaviour

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.961 ^a	.924	.924	.18099

a. Predictors: (Constant), Fuel subsidy removal

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.950	1	70.950	2165.879	.000 ^b
	Residual	5.798	177	.033		
	Total	76.749	178			

a. Dependent Variable: Consumer purchase behaviour

b. Predictors: (Constant), Fuel subsidy removal

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.048	.099		-.482	.631
	Fuel subsidy removal	1.003	.022	.961	46.539	.000

a. Dependent Variable: Consumer purchase behaviour

Interpretation

Model Summary: The analysis shows a strong positive correlation ($R = 0.970$) between fuel subsidy removal and food purchases. The model explains 94.2% of the variance in food purchases ($R^2 = 0.942$), confirmed by an adjusted R^2 of 0.941. ANOVA results ($F = 2857.386$, $p = 0.000$) indicate statistical significance. For each unit of fuel subsidy removal, food purchases increase by 1.050 units ($B = 1.050$), with a t-value of 53.455 and p-value of 0.000, confirming a significant effect. Decision: The fuel subsidy removal has a significant positive effect on consumer purchase behaviour in Abia State, leading to rejection of the null hypothesis.

4.2 DISCUSSION OF FINDINGS

The impact of subsidy removal on food prices is consistent with previous studies. Noah, Jubril, and Bello (2024) observed a strong link between fuel prices and food costs, attributed to increased transportation expenses. Nwachukwu and Tumba (2023) also highlighted how subsidy removal raised fuel prices, which translated into higher costs for goods and services, including food. Fuel subsidy removal affects food purchases due to rising transportation costs. Samson et al. (2024) noted that high fuel costs impact smallholder farmers, leading to poor sales and increased food prices. This situation impairs consumers' ability to purchase food, especially in regions like Abia State. The effect on consumer behaviour can be understood through the Theory of Planned Behaviour (TPB), as discussed by Nwachukwu and Tumba (2023). Increases in fuel prices have led to panic buying and shifts in purchasing patterns, with consumers focusing on essentials like food and cutting back on non-essentials.

5.0 CONCLUSION, RECOMMENDATIONS, AND POLICY IMPLICATION

5.1 CONCLUSION

The study concludes that the removal of fuel subsidies directly impacts food costs. Higher transportation and production costs are passed on to consumers, making food less affordable and potentially leading to reduced consumption or changes in purchasing patterns. In Abia State, consumers are likely to adjust their spending habits in response to higher costs, prioritizing essential purchases and cutting back on non-essentials.

5.2 RECOMMENDATIONS

Based on the study's findings, the following recommendations are made to address the identified issues:

- i. The government and policymakers in Abia State should implement targeted support programs, such as subsidized food vouchers or direct cash transfers for low-income households. This will help them manage increased costs while maintaining access to essential items.
- ii. The Abia State government should invest in and promote local agricultural initiatives to boost food production and reduce reliance on imported goods. This could involve providing subsidies or grants to local farmers, improving agricultural infrastructure, and supporting local food markets. These measures will help alleviate the burden of high food costs, especially the poor citizens.

5.3 POLICY IMPLICATION

This study highlights that removing fuel subsidies in Abia State has raised food prices, adversely affecting low-income households. Policymakers should introduce consumer protection measures, such as direct cash transfers or subsidized food programs, to support vulnerable populations. Additionally, enhancing agricultural sector resilience through subsidies, technical support, and improved infrastructure is essential for stabilizing food production and prices long-term.

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