

Impact of Fuel Subsidy Removal on Household Economy in Brinin Kebbi Metropolis: A Comparative Study Of Before and After Policy Implementation.

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Date of Submission: 05-08-2024

Date of Acceptance: 15-08-2024

ABSTRACT

The removal of fuel subsidies, a controversial yet pivotal policy decision, has far-reaching implications for the economic stability of households, particularly in regions like BrininKebbi Metropolis, Kebbi State, Nigeria. Fuel subsidies traditionally aim to alleviate the financial burden on citizens by reducing fuel costs, but their removal poses significant economic challenges. This study investigates the economic repercussions of the subsidy removal on households in BrininKebbi Metropolis, employing a cross-sectional survey of 500 households and analyzing income and fuel expenditure data using SPSS. The findings reveal a substantial decline in household incomes and a significant increase in fuel costs and overall household expenditures post-subsidy removal. Before the policy change, most households earned between ₦50,000 and ₦100,000 monthly, with fuel spending primarily between ₦10,000 and ₦20,000. Post-removal, the percentage of households earning below ₦50,000 surged from 24.6% to 48.6%, while those earning above ₦150,000 dropped from 16.0% to 5.4%. Concurrently, fuel spending between ₦20,000 and ₦30,000 increased from 19.8% to 28%. A majority of respondents (72%) reported worsening economic conditions, and 88% noted significant price increases for essential goods and services. The study's Chi-Square test results indicate a statistically significant difference in household incomes and fuel prices before and after the subsidy removal, highlighting the immediate financial strain on households. Furthermore, 89.4% of respondents favored direct interventions such as financial aid and subsidies on essential goods to

mitigate the adverse effects of the subsidy removal. These findings indicate the necessity for targeted policy measures to ensure economic stability and support for households amid subsidy reforms.

I. INTRODUCTION

Fuel subsidy is a government discount on the market price of fossil fuel a policy used by the government to reduce the market price of fossil fuels, hence enabling customers to pay less than the current fuel prices, [13]. Fuel subsidies are a topic of discussion around the world due to their large scale, impact on the welfare of citizens and ability to balance a country's budget. The issue of fuel subsidy removal has been a subject of extensive scholarly discourse, examining its multifaceted effects on the economic dynamics of various regions. As nations grapple with the delicate balance between fiscal responsibility and social welfare, understanding the implications of such policy decisions becomes paramount. The idea that fossil fuel subsidy is a sort of help since it lowers the cost of fuel for the underprivileged makes the removal of the subsidy controversial. Notwithstanding this persuasive argument, a substantial body of research demonstrates the detrimental effects of fuel subsidies, which include rising air pollution and greenhouse gas emissions [15], traffic jams and early deaths [11] loss of tax revenue [15], and a rise in wealth and poverty inequality [11]. This study aims to contribute to this discourse by focusing on the specific case of BrininKebbi, Nigeria, and evaluating the economic repercussions of the removal of fuel subsidies on households in the state's metropolis. Fuel subsidies,

traditionally implemented to alleviate the financial burden on citizens and stimulate economic growth, have undergone significant reconsideration in recent years. The literature indicates a diverse range of perspectives on the consequences of subsidy removal. Some argue that it leads to increased government revenue and improved market efficiency, while others highlight the potential for inflationary pressures and adverse effects on household budgets. In the context of BrininKebbi Metropolis, where the socio-economic landscape is unique, this research seeks to provide a nuanced analysis of the impact of fuel subsidy removal on household economics. The global discourse surrounding the removal of fuel subsidies has attracted substantial interest from both scholars and researchers. Whether to keep or remove fuel subsidies is an issue that governments frequently struggle with in an effort to achieve a balance between social justice and fiscal responsibility. The debate over the long-term effects of these kinds of policy changes is still nuanced and situation-specific, differing from place to place and from economy to economy. By undertaking a comparative analysis before and after the implementation of the subsidy removal policy, this study aims to uncover the specific changes in household income, spending patterns, and overall economic well-being. The findings will not only contribute to the academic understanding of fuel subsidy dynamics but will also offer practical insights for policymakers and stakeholders in Kebbi State as they navigate the challenges of economic reform.

1.1 Statement of the Problem

In the context of the global economy, the removal of fuel subsidies has become a divisive policy issue, generating discussions about its effects on market dynamics, the budget and most importantly, the lives of ordinary residents. Although existing literature offers significant insights into the wider implications of subsidy elimination, there is still a noticeable knowledge gap about the more subtle and localized effects, particularly in specific places like BrininKebbi Metropolis, Kebbi State, Nigeria. Kebbi State like any other State in Nigeria faces the difficult task of striking a balance between fiscal responsibility and the welfare of its people because of its unique socioeconomic features. In this case, the choice to remove fuel subsidies should be carefully considered because it has the power to alter household budgets, affect consumer behavior and impact the general welfare of the public. The

absence of a dedicated study focusing on the before-and-after dynamics of fuel subsidy removal in BrininKebbi Metropolis leaves policymakers and stakeholders without a comprehensive understanding of the potential repercussions on the ground. This research aims to address this critical knowledge gap by undertaking a detailed analysis of the economic consequences of subsidy removal on households in BrininKebbi Metropolis. As Kebbi State navigates the complexities of economic reform, including the removal of fuel subsidies, a thorough investigation is imperative to inform evidence-based decision-making. The outcomes of this study will not only offer academic contributions to the existing literature but also provide practical insights that can guide local policymakers, enhance socio-economic planning and ensure that the impact of such policy adjustments aligns with the broader goals of sustainable development and improved living standards in BrininKebbi Metropolis and Kebbi State in general.

1.2 Research Questions

1. What were the key economic characteristics of households in BrininKebbi Metropolis before the removal of fuel subsidies?
2. What immediate changes occurred following the removal of fuel subsidies and how did these changes impact households in BrininKebbi Metropolis?
3. What are the long term effect of fuel subsidy removal on the overall economic well-being in BrininKebbi Metropolis?
4. What evidence-based recommendations can be formulated from the study's findings to guide policymakers in Kebbi State in mitigating negative impacts and enhancing positive outcomes for households in the post-subsidy removal economic landscape?

Research Hypothesis

The following null hypothesis is formulated and tested in this research work:

H_{01} : There is no significant difference in the mean household income before the removal of fuel subsidies and after in BrininKebbi Metropolis.

H_{02} : There is no significant difference in the mean fuel prices before and after the removal of fuel subsidies in BrininKebbi Metropolis

1.3 Objectives of the study

The main intent of this research work is to carry out a comparative study of the before and after impact of the implementation of the policy of

subsidy removal on household economics in BrininKebbi Metropolis in Kebbi State, Nigeria. However, this research work shall meet the following specified objectives:

1. To conduct a comprehensive analysis of the economic conditions in BrininKebbi Metropolis before the removal of fuel subsidies based on key indicators such as household income, spending patterns and overall economic stability so as to establish a baseline for comparison.
2. To investigate the immediate economic consequences of the removal of fuel subsidies on households in BrininKebbi Metropolis.
3. To assess the long-term socio-economic implications of fuel subsidy removal on household economics in BrininKebbi Metropolis.
4. To Formulate evidence-based recommendations to policymakers in Kebbi State based on the findings of this study.

II. LITERATURE REVIEW

Nigeria is not the only country to remove fuel subsidies. Fuel subsidies were removed by Indonesia in 1997 following the Asian financial crisis. When the fuel subsidy was removed, domestic fuel prices spiked, sparking weeks of violent rioting and protests that ultimately prompted the outgoing administration to step down in 1998, [4]. In his analysis of Indonesia's fiscal balance between 1998 and 2013, [6] found that removal of 25% of fuel subsidies resulted in 0.259 percentage increase in poverty while 100% of fuel subsidies removal and reallocating 50% of the proceeds to government spending resulted in a 0.277 percentage decrease in poverty.

Redistributing subsidy payments to low-income households has the potential to slow down economic progress while enhancing social welfare as demonstrated by [7]. On the other hand, removal of fuel subsidies is often accompanied by a pledge to use the savings on subsidies to implement specific reform. However, promises to replace fuel subsidies with targeted expenditure are not regarded as credible by the populace in Indonesia, and if they think the government is corrupt, they would oppose the change [4].

The impact of fuel subsidies removal has also been examined in other international research. According to [9] analysis of opinions across national boundaries about the removal of fossil fuel subsidies shows that the public would support this action if the fiscal monies saved were used optimally. In Malaysia, [3] evaluated the whole effect of gas subsidy removal in the power sector on the economy and discovered that the removal of

gas subsidies raised the price of electricity, which in turn caused other economic sectors to demand less electricity, resulting in a decline in the country's gross domestic product.

According to [5], the richest 40% of households receive more than 80% of the total benefits from gasoline subsidies. On a similar note, these income groups also receive over 65% and 70% of the benefits accruing from diesel and liquefied petroleum gas subsidies respectively. Research has demonstrated that subsidies especially those related to fuel are expensive in comparison to other alternative policies.

A 2010 study by [5] found that transferring one dollar to 20% poor households via gasoline subsidy costs around \$33. The cost-benefit ratio for such a program is \$1/0.68, indicating high and costly opportunity costs.

A related study carried out by [2] indicated that fossil fuels are still highly subsidized in EU countries and there are discussions to remove fossil fuel subsidies and reuse the money generated to support the technological shift towards a sustainable and decarbonized EU economy.

[12] Examined the debate in Nigeria regarding the existence of fuel subsidies. It hypothesizes no significant relationship between fuel demand and subsidy factors. Multiple linear regression results show a significant relationship, with fuel subsidy factors accounting for 54.4% of changes in fuel demand. The study recommends gradually controlling the withdrawal of fuel subsidies to minimize economic harm.

[14] Discovered that petroleum sector in Nigeria is vital to the economy, but subsidies on imports have increased due to price volatility and illegal exports. Removing these subsidies is a contentious socio-economic policy issue. An economy-wide framework identifies the impact of removing fuel subsidies on Nigeria's GDP and suggests alternative policies. Reducing subsidies can increase GDP but negatively impact household income, especially for poor households. Subsidies reduction can be accompanied by income transfers for poor households or domestic petroleum product production to mitigate the negative impact on household income.

III. RESEARCH METHODOLOGY

This research employs a cross-sectional survey research approach. A cross-sectional survey is a research design that collects data from participants at a single point in time, providing a snapshot of a population or a phenomenon. The study deployed random sampling technique in the

selection of 500 households within BrininKebbi Metropolis. To test the developed hypothesis, income levels and expenses on fuel data before and after the removal of fuel subsidy are entered into SPSS. Once the data entry process was completed, SPSS's advanced features were used to account for the frequency of responses by weighting each respondent's data based on their frequency count. Chi-Square test for independence was conducted. This statistical method enabled us to examine the relationship between income categories before and after the subsidy removal, providing insights into whether any significant differences existed in household incomes across these periods. The same procedure was repeated for monthly spending on fuel before and after subsidy removal.

Study Area

This research work was carried out in BirninKebbi, the capital of Kebbi State in northwestern Nigeria, an area with a fertile landscape along the Sokoto River. The area is well known for its farming, with a concentration on

sorghum, millet, and rice. The city, which is made up of suburban and urban districts, is a reflection of both contemporary development and historic values. People in BirninKebbi work in a variety of fields, including trade and agriculture, which makes the town a major hub for commerce. The vibrant local economy is supported by basic infrastructure, such as hospitals and schools. Transportation is made easier by the city's extensive road network, and its vibrant culture is demonstrated by the annual festivals and rituals. In this research work, major neighborhoods that make up the Metropolis were considered. These include Gwangwaji, KofarFada, Ambursa, Kangiwa Road, Tudun Wada and Jega Road.

IV. RESULT ANALYSIS

4.1 Analysis of Respondent Responses to Research Questions

The response from the respondents to whom the questionnaires were administered are analysed as shown below:

4.1.1 Response to Research Questions One (1)

Table 1: Key economic characteristics of households in BrininKebbi Metropolis before the removal of fuel subsidies.

Questionnaire Question	Option	Frequency	Percentage (%)
1. What was your average monthly household income before the removal of fuel subsidies?	a. Below ₦50,000	123	24.6
	b. ₦50,000 - ₦100,000	177	35.4
	c. ₦100,000 - ₦150,000	120	24.0
	d. Above ₦150,000	80	16.0
TOTAL		500	100
2. How much did your household spend on fuel monthly before the subsidy removal?	a. Below N10,000	148	29.6
	b. N10,000-N20,000	202	40.4
	c. N20,000-N30,000	99	19.8
	d. Above N30,000	51	10.2
TOTAL		500	100
3. How would you describe your household's overall economic stability before the fuel subsidy removal?	a. Very Stable	104	20.8
	b. Stable	196	39.2
	c. Unstable	148	29.6
	d. Very Unstable	52	10.4
TOTAL		500	100

Before the removal of fuel subsidies, most households in BrininKebbi Metropolis had a monthly income between ₦50,000 and ₦100,000, with a notable portion earning below ₦50,000 or between ₦100,000 and ₦150,000. Household fuel spending was primarily between ₦10,000 and

₦20,000 monthly. In terms of overall economic stability, a majority of households described their situation as stable or very stable, although a significant portion found their economic stability to be unstable.

4.1.2 Response to Research Questions Two (2)

Table 2: Immediate changes occurring following the removal of fuel subsidies and their impact on households in BrininKebbi Metropolis

Questionnaire Question	Option	Frequency	Percentage (%)
4. What was your average monthly household income after the removal of fuel subsidies?	a. Below ₦50,000	243	48.6
	b. ₦50,000 - ₦100,000	145	29
	c. ₦100,000 - ₦150,000	85	17
	d. Above ₦150,000	27	5.4
	TOTAL	500	100
5. How much did your household spend on fuel monthly after the removal of fuel subsidy?	a. Below N10,000	65	13
	b. N10,000-N20,000	215	43
	c. N20,000-N30,000	140	28
	d. Above N30,000	80	16
	TOTAL	500	100
6. How did the removal of fuel subsidies affect your overall household expenditure immediately?	a. Increased significantly	247	49.4
	b. Increased slightly	178	35.6
	c. No change	42	8.4
	d. Decreased	33	6.6
	TOTAL	500	100

Following the removal of fuel subsidies, the economic landscape for households in BrininKebbi Metropolis experienced significant changes. The percentage of households earning below ₦50,000 increased substantially from 24.6% to 48.6%, indicating a major decline in household income levels. In contrast, those earning above ₦150,000 dropped sharply from 16.0% to 5.4%, reflecting a severe contraction in higher income

brackets. Fuel expenditure also saw a shift, with fewer households spending below ₦10,000, down from 29.6% to 13%, while those spending between ₦20,000 and ₦30,000 rose from 19.8% to 28%, showing an increase in fuel costs. Additionally, overall household expenditure surged, with 49.4% reporting significant increases, underscoring the immediate financial strain caused by the subsidy removal.

4.1.3 Response to Research Questions Three (3)

Table 3: Long term effect of fuel subsidy removal on the overall economic well-being of households in BrininKebbi Metropolis

Questionnaire Question	Option	Frequency	Percentage (%)
7. Over the long term, how has the removal of fuel subsidies affected your household's economic stability?	a. Improved significantly	21	4.2
	b. Improved slightly		
	c. No change	42	8.4
	d. Worsened	77	15.4
	TOTAL	360	72.0
8. What long-term changes have you observed in the prices of essential goods and services since the fuel subsidy removal?	a. Increased significantly	295	59.0
	b. Increased slightly	145	29.0
	c. No change	47	9.4
	d. Decreased	13	2.6
	TOTAL	500	100

The survey results in table 3 above indicate that a majority of respondents perceived a negative impact on their household's economic stability since the removal of fuel subsidies, with 72% reporting worsening conditions. Additionally,

88% noted significant or slight increases in the prices of essential goods and services post-subsidy removal, highlighting the substantial economic repercussions perceived by respondents due to this policy change. These findings underscore the

significant economic challenges faced by households following the removal of fuel subsidies.

4.1.4 Response to Research Questions Four (4)

Table 4: Evidence-based recommendations to policymakers in Kebbi State based on the findings of this study

Questionnaire Question	Option	Frequency	Percentage (%)
9. Based on your experience, what measures do you think could mitigate the negative impacts of fuel subsidy removal on households?	a. Direct financial aid to households	248	49.6
	b. Subsidies on essential goods	199	39.8
	c. Job creation programs	26	5.2
	d. Tax reductions	27	5.4
TOTAL		500	100

Table 4 highlights that a substantial majority of respondents (89.4%) favored direct interventions such as financial aid and subsidies on essential goods to mitigate the adverse effects of fuel subsidy removal on households in Kebbi State. However, support for job creation programs and tax reductions was notably lower, suggesting a

preference for immediate financial relief and targeted cost reductions to alleviate economic pressures post-subsidy removal. These findings show the importance of targeted policy measures that directly address household economic stability in response to subsidy reforms.

Table 5: Test of Hypothesis (H_{01}): There is no significant difference in the mean household income before the removal of fuel subsidies and after removal in BrininKebbi Metropolis

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	74.752 ^a	3	.000
Likelihood Ratio	76.719	3	.000
Linear-by-Linear Association	68.313	1	.000
N of Valid Cases	1000		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 53.50.

Based on the Chi-Square test results, we observed a Pearson Chi-Square value of 74.752 with 3 degrees of freedom and an associated p-value of 0.000. This p-value is significantly less than the significance level of 0.05 assumed for this study, leading us to reject the null hypothesis. The Likelihood Ratio test also supports this conclusion, with a value of 76.719 and a p-value of 0.000. Additionally, the Linear-by-Linear Association test showed a value of 68.313 with a p-value of 0.000.

These results indicate a statistically significant difference in household income before and after the removal of fuel subsidies in BrininKebbi Metropolis. Generally, after the removal of fuel subsidies, there was a noticeable shift toward lower income levels among households in BrininKebbi Metropolis, with a substantial increase in the proportion of households earning below ₦50,000 and a significant decrease in the proportion of households earning above ₦150,000.

Table 6: Test of Hypothesis (H_{02}): There is no significant difference in the mean fuel prices before and after the removal of fuel subsidies in BrininKebbi Metropolis

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	46.201 ^a	3	.000
Likelihood Ratio	47.162	3	.000
Linear-by-Linear Association	37.054	1	.000
N of Valid Cases	1000		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 65.50.

The Chi-Square test results for the hypothesis regarding fuel prices before and after the removal of subsidies in BrininKebbi Metropolis show significant findings across all statistical measures. With a Pearson Chi-Square value of 46.201 and a p-value of 0.000, along with consistent results from the Likelihood Ratio and Linear-by-Linear Association tests, all indicating statistical significance, we reject the null hypothesis. This suggests that there is indeed a significant difference in mean fuel prices before and after the subsidy removal, underscoring the impact of policy changes on economic variables in the region.

V. CONCLUSION AND RECOMMENDATION

The removal of fuel subsidies in BrininKebbi Metropolis has significantly impacted household incomes and expenditure patterns, leading to increased financial strain on residents. The substantial rise in households earning below ₦50,000 and the notable decline in higher income brackets illustrate the adverse economic effects of this policy change. Furthermore, the increased fuel costs and overall household expenditures have exacerbated the economic instability faced by many families. To address these challenges, it is recommended that policymakers implement targeted interventions such as direct financial aid and subsidies on essential goods to alleviate the immediate financial pressures on households. Additionally, long-term strategies should focus on job creation programs and tax reductions to foster economic resilience and stability. By adopting these measures, the government can help mitigate the negative consequences of subsidy removal and

support the socio-economic well-being of residents in BrininKebbi Metropolis.

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