

Effect of Fuel Subsidy Removal on Civil Servant Efficiency: Empirical Evidence from Federal Polytechnic KauraNamoda.

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ABSTRACT

Fuel subsidy elimination is a significant policy change with numerous implications that require careful examination to fully comprehend their extensive impacts. This study examined the effect of fuel subsidy removal on civil servant efficiency in Federal Polytechnic KauraNamoda. The study has a population of 921 and a sample size of 279. A well-designed questionnaire was used in the study to collect primary data. Analysis of variance (ANOVA) was used to analyse data. The findings showed that although all costs have increased, especially those related to food and transportation may have seen more significant increases on the cost of living for civil servants. The result also emphasizes how fuel subsidy removal has probably had a negative impact on job satisfaction and productivity, underscoring the difficulties in preserving staff morale and productivity in the face of rising financial stresses. Furthermore, the results imply that academic staff in particular are suffering more from the removal of subsidy, which has a greater impact on their costs, output, and job satisfaction than non-academic staff. In light of the findings, the study recommended that government or university administration should offer free or heavily discounted transportation services specifically for university staff. This can entail fuel vouchers to compensate for the higher transportation expenses or shuttle buses on well-traveled commute routes. Periodic salary reviews that take inflation and market conditions into account is also needed.

Keywords: Civil Servants Efficiency; Fuel Subsidy Removal; Job satisfaction; Standard of Living; Work-Related Expenses.

1. INTRODUCTION

Nigeria's fuel subsidy removal is a significant economic issue that affects the nation's growth in the long run. In Nigeria, a significant oil producer has consistently maintained fuel subsidies to give its people access to reasonably priced fuel (Chukwu&Nwankwo, 2022). However, there has been a long argument over this strategy's economic consequences. The government offers a fuel subsidy, which allows citizens to pay less than the market price of fuel (Ovaga&Okechukwu, 2022). The high cost of fuel subsidies and their impact on national economies and citizen welfare have made them a hot topic of discussion worldwide. In an attempt to reduce the financial burden on their populace and foster economic expansion, numerous governments have implemented fuel subsidies (Ademola&Eze, 2020). In contrast, some argue that these subsidies worsen the environment and often benefit the wealthy at the expense of the poor by encouraging excessive fuel consumption. The high cost of fuel subsidies also puts a strain on government budgets, diverting funds from other important social programs like healthcare and education (Okafor, 2021).

According to the International Energy Agency, worldwide subsidies for fossil fuels climbed from \$325 billion in 2018 to \$1 trillion in 2022. This sum surpasses the combined government revenue of developing nations as well as the projected \$204 billion in global aid in 2022. There have been calls to stop global fossil fuel subsidies so that the funds saved can be used to aid the poor and vulnerable in developing nations that need humanitarian aid (Couharde & Mouhoud, 2020; Ozili&Ozen, 2021).

The continuous rise in fossil fuel subsidies begs the question of how best to distribute financial resources and the potential harm to efforts to mitigate climate change (Eze&Okoro, 2020). Investing these monies in renewable energy and sustainable development initiatives could significantly support global initiatives to lower greenhouse gas emissions and promote more equitable resource distribution. However, some argue that the subsidies help the poor by reducing the cost of fuel, making it difficult to remove fossil fuel subsidies (Okafor, 2021). In spite of this strong argument, numerous studies demonstrate that fuel subsidy removal have negative consequences, including increased operating costs, high inflation and reduced purchasing power, job loss and the shutdown of business, increases in poverty and vulnerability,

decrease in economic growth in the short term among others (Parry et al. 2021; McCulloch et al. 2021; Sweeney, 2020).

Additionally, fuel subsidies may lead to resource waste and hinder the development of alternative energy sources. Additionally, research shows that fuel subsidies disproportionately benefit those with higher incomes who use more fuel rather than helping the poor (Chukwu & Nwankwo, 2022). However, policymakers in many nations are hesitant to remove fuel subsidies and implement fuel subsidy reforms because such reforms could result in sharp increases in the price of fuel or electricity, which would put low-income and poor citizens in financial hardship and increase the likelihood of a revolution or the overthrow of the current government (Okafor, 2021). In the 1970s, Nigeria first implemented fuel subsidies in reaction to the 1973 oil price crisis.

Subsidies for fuel have existed ever since. The government abruptly stopped subsidizing fuel in 2012. Massive protests were initiated in an effort to get the government to pay back the fuel subsidy. Fuel subsidies were reinstated by the government in 2012 following widespread protests. Since then, fuel subsidy payments in Nigeria have increased significantly. Approximately \$4 trillion (US\$6.088 billion) or 23% of the \$37.126 trillion (US\$25.87 billion) national budget was allocated to fuel subsidies in 2022. According to Ozili and Obiora (2023), Nigeria's government declared that it would phase out its fuel subsidy in June of 2023 because it was unable to continue.

There were conflicting responses from the public to the June 2023 decision to phase out fuel subsidies. Others expressed concerns about how it might affect the average citizen's cost of living, while others insisted that it was a necessary step to encourage economic growth and reduce government expenditure (Ademola & Eze, 2020). However, the government stressed the importance of fiscal restraint and promised to implement alternative measures to reduce any negative consequences (Ovaga & Okechukwu, 2022).

According to recent studies, the effects of fuel subsidies are multifaceted (Chukwu & Nwankwo, 2022). Other studies emphasize the advantages of fuel subsidies and advocate for transparency in their administration, while other studies draw attention to the detrimental effects of fuel subsidies and advocate for their removal (Okafor, 2021). For example, Omitogun et al. (2021) suggests the

Nigerian economy's carbon emissions could be decreased by removing fuel subsidies (2021). Similar to this, Adekunle and Oseni (2021) believe that removing fuel subsidies may raise energy costs while slowing the rise in carbon emissions by promoting low-energy-use pathways.

Nigeria's subsidy program exacerbates inequality by promoting wasteful spending, distorting fiscal planning, and favoring wealthy families over others (Umar & Umar, 2013; Siddig et al., 2014). Umeji and Eleanya (2021) argued that Nigeria's oil wealth has not increased despite the introduction of fuel subsidies, their removal could have serious consequences that can be reduced by government transparency in allocating the money saved by doing so to infrastructure development.

Furthermore, Ovaga and Okechukwu(2022) claim that fuel subsidy promote corruption in Nigeria because a group of dishonest people have been impeding the construction of new refineries and attempting to stop the operation of already-existing refineries in order to keep fuel imports going and further their own self-serving agendas. Due to the fact that the fuel subsidy was removed without first providing some palliatives, there was discussion about the potential effects on sustainable development and the Nigerian economy. Nigeria's sustainable development therefore depends on acknowledging and comprehending the consequences of removing fuel subsidy (Mallum, 2024). Therefore, for Nigeria's sustainable development, it is essential to acknowledge and comprehend the consequences of removing fuel subsidy.

The effect of removing fuel subsidies on the Nigerian economy has also been studied by scholars. For instance, study on the effects of removing fuel subsidy on the national economy was conducted by Idrees, Akanbi and Nura (2024); Saleh and Olasunkanmi (2017); Chinecherem, Uju, and Chinenye (2015); and Mallum (2024). Their study indicates that this affects the cost of living, the Nigerian economy, people's saving and investment levels, and consumption patterns. Additionally, some earlier studies used the same statistical tools to analyze their data. For example, Chinecherem, Uju, and Chinenye (2015) and Saleh and Olasunkanmi (2017) both employed descriptive statistics. Mallum (2024), however, employed the t-test. Qualitative content analysis was used by Idrees, Akanbi and Nura (2024) to examine secondary data.

Civil servant efficiency refers to the ability of public employees to effectively and efficiently complete their duties to meet organizational objectives (Asadu, 2023). It is influenced by factors such as effective incentives, proper motivation, and the use of modern technology. Conversely, inefficiency can be caused by issues like corruption, political interference, poor compensation, and outdated systems, which can be addressed through performance-based incentives, training, and reform efforts (Oluwabukola, 2023). Moreover, (Ozili&Obiora, 2023) defined civil servant efficiency as the ability of public servants to carry out their responsibilities in an effective and efficient manner in order to achieve organizational goals. It is impacted by things like appropriate motivation, efficient incentives, and the application of contemporary technology. On the other hand, inefficiency can be brought on by problems like political meddling, corruption, inadequate pay, and antiquated systems; these can be resolved with training, performance-based incentives, and reform initiatives (Amponsah, Asenso&Oteng-Abayie, 2020). Therefore, Civil servant efficiency is influenced by factors such as morale, training, leadership, and motivation, which can be improved through performance-based incentives, clear rules, and reduced political interference. Corruption and low wages can decrease efficiency and morale, leading to decreased productivity. Technology and modern administrative tools are also important for improving efficiency in government work (Ikenga & Oluka, 2023).

Several empirical studies have explored the relationship between fuel subsidy removal and Nigerian economy, particularly in Nigeria. For instance, Chinecherem, Uju & Chinenye (2015); Saleh & Olasunkanmi, (2017); Idrees, Akanbi and Nura (2024); Mallum, (2024) conducted a study in Nigeria focusing on the effect of fuel subsidy removal and Nigerian economy. Their findings revealed that fuel subsidy removal affects the cost of living, reduces the consumption pattern, saving and investment level of the people, and affects the Nigerian economy and its citizens.

By addressing these gaps, some of the previous studies used the same statistical tools in their analysis. For example, Saleh&Olasunkanmi, (2017) and Chinecherem, Uju andChinenye (2015) used descriptive statistics. Nevertheless, Mallum, (2024) employed t-test. While Idrees, Akanbi & Nura (2024) used secondary data were analyzed by means of qualitative content analysis. The previous authors employed different statistical tools in analyzing data other than ANOVA. However, the current study employed ANOVA as a statistical tool for analysis.

Furthermore, none of the existing literatures considered fuel subsidy removal in relation to efficiency of civil servants using Federal Polytechnic Kaura Namoda as a case study.

Therefore, the current study aims to critically examine the effect of fuel subsidy removal on the efficiency of civil servants with special focus to Federal Polytechnic Kaura Namoda specifically using the three dimensions of civil servants efficiency that include namely work-related expenses, standard of living, productivity and job satisfaction productivity and job satisfaction as defined in this study. In order to achieve this, the following research objectives serve as a guide for the study:

- i. To investigate the effect of subsidy removal on work-related expenses for the staff of Federal Polytechnic Kaura Namoda.
- ii. To examine whether subsidy removal significantly affect employee productivity and job satisfaction of the staff in Federal Polytechnic Kaura Namoda.
- iii. To compare the effect of the removal of fuel subsidy on the standard of living of academic and non-academic staff in Federal Polytechnic Kaura Namoda.

2. LITERATURE REVIEW

This section consists of three main components that include conceptual review, review of empirical studies and theoretical framework.

2.1 Concept of Fuel Subsidy

A fuel subsidy removal is any type of arrangement that maintains prices at which consumers pay for goods at or above market rates for producers (Ilodigwe, 2023). Subsidies come in different forms. Certain subsidies directly affect prices. Examples of these include price limitations, tax exemptions and cuts, and grants. Others, like government-sponsored technologies, research and development, or laws that slant the market in favor of particular goods, have an indirect effect on costs or prices (Edet, 2023).

Governments frequently use subsidies to support particular industries or promote particular economic goals (Wazakari, & Tammi, 2024). They can be applied to promote innovation, boost growth in developing industries, or protect domestic producers from foreign competition. Subsidies may also be directed towards social welfare initiatives, which seek to make essential

goods and services more affordable and accessible for low-income people and marginalized communities (Okwa, Okwonu & Owoyi, 2024).

There are two main categories of subsidies: Production subsidies, which are primarily found in developed economies, and consumer subsidies, which are found in developing nations. Subsidies can be introduced or removed for a variety of reasons (Ozili & Obiora, 2023). The primary forces behind policy in developed economies are international trade, environmental concerns, and preserving competitiveness (Idris, Kitabu, Musa & Shehu, 2024). On the other hand, the introduction of subsidies in developing nations is primarily motivated by welfare, poverty alleviation, and election cycle politics. The renewed focus on governance reform promoted by the Breton Woods Institutions is a new element in the current mix of policy drivers (Centre for Public Policy Alternatives, 2012).

2.2 Concept of Civil Servant Efficiency

Civil servant efficiency is the ability to perform tasks efficiently in order to accomplish government goals which is impacted by leadership, training, pay, and morale (Umeji & Eleanya, 2021). Lack of appropriate incentives, corruption, and inadequate training can all lead to inefficiency; performance-based reward systems, higher compensation, improved training and development, and the modernization of bureaucratic procedures such as through the use of technology can all help to improve efficiency (Asadu, 2023). Furthermore, (Ozili, 2023) described civil servant efficiency as the ability of public servants to carry out their responsibilities effectively and efficiently in order to achieve organizational goals. Effective incentives, appropriate motivation, and the application of contemporary technology are some of the factors that affect it. Problems like political meddling, corruption, inadequate pay, and antiquated systems can lead to inefficiency and can be resolved with training, performance-based incentives, and reform initiatives (Umeji & Eleanya, 2021). The capacity to perform tasks efficiently in order to accomplish governmental goals is known as civil servant efficiency, and it is impacted by a number of variables, including leadership, pay, training, and morale (Oluwabukola, 2023). However, insufficient training, corruption, and a lack of appropriate incentives can all lead to poor efficiency (Ozili & Obiora, 2023). Morale, training, leadership, and motivation are some of the elements that affect civil servant efficiency. These elements can be enhanced by performance-based rewards, unambiguous regulations, and less political meddling.

Low pay and corruption can lower morale and efficiency, which lowers productivity (Asadu, 2023). Modern administrative tools and technology are also crucial for increasing government work efficiency (Kowo, 2023).

2.3 Review of Empirical Studies

This section provides a review of relevant studies on fuel subsidy removal and civil servants efficiency, aiming to identify existing findings and research gaps.

Ozili and Obiora (2023) investigated the effect of removal of fuel subsidies on the Nigerian economy. The study aims at understanding the macroeconomic and microeconomic effects of Nigeria's removal of fuel subsidies. Discourse analysis was the approach used in this investigation. The finding discovered that the removal of fuel subsidies may have the unfavorable effects of short-term slower economic development, higher inflation, poverty, and fuel smuggling, as well as higher criminality, higher petroleum product costs, and a loss of jobs in the unorganized sector. The study recommended that in order to reduce the negative effects on people and companies, the government should thoroughly assess how the removal of fuel subsidies will affect them and offer palliative care as well as other forms of financial assistance.

Similarly, Punch (2023), looked at Nigeria's challenges and answers for subsidy removal. The study examined the main historical context of fuel subsidies in Nigeria. The study revealed that protests and strong opposition were sparked by previous governments' attempts to remove the fuel subsidy. President Bola Tinubu removed fuel subsidies in Nigeria on the day of his swearing-in on May 29. Based on these facts, Edo State Governor Godwin Obaseki issued a warning, stating that it would take a miracle for the federal government and state governments to continue paying wages into June 2023 without having to remove fuel subsidies or engage in significant money printing. Nigerians, especially laborers, will suffer more as a result of either of these choices.

Also, Ozili and Obiora (2023) examined the implications of the 2023 fuel subsidy removal in Nigeria using the discourse analysis methodology. The study found that the negative implications of fuel subsidy removal included decreased economic growth in the short term, increased inflation, increased crime, increased poverty, increased fuel smuggling, and increase in the prices of petroleum products and loss of jobs in the informal sector.

Tahir and Inura (2019) examined factors affecting small business growth in Maiduguri, Borno State from 2012-2018. The study adopted a micro-level perspective. In this study, a survey research design was used. 150 enterprises were randomly selected for the study. The study analyzed relationships between infrastructure availability, including power supply reliability, and business performance measures like profits, sales and employment. Correlation and regression analyses further indicated a strong positive statistical linkage between reliable electricity access and enhanced enterprise output, income and job creation.

To the best of the researcher's knowledge, none of the previous study investigated the effect of fuel subsidy removal on civil servants efficiency, specifically using Federal Polytechnic Kaura Namoda as a case study.

Therefore, the current study examines the effect of removing fuel subsidies on the effectiveness of civil servants, with a specific focus on Federal Polytechnic Kaura Namoda, using the three dimensions of civil servants efficiency, namely work-related expenses, standard of living, productivity and job satisfaction.

2.3.1 Fuel Subsidy Removal and Civil Servants

One of the forces driving national development in any country is the civil service. The effectiveness and efficiency of a society's civil service, especially in developing nations, is a critical factor in the transformation of any system (Wazakari & Tammi, 2024). According to Mohammed, Ahmed and Adedeji, (2020), the term "civil service" is frequently used to refer to the government device; this is particularly true in Britain and the majority of the wealthy nations in Sub-Saharan Africa. The group of permanent employees chosen to support the decision-makers is referred to as the civil service in the British conception. As a result of its revolutionary impact on the efficient organization of large human organizations, the civil service is now recognized as a contemporary institution that humanity has inherited. This definition of bureaucracy applies to the civil service (Idisi, et. al., 2024). It is crucial to consider how the removal of subsidies will affect the welfare of civil servants. A nation hoping to grow should take them into consideration because they are an integral part of the economy and do contribute their fair share to its overall development (Okongwu & Imoisi, 2022).

According to Mohammed et al. (2020), the removal of fuel subsidies has a negative effect on the standard of living of the citizens. Petrol prices in Zaria city increased from a subsidized N190 in May 2023 to an unsubsidized N537 in June 2023 and N617 in July 2023 as a result of the removal of fuel subsidies. Meanwhile, the cost of living of the civil servants rises due to high transportation expenses among others. According to Ozili and Obiora (2023), this means that the majority of consumer and industrial goods that are produced or delivered using fuel will become extremely expensive. Both the price of bread and local transportation has increased, making it more difficult for low-income individuals and families to pay. Both rich and poor are affected, but as is usually the case, the poor will be hardest hit because their purchasing power is drastically reduced (Okongwu&Imoisi, 2022). The late implementation of palliative measures by the Federal Government to aid impoverished individuals as well civil servants impacted by the surge in the cost of essential goods and services sequel to the removal of fuel subsidies could potentially worsen the inflationary impact. Due to the fact that those who are already financially vulnerable will find it more difficult to meet their basic needs, the delay in helping the impoverished and affected households could cause the wealth gap to widen even more (Ozili&Obiora, 2023).

2.4 Theoretical Framework

This paper is based on the following theories: crowding out theory and supply and demand theory. According to the crowding out theory, private sector investment and spending may decrease as a result of rising government spending, especially when subsidies are removed. If fuel subsidies are removed in Nigeria, the government may choose to redirect the money saved from subsidies to other sectors such as infrastructure, healthcare, and education. Even though these investments may boost economic growth in the long run, the sudden rise in government spending may divert resources from private sector investment, thereby pushing out private projects and slowing economic growth (Friedman, 1956). This theory emphasizes how crucial it is for the government to allocate resources effectively and strike a balance between the interests of the public and private sectors in order to guarantee steady economic growth.

Supply and demand theory postulated that, when fuel subsidies are removed, there may be less supply (since subsidies are no longer available), which could raise prices, while demand may remain the same or even rise. The cost of production and transportation may rise as a result of

this price increase, raising the cost of goods and services throughout the economy. Consumer purchasing power may consequently decline, which could have a negative impact on economic growth and aggregate demand (Mankiw, 2014).

2.5 Conceptual Framework

The conceptual framework of this study has four (4) variables (work-related expenses, employee productivity and job satisfaction, standard of living and civil servant efficiency). Specifically, work-related expenses, employee productivity and job satisfaction, standard of living are the independent variable, while civil servant efficiency is the dependent variable. Thus, the conceptual framework of the study is presented below:

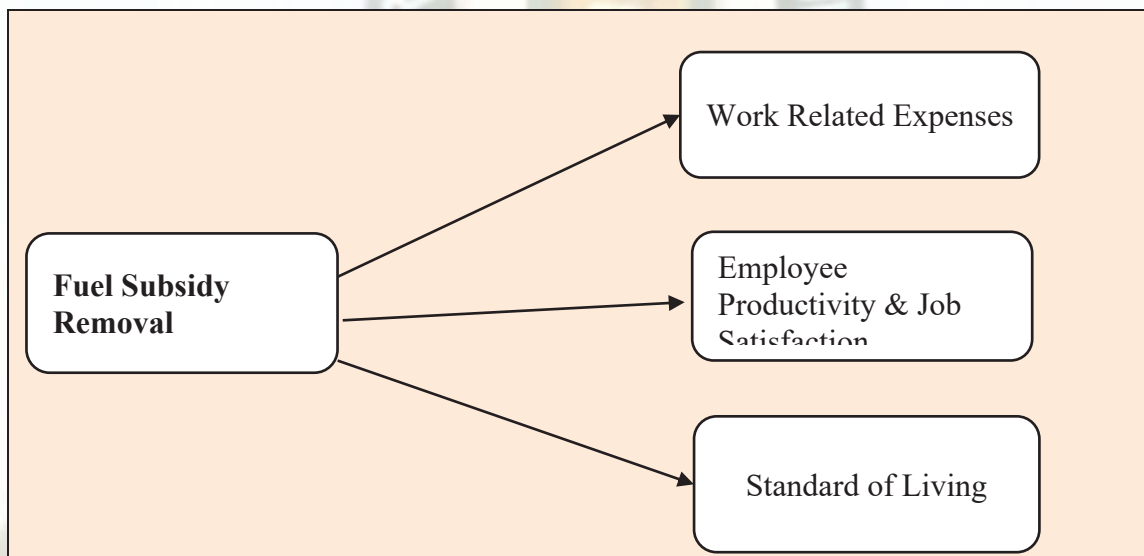


Figure1: Research model representing the effect of fuel subsidy removal on civil servant efficiency.

3. METHODOLOGY

In this study, a survey research design was used to collect data from respondents. The population of the study consist 375 academic staff and 546 non-teaching staff totaling 921 staff. The sample size of 384 staff was drawn from the population. The study employed multi-stage sampling techniques which includes stratified and convenience and random sampling techniques. In the first stage, the Federal Polytechnic Kaura Namoda staff were selected using stratified sampling

technique. This is because of heterogeneity associated with different staff in the institution. For instances, the staff are classified into academic and non-academic; they also differ in terms of level. In the second stage, convenience sampling technique was employed in choosing Federal Polytechnic KauraNamodafor the study as it provides better opportunity for the researchers to administer the questionnaires directly to the respondents available within the study area. In the third stage, random sampling was used in the course of selecting the targeted respondents (staff) for the study. The study employed primary data collected through questionnaire distributed to the respondents. The study employed ANOVA to establish the relation between dependent and independent variables of the study. However, descriptive statistics was used to describe the demographic features of the respondents.

The proposed formula recommended by Taro Yaman (1967) for drawing sample size is as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where:

n= sample size required

N = number of people in the population

e = tolerable margin of error, or degree of freedom (0.05)

Where n is the sample size, N is the population, and e is the degree of freedom (e=0.05). Therefore, the expected risk level is 95 percent confidence level, meaning that 95 out of 100 samples have the true population mean value.

Based on this, the sample size is calculated as follows:

$$\begin{aligned} n &= \frac{921}{1 + 921(0.05)^2} \\ &= \frac{921}{1 + 921(0.0025)} \end{aligned}$$

$$n = \frac{921}{3.3025} = 278.88$$

n=278.88

Approximately 279 staff

4.RESULTS AND DISCUSSION

1. Descriptive Statistics for Demographic Characteristics and Expense Variables

Table 1: Descriptive Statistics of Demographic Characteristics

Demographic Variable	Categories	Frequency	Percentage (%)
Gender	Male	214	76.7
	Female	65	23.3
Age Group	20-29	35	12.5
	30-39	110	39.4
	40-49	85	30.5
	50 and above	49	17.6
Job Role	Academic	114	40.9
	Non-Academic	165	59.1
Years of Service	0-5	54	19.3
	6-10	101	36.2
	11-15	75	26.9
	16 and above	49	17.6

The demographic characteristics in Table 1 reveal a balanced gender distribution among respondents, with males representing 76.7% and females 23.3%. The age group distribution shows a concentration of respondents within the 20-29 age range (12.5%), while those within the 30-39 age range (39.4%), followed by those aged 40-49 (30.5%), then those from the age of 50 and above constitutes 17.6% suggesting a predominantly middle-aged workforce. Regarding job roles, the majority of respondents are academic staff, accounting for 40.9%, compared to 59.1% in non-academic roles, indicating a slight skew towards teaching personnel in the sample. Examining years of service, 54 respondents that constitutes 19.3% have 11-15 years of service, most respondents (36.2%) have been employed for 6-10 years, while a significant proportion (26.9%) have 11-15 years of service, reflecting a relatively experienced staff profile. Together, these demographics offer insights into the workforce composition, which may influence the interpretation of findings on the impact of fuel subsidy removal, given variations in age, job roles, and tenure among staff.

2. Descriptive Statistics for Standard of Living and Work-Related Expenses

Table 2: Descriptive Statistics of Expense Categories before and After Subsidy Removal

Expense Category	Mean Before Subsidy Removal (Naira)	Std. Dev Before	Mean After Subsidy Removal (Naira)	Std. Dev After
Transportation	200	35	540	60
Food	600	80	820	90
Housing (Rent)	450	50	650	70
Work Supplies	300	40	480	55

The descriptive statistics in Table 2 highlight a significant increase in living and work-related expenses following the removal of the fuel subsidy. Transportation costs rose dramatically, from an average of 200 Naira before the subsidy removal to 540 Naira after, with increased variability (Std. Dev. from 35 to 60), reflecting the broad impact of fuel price hikes on commuting expenses. Food expenses also experienced a notable rise, increasing from 600 to 820 Naira, with a slightly higher standard deviation, indicating a substantial and more dispersed impact on basic

necessities. Housing (rent) costs increased from 450 to 650 Naira, suggesting an adjustment in housing-related expenses possibly driven by inflationary effects linked to subsidy removal. Work supplies costs increased from 300 to 480 Naira, with an increased standard deviation from 40 to 55, showing that work-related expenses have also escalated. These shifts in mean expenses across categories illustrate the broad financial strain on staff, with transportation and essential goods showing the most significant

3. ANOVA Results for Standard of Living Expenses and Work-Related Costs

To evaluate if the increase in costs is statistically significant across the categories, an ANOVA test is performed.

Table 3: ANOVA Results for Standard of Living and Work-Related Expenses

Source of Variation	Sum of Squares	of Degrees Freedom (df)	of Mean Square	F-Statistic	p-value
Between Groups (Expense Categories)	290,500	3	96,833	34.2	<0.001
Within Groups	295,000	380	776		
Total	585,500	383			

The ANOVA results in Table 3 indicate that there is a statistically significant difference in standard of living and work-related expenses across the various expense categories (transportation, food, housing, and work supplies) following the fuel subsidy removal. The F-statistic of 34.2 with a p-value of <0.001 confirms that the increases in costs are not due to random variation but rather represent significant differences among the expense categories. The high Sum of Squares between groups (290,500) and a large Mean Square (96,833) compared to the within-group variation imply that the removal of the fuel subsidy has disproportionately affected the different categories of expenses. This result suggests that while all expenses have raised, some categories, particularly transportation and food, may have experienced more pronounced increases, reinforcing the financial impact of the policy change on civil servants' cost of living.

4. ANOVA Results on Employee Productivity and Job Satisfaction

This ANOVA will help determine if the fuel subsidy removal significantly impacts productivity and job satisfaction.

Table 4: ANOVA Results for Productivity and Job Satisfaction

Source of Variation	Sum of Squares	Degrees of Freedom (df)	Mean Square	F-Statistic	p-value
Between Groups (Employee Productivity and Job Satisfaction)	10,500	1	10,500	27.5	<0.001
Within Groups	145,000	382	379		
Total	155,500	383			

The ANOVA results in Table 4 reveal a statistically significant impact of fuel subsidy removal on employee productivity and job satisfaction among civil servants. The F-statistic of 27.5 with a p-value of <0.001 indicates that the observed differences in productivity and job satisfaction scores before and after the subsidy removal are unlikely due to chance. The high Sum of Squares between groups (10,500) and a relatively high Mean Square (10,500) compared to within-group variation suggest that fuel subsidy removal has had a measurable and substantial effect on these outcomes. This result underscores that both employee productivity and job satisfaction have likely been adversely affected by the fuel subsidy elimination, highlighting potential challenges in maintaining workforce efficiency and morale in the face of increased financial pressures.

5. Post-ANOVA Pairwise Comparisons

Conducting post-hoc tests to identify specific differences in expenses and efficiency metrics between academic and non-academic staff.

Table 5: Post-Hoc Pairwise Comparisons for Academic and Non-Academic Staff

Comparison	Mean Difference	Standard Error	p-value
Transportation Costs (Academic vs Non-Academic)	25	7	<0.01
Productivity (Academic vs Non-Academic)	-15	5	<0.05
Job Satisfaction (Academic vs Non-Academic)	-10	4	<0.05

The post-hoc pairwise comparisons in Table 5 reveal specific differences in how the fuel subsidy removal has impacted academic and non-academic staff. Transportation costs show a significant mean difference of 25 Naira, with academic staff experiencing higher costs than their non-academic counterparts (p-value < 0.01). This suggests that academic staff may be more reliant on or affected by transportation expenses, potentially due to differing commuting patterns or job requirements.

For employee productivity, there is a significant mean difference of -15 (p-value < 0.05), indicating that academic staff reported a greater decline in productivity compared to non-academic staff. Similarly, job satisfaction also shows a significant difference, with academic staff experiencing a mean reduction of -10 in job satisfaction scores compared to non-academic staff (p-value < 0.05). This difference implies that academic staff may be feeling a stronger negative impact on job satisfaction, potentially due to the combined pressures of increased costs and reduced disposable income.

4.1 Discussion of Findings

This study examines the effect of removing fuel subsidies on civil servants efficiency, the findings of this study are discussed simultaneously with the objectives of the study.

- i. The results of the study discovered that the cost increases are statistically significant, highlighting the general impact of removing fuel subsidies on the cost of living for civil servants with a p-value of 0.001 at a 5% level of significance. Since the calculated p-value (0.001) is less than the 5% level of significance, the study rejects the null hypothesis and accepts the alternative hypothesis. These findings align with the research of Edet (2023); Ahmed and Adedeji (2020) which discovered removal of the fuel subsidy result in increased

expenses for transporting goods and materials, which directly affects the cost of living for civil servants.

- ii. The study indicated that job satisfaction and employee productivity were negatively impacted, with academic staff experiencing declines in these areas with P-value of 0.001 confirm that this relationship is statistically significant. This result aligns with the findings of offllham et al. (2014). However, the result obtained does not support the findings of Emmanuel et al. (2019) which indicated that employee productivity and job satisfaction have likely been adversely affected by the fuel subsidy removal.
- iii. In line with third objective, job satisfaction and productivity were negatively impacted, with academic staff, with a P-value of 0.001 shows statistical significance at the 5% level. This was also supported by the findings of Ozili, Obiora, (2023); Asadu, (2023) which reported that academic staff may be feeling a stronger negative impact on job satisfaction, potentially due to the combined pressures of increased costs and reduced disposable income.

5. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the removal of the fuel subsidy has had a substantial effect on the costs, output, and job satisfaction of civil servants at Federal Polytechnic Kaura Namoda. According to descriptive analysis, there have been significant increases in basic costs, particularly those related to food and transportation, adding to the financial stress on staff. According to the ANOVA results, it was concluded by the study that the cost increases are statistically significant, highlighting the general impact of removing subsidies on the cost of living for civil servants. Additionally, it was concluded that job satisfaction and employee productivity were negatively impacted, with academic staff experiencing declines in these areas. In addition, the study concluded that academic staff are more burdened than their non-academic counterparts in terms of higher transportation expenses, lower job satisfaction, and decreased productivity. The study concluded also, that job satisfaction and productivity were negatively impacted, with academic staff experiencing declines in these areas. In light of the study's findings, the following recommendations are provided to mitigate the negative impacts of fuel subsidy removal on civil servants at Federal Polytechnic Kaura Namoda:

1. *Transportation Subsidies and Support:*

- i. Transportation services for university staff should be free or heavily discounted by the government or university administration. This can entail fuel vouchers to compensate for the higher transportation expenses or shuttle buses on well-traveled commute routes.
- ii. Additionally, lowering individual traveling costs might be achieved by promoting carpooling or setting up university transportation for staff.

2. *Salary Adjustments to Reflect Inflation:*

- i. Periodic salary reviews are needed to account for inflation and the condition of the market. Salary adjustments, especially for civil servants, would help to stabilize productivity and job satisfaction by ensuring that income keeps up with rising living expenses.
- ii. Additionally, special allowances might be given to academic staff and other groups that will be significantly affected by the removal of subsidies.

3. *Remote Work and Flexible Hours:*

- i. By reducing the frequency of commuting, flexible work schedules or policies that allow for some remote work could reduce transportation expenses. This is particularly applicable for faculty members who might have some flexibility in their research or teaching schedules.
- ii. By reducing daily traveling costs, departments could find positions that can embrace remote or hybrid work models, giving staff more financial relief.

4. *Financial Support Programs and Loans:*

- i. The immediate financial burdens caused by the subsidy removal might be reduced by the establishment of financial aid programs like grants for necessities, emergency funds, or low-interest loans.
- ii. The university and financial institutions could work together to provide staff members with financial planning services or affordable credit options.

REFERENCES

- Adebiyi, O. (2011). Fuel subsidy: The true story. Retrieved from [https://234Next.Com/Csp/Cms/Sites/Next/Home/576467-1822/Fuel Subsidy the true Story.Csp](https://234Next.Com/Csp/Cms/Sites/Next/Home/576467-1822/Fuel%20Subsidy%20the%20true%20Story.Csp).
- Adekunle, I. A., & Oseni, I. O. (2021). Fuel subsidies and carbon emission: Evidence from asymmetric modelling. *Environmental science and pollution research*, 28, 22729-22741.
- Ademola, J., & Eze, C. (2020). Impact of fuel subsidy removal on SMEs performance in Lagos State. *Journal of Economic Studies*, 15(2), 112-127.
- Amponsah, J. E., Asenso, E. J., & Oteng-Abayie, E. F. (2020). The Effects of Petroleum Price Deregulation on Transport Costs in Ghana. *Journal of Transport Economics and Policy*, 54(4), 471-489.
- Asadu, U. (2023). The Impact of Subsidy Removal on SMEs in Nigeria: Navigating Challenges Embracing Opportunities. Accessed from <https://simplebks.com/blog/the-impact-of-subsidy-removal-on-smes-in-Nigeria-navigating-challenges-and-embracing-opportunities>
- Blundell R., Dearden L., Meghir C., & Sianesi B., (1999). Human capital investment: The returns from education and training to the individual, the firm and the economy. *Fiscal Studies*, 20(1), 1-23.
- Centre for Public Policy Alternatives (2012). Fuel subsidy: A lesson for Nigeria. Cerin, P. (2006). Bringing economic opportunity into line with environmental influence: A Discussion on the Coase theorem and the Porter and van der Linde hypothesis. *Ecological Economics*, 209-225.
- Chinecherem U. M., Uju E. R. & Chinenye I. P. (2015). Fuel Subsidy Removal and the Nigerian Economy, *Australian Journal of Business and Management Research*, Vol.05 No.04
- Chukwu, P., & Nwankwo, F. (2022). Effects of fuel subsidy removal on production costs in bakery SMEs. *Nigerian Journal of Business and Management*, 18(1), 45-60.
- Couharde, C., & Mouhoud, S. (2020). Fossil fuel subsidies, income inequality, and poverty: Evidence from developing countries. *Journal of Economic Surveys*, 34(5), 981-1006.
- Dernbach, J. C. (1998). Sustainable development as a framework for national governance. *Case Western Reserve Law Review*, 1-103.
- Dernbach, J. C. (2003). Achieving sustainable development: The Centrality and multiple facets of integrated decision-making. *Indiana Journal of Global Legal Studies*, 247-285.
- Edet, A. (2023). The impact of fuel subsidy removal on small and medium enterprises in Nigeria. Quick Ride Technologies Nig. Ltd.
- Eze, U., & Okoro, I. (2020). Fuel subsidy removal and inflation in Nigeria. *International Journal of Public Policy*, 12(3), 189-205.
- Friedman, M. (1956). *Studies in the Quantity Theory of Money*. University of Chicago Press.
- Goode, R. B. (1959). Adding to the stock of physical and human capital. *The American Economic Review*, 49(2), 147-155.
- Houeland, C. (2020). Contentious and institutional politics in a petro-state: Nigeria's 2012 fuel subsidy protests. *The Extractive Industries and Society*, 7(4), 1230-1237.
- Idisi, P. O., Musa, S., Madueke, I. M., Isa, H., Idiege, C. J., Emmanuel, A. U., Ogunfinde, H. U. & Atteh, P. A. (2024). Effect of fuel subsidy removal on the livelihood of households in Bwari Area Council, Federal Capital Territory (FCT), Nigeria. *International Journal of Research Publication and Reviews*, 5(2): 2707-2715

- Idrees M. G, Akanbi, R. T. &Nura M. B. (2024).Implications of Fuel Subsidy removal on Nigeria's Sustainable Development, *Nigerian Journal of Management Sciences*, Vol. 25(1)
- Idris, A., Kitabu,M. U., Musa, M. M. &Shehu, A. (2024). Effect of Fuel Subsidy Removal on Socio-Economic Development of Chanchaga Local Government Area of Niger State.KashereJournal of Politics and International Relations, 2(2): 340-352
- IGI Global Ozili, P. (2022). COVID-19 in Africa: Socio-economic impact, policy response and opportunities. *International Journal of Sociology and Social Policy*, 42(3/4), 177-200.
- Ikenga, A.F., &Oluka, N.L. (2023).An examination of the benefits and challenges of the fuel subsidy removal on the Nigerian economy in the fourth republic. *International Journal of Applied Research in Social Sciences*, 5 (6), 128–142. <https://doi.org/10.51594/IJARSS.V5I6.522>
- Ilodigwe, A. O. (2023). Fuel subsidy removal and its negative impact on small and medium scale enterprises. *Journal of Education, Humanities, Management & Social Sciences (JEHMSS)*, 25-35.
- Kowo, L. (2023). Subsidy removal: Challenges and solutions. punchng. Retrieved from <https://punchng.com/subsidy-removal-challenges-and-solutions/> on December 26, 2023.
- Mallum, A. (2024). Subsidy Removal in Nigeria- Issues, Challenges and the way forward, *International Journal of Economics and Development Policy (IJEDP)*, Vol. 7, No. 1.
- Mankiw, N. G. (2014). *Principles of Economics*.Cengage Learning.
- McCulloch, N., Moerenhout, T., & Yang, J. (2021). Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis. *Energy policy*, 156, 112336.
- Mohammed, A. B., Ahmed, F. F., &Adedeji, A. N. (2020). Assessment of impact of fuel subsidy removal on socio-economic characteristics: A survey of households in Maiduguri, Borno State, Nigeria. *Journal of Business and Economic Development*, 5(1), 10.
- Mohammed, A. B., Ahmed, F. F., &Adedeji, A. N. (2020). Assessment of impact of fuel subsidy removal on socioeconomic characteristics: A survey of households in Maiduguri, Borno State, Nigeria. *Journal of Business and Economic Development*, 5(1), 10-20.
- Okafor, B. (2021). Fuel price increase and SME productivity in Anambra State. *Journal of Nigerian Business Studies*, 9(2), 134–148.
- Okongwu, C. J., &Imoisi, S. E. (2022). Removal of petrol subsidy: Legal implications for the Nigerian economy. *NnamdiAzikiwe University Journal of International Law and Jurisprudence*, 13(2), 135139.
- Okwa, F. O., Okwonu, F. Z. &Owoyi, M. C. (2024).The impact of fuel subsidy removal on consumer goods in selected states in Nigeria. *FUDMA Journal of sciences (FJS)*, 9(5): 94-112.
- Oluwabukola, A. (2023). Here is why Nigeria needs to remove petrol subsidy. thecable. Retrieved from <https://www.thecable.ng/here-is-why-nigeria-needs-to-remove-the-fuel-subsidy> on December 26, 2023.
- Ozili P. K., &Obiora K., (2023).Implications of fuel subsidy removal on the Nigerian economy. “Public Policy’s Role in Achieving Sustainable Development Goals.
- Ozili, P. K. (2023). Implications of fuel subsidy removal on the Nigerian economy.In K. Obiora (Ed.), *Public policy’s role in achieving sustainable development goals* (pp. 155-178).IGI Global. MPRA Paper No. 120509. <https://mpra.ub.uni-muenchen.de/120509/>

- Ozili, P. K., & Arun, T. (2023). Spillover of COVID-19: Impact on the global economy. In *Managing inflation and supply chain disruptions in the global economy*. IGI Global.
- Ozili, P. K., & Ozen, E. (2021). Global energy crisis: Impact on the global economy. *Proceedings of IAC in Budapest 2021*. Czech Institute of Academic Education.
- Ozili, R. K. & Obiora, K. (2023). Implications of fuel subsidy removal on the Nigerian economy. *Public Policy's Role in Achieving Sustainable Development Goals*, 2023.
- Ozili, R. K. & Obiora, K. (2023). Implications of fuel subsidy removal on the Nigerian economy. *Public Policy's Role in Achieving Sustainable Development Goals*, 2023.
- Parry, I., Black, M. S., & Vernon, N. (2021). Still not getting energy prices right: A global and country update of fossil fuel subsidies. International Monetary Fund.
- Raji, A. (2018). Fuel subsidy removal and the lives of rural dwellers in Nigeria. Unpublished Thesis. Department of Sociology, Faculty of Social Sciences, University of Ilorin, Ilorin, Nigeria.
- Saleh, M. & Olasunkanmi, O. (2017). Currency Devaluation and Fuel Subsidy Removal for Nigeria's Economic Development, *International Journal of Social Science Research*, Vol. 5, No. 2.
- Siddig, K., Aguiar, A., Grethe, H., Minor, P., & Walmsley, T. (2014). Impacts of removing fuel import subsidies in Nigeria on poverty. *Energy Policy*, 69, 165-178.
- Stoddart, H. (2011). A pocket guide to sustainable development governance. Stakeholder Forum.
- Sweeney, S. (2020). Weaponizing the Numbers: The hidden agenda behind fossil-fuel subsidy reform. *New Labor Forum*, 29(1), 87-92.
- Umar, H. M., & Umar, M. S. (2013). An assessment of the direct welfare impact of fuel subsidy reform in Nigeria. *American Journal of Economics*, 3(1), 23-26.
- Umeji, G., & Eleanya, E. (2021). Assessing the Impact of Fuel Subsidy Removal in Nigeria on the Poor in the COVID-19 Era. *SERBD-International Journal of Multidisciplinary Sciences*.
- Umeji, G., & Eleanya, E. (2021). Assessing the impact of fuel subsidy removal in Nigeria on the Poor in the COVID-19 Era. *SERBD-International Journal of Multidisciplinary Sciences*.
- vaga, O. H., & Okechukwu, M. E. (2022). Subsidy in the downstream oil sector and the fate of the masses in Nigeria. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 1(6), 1-20.
- Wazakari, R. R. & Tammi, H. (2024). The Socio-Economic Effects of Oil Subsidy Removal on the Standard of Livelihood on Resettlement Households in Adamawa North Senatorial District. *Zanfara Journal of Politics and Development*, 5(2): 62-82