

DYNAMICS OF FUEL SUBSIDY REMOVAL AND ITS IMPACTS ON TRANSPORT DECISION – MAKING AMONG LOWER-INCOME NIGERIANS: A CONCEPTUAL REVIEW.

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Abstract: *Over the years the issue of fuel subsidy removal has been a subject of intense debate among stakeholders in Nigeria. It has generated controversy because of the expected backlash it will have on the low-income groups that utilizes public transport system as the sole source of mobility. Removal of fuel subsidy is also expected to directly influenced production cost, and increase prices of manufactured products. Nigeria has a chequered history at attempts to reform key sectors of the economy in the past, and this has created fears in certain quarters on the sustainability of the present exercise. This study provided a desk review on the various attempts that the country has made to reform the downstream sector of the petroleum industry, why it failed, and how to avoid such booby traps in the latest attempts. The study also dispassionately examined the concerns raised by the labor and other stakeholders that the reform will inflict damage on the poor through loss of employment, reduction in income, spending a larger portion of their income on transportation expenses, and reduced access to basic social services, and increases in prices. For these reasons, the policy has received so much criticism from labor, academia, and individuals. The study conclude by advocating for a holistic reform of the public transportation system in a way to make it more accessible, and affordable to the low-income earners. The expansion of the Bus Rapid System (BRT) or its local variant to more Nigerian cities could be one of the options the government should consider. Also the introduction of targeted transport subsidies for the poorest segment of the population by providing fare discount on trips taken on BRT should be considered.*

Keywords: Fuel Subsidy, Transport Decision, Lower-Income, Prices, Manufactured Products

Introduction

Before the outbreak of the COVID-19 global pandemic in 2019, available statistics indicated that in the last three decades the number of people living in extreme poverty— defined as those who live on less than United State Dollars 2.15 per person per day at 2017 purchasing power parity all over the world has gradually reduced (Ajayi, 2022; World Bank, 2023). The global picture however contrasted with Nigeria’s situation. The country barely exited its first recession in forty years in 2018 occasioned by the crash in oil prices in the global market when its fragile economy was hit by the disruptive force of the pandemic (Ajayi, 2022). World Bank (2023) reported that the number of people living in extreme poverty rose to 700 million. The pandemic succeeded in pushing over 70 million people in the world into the cold arm of extreme poverty. Nigeria doubtlessly bore the brunt of these two calamitous heavily, as the statistics from the World Bank designated the country as the poverty capital of the world, with more than six Nigerians entering the extreme poverty bracket by the end of 2022 (World Bank, 2022).

Traditionally, one of the fiscal policies that the governments utilize in catering for the poor is the subsidy on essential commodities. According to the International Monetary Fund (IMF), subsidies are intended to protect the most vulnerable consumers by keeping prices low, but they are not without attendant high costs. Subsidies on fossil fuels for example, have been known to have sizable fiscal costs (leading to higher taxes/borrowing or lower spending), promote inefficient allocation of an economy’s resources (hindering growth), encourage pollution (contributing to climate change and premature deaths from local air pollution), and are not well targeted at the poor (mostly benefiting higher income households) [IMF, 2023; Hosan, 2023].

Arguments of proponents of subsidy removal revolve around the commonsensical reasoning that the revenue utilized for it is better targeted at social spending, achievement of reductions in inefficient taxes, and ensuring productive investments that can stimulate sustainable and equitable outcomes. In the Nigerian context, the argument of the promoter of fossil fuel or 'petrol' subsidy removal also revolved around the colossal loss of the 'subsidized fuel' to smuggling cartels who funneled the product to black marketers in neighboring West African countries (Afful, 2023). Nigeria National Petroleum Corporation (2022) claimed that 66 million liters of Premium Motor Spirit (PMS) are consumed daily in Nigeria, analysts believe that a huge proportion of the products are smuggled to neighboring countries (Olayinka, 2022).

Mobility decisions and cost are inexorably related (Polat, 2012; Tyrinopoulos and Antoniou, 2013; Ajayi, 2017; Ajayi, 2020¹). Whether for trips in personalized automobiles or from the public transit system, the monetary cost of trips is a critical determinant among travelers. The result from an empirical study in India, a developing country with striking colonial historical commonalities with Nigeria revealed that income is the most important determinant of either public or private transport use among travelers (Ahmad and Puppim de Oliveira, 2016). Pieces of evidence also abound about the decisive role that cost plays in trip decision-making in Nigeria (Adesanya, 2010; Ajayi and Ajayi, 2014; Ajayi, 2017, Ajayi, 2020¹). The immediate impact of subsidy removal on PMS is the astronomical increment on transport cost. Several studies has discovered that cost of transport usually represent one of the biggest proportion of the household budget among the urban poor in most developing countries (Polat, 2012; Tyrinopoulos et al, 2013; Arbex et al, 2013; Adeoti et al, 2016; Hosan et al, 2023) as should be expected a major policy change on PMS subsidy removal will extend the dragnet of poverty in the society, if not proactively managed.

This paper filled a gap in the body of the available literature on PMS subsidy removal, and its impact on trip decision-making among low-income earners in a developing economy like Nigeria. It should be noted that that different studies has x-rayed the impact of subsidy on PMS on the Nigeria economy in the past (Adeoti et al, 2016; Olayinka, 2022; World Bank, 2022), few of such studies has examined it direct impact on trip decision-making among the poor. This study also contributed to available body of knowledge on the discourse by being one of the first to investigate the impact of the 'total' removal of the subsidy of PMS on an economic group in the country. Successive governments in Nigeria in the last 50 years have been 'kicking the can down the road' by avoiding the total removal of the PMS subsidy. The study is broken down into five sections, after this introductory section is the second section dedicated to the analysis of the historical components of PMS subsidy in Nigeria, the third section provided the examination of relevant theories that gave a needed pivot to the study, the fourth section provided insights from other climes on how best can the government manage the post-subsidy era for the poor, and the attendant socio-economic challenges it has brought on trip-decisions among the poor. The study is concluded in the fifth section with suggested policy directions.

2. An Overview of How Petrol Motor Spirit (PMS) Subsidy became a Sweet-Bitter Experience for Nigeria

Historically, subsidies for PMS were first introduced in Nigeria in the early 1970s as a response to the oil price shock in 1973 (McCulloch et al, 2020). However, despite numerous attempts at reforming and repositioning the downstream sector of the petroleum industry for optimal performance over the years, the subsidy has stubbornly remained an integral part of the government budgetary allocation (Adeoti et al, 2016). The budgetary allocations to the PMS subsidy regime in the last painted a discomfiting picture (Table 1). It is inexplicable that the

country could spend as much as 11.4 trillion naira on subsidies in the last 8 years while the budgetary education for the same period was less than 5 trillion naira. Statistical fact like this goes a long way to buttress the argument of the group that supported the removal of the subsidy: the poor that the policy is meant for, may not be the beneficiary. The disagreement of some stakeholders about the 66 million daily consumption figure of the product as touted by the NNPC proved to be correct days after the removal of the PMS subsidy in Nigeria, available data indicated that the prices of PMS tripled and, in some cases, quadrupled in neighbouring countries (Kale, 2023).

Table 1. Breakdown of Budgetary Allocations to PMS Subsidy and Education between 2015 and 2023

S/n	Year	Amount Expended on PMS Subsidy (Naira)	Budgetary Allocation to Education (Naira)
1	2015	316	483.18
2	2016	99	483.67
3	2017	416	448.14
4	2018	722	651.17
5	2019	578	634.66
6	2020	134	607.66
7	2021	1.42 trillion	742.52
8	2022	4.2 trillion	923.79
	Total	11.4 trillion	4.9 trillion

Source: Author's Analysis (data from budgetary office).

Those in opposition to the removal of subsidy on PMS in Nigeria can be broadly divided into two. First, are the members of the Nigeria Labour Congress (NLC) and different Civil Society Organizations (CSO). The NLC's position has always been that the government should not 'be talking about subsidy for a product that is naturally and thoroughly well-endowed in the country' (Nwafor, 2023). The NLC believes that the country should revamp its comatose refineries. Nigeria has four major refineries with a cumulative production capacity of 445,000 barrels per day (bpd). The Port Harcourt refinery comprises two units – the old plant 60,000bpd and the new plant (150,000bpd), while the Warri refinery has a capacity of 125,000bpd and the one in Kaduna has 110,000bpd. With 159 liters of PMS in a barrel of crude oil, the NLC argues that if all the refineries are fully functional their combined output will be 71 million liters per day, and such a figure will suffice for the local consumption.

However, What NLC and the CSO failed to realize or simply chose to ignore is the fact that PMS fuel subsidies have benefited neighboring countries, rent-seekers, and the rich, as opposed to the poor. Available statistics indicated that less than a month after the removal of the subsidy on PMS, the country's daily consumption figure fell to 40 million liters per day (nearly a 40 percent drop in the daily consumption rate) [Afful, 2023; Kale, 2023]. The second group is some CSOs. The position of this group is anchored on the argument that the cost of governance in the country is prohibitive (Leke and Oluwaleye, 2015; Iyoha et al, 2015; Tuana, 2021). Cost of governance defined as the public expenditure or the expenses government incurs in the discharge of its legal

and imperative duties, has been enjoying a bullish trend over the years in Nigeria, even as the country continues to sink into deep mire of poverty.

Public expenditure is broadly divided into recurrent expenditure and capital expenditure. Recurrent expenditure is usually expended on the day-to-day expenses of governance while capital expenditure is expended on capital projects. The cost of governance is conceptualized in literature as a governmental allotted budget used in maintaining government administrative structures (Iyoha et al, 2015). Scholars at various times argued in the public finance literature, that cost of governance is associated with current expenditure, which is more of a budgetary allocation ascribed to the maintenance of government itself and not for the benefit of the society and the economy as a whole (Adeolu and Evans, 2007; Iyoha et al, 2015; Adamu, 2016). On a similar vein, some are of the thought that the ruling class in Nigeria has deliberately maintained apathy to public sector financing on socio-economic and physical infrastructure like the repairing of the existing refineries or the construction of new ones that can encourage economic growth (Adeolu and Evans, 2007; Iyoha et al, 2015; Adamu, 2016; Tauana, 2021). Over time, analysts think that Nigeria's annual budgets are purposely designed by the ruling class to have a significant proportion tailored to support the administrative structure of government, and this has tightened the grip of poverty in the country. It is not surprising therefore that given this consideration most citizens are inclined to regard government subsidizing the cost of PMS as 'their share of the national cake'. This feeling has persisted over the years and has fueled the resistance shown by those in the lower stratum of the economic ladder in Nigeria, even though they are aware of the gaping holes in the subsidy regime that were being exploited by crafty individuals in and out of the government. In concluding this section, all categories of Nigerians – the ruling class, the rich, the middle class, or the poor alike must be ready to make the needed sacrifices to realize the hidden benefits in the removal of the subsidy regime on PMS.

3. Decision Making Theory (DMT)

Decision-making has been defined as a process that involves selecting the best alternative among various options (Alijoyo, 2021). The decision-making process is always influenced by the contextual environment where the decider is located, the depth of the knowledge available to the one taking the decision, and the ability to utilize such knowledge (Bushack, 2016). Initial work on the development of the theory was done by Simon (1977, 1979, 1981, 1983, and 1997). Scholars generally believe that decision-making involves the adoption and application of rational choice for the management of an individual life, a family or household plan, private, business, or governmental organization in an efficient manner (Bradley, 2017; Steele and Stefánsson, 2020).

The theorists posited that making a decision is choosing between alternative courses of action. It can even mean choosing between action and non-action by either an individual or a group. Decision-making theory could also be likened to how rational individuals should behave under risk and uncertainty (Steele and Stefánsson, 2020). A fundamental strength of the Decision-Making theory is its psychosocial constructs that incorporate human behavioral factors like stress and motivations as critical determinants of an individual's capacity to solve complex problems. DM theorists argued that ordinarily human decisions are based on bounded rationality—humans tend to behave differently when there are risks and uncertainties involved. At the core of the theory lies the concept of 'satisficing', which is a combination of satisfying and sufficing.

The application of the DMT advocates that the user should pursue objectives or make decisions that involve minimum risks and complications instead of focusing on maximizing profits. Due to its incorporation of behavioral constructs, DM theorists maintained a 'middle of the road' approach

in deciding on key issues by insisting that there can never be ‘one best course of action or decision’. Humans, they posited are never in possession of complete information about something, therefore, there will always be a better course of action or decision (Bushack, 2016; Alijoyo, 2021). DMT has been applied severally in studies that employed a range of econometric and statistical tools for analyzing an individual’s choices (Steele and Stefánsson, 2020).

DMT when applied in this manner it allows the user to make the best logical decision possible when dealing with uncertain and unknown circumstances. Analysts call it a theory of choice, relying on beliefs, attitudes, and desires. There is a wide application of DMT in different sectors of the economy. There is scanty evidence of its application in guiding the decision-making process on transport needs among the poor facing a sudden removal of subsidy in a developing economy. Following the exploratory works of Smith on the propounding of DMT, other scholars built on his ideas to further create a new stream of theoretical views that provided guidance on decision making in different situations, and perceived realities. The new theoretical slants are commonly described as ‘Theories of Decision Making’, some of such viewpoints as applicable to the study at hand are examined below:

3.0. Theories of Decision Making

The theories of decision-making can be grouped into normative and descriptive theories. Normative theories explain decision-making in terms of the best and ideal decision that can be made in a given situation. Descriptive theories explain how decisions are made, and it comprehends the logic and concept underlying any decision. Two of such major theories are found appropriate and utilized in this study:

3.1. Subjective Expected Utility Theory.

This theory is an approach in which decisions are taken under risk, allowing the decider to use his subjective evaluation of variables under different options and the associated probabilities. Decisions are choices between different alternatives and their probabilities (Shanteau and Pingnotoni, 2009). When the decision maker chooses an alternative with a high certainty of the outcome, there is still a risk of letting go of another best outcome. A good decision is based on the process, not on the outcome (Fischhoff et al 1983). Expected utility refers to the fact that the value of any commodity is different for one person than another due to external conditions (Dean, 2017). The decision maker should take a decision only after evaluating every factor and piece of information available to them Subjective Expected Utility (SEU) is an approach to decision-making under risk that allows for subjective evaluation of all the variables under consideration and there are three stages of SEU, these are decision making under risk, value, and probability (Karni, 2008; Kattan, 2009; Shanteau and Pingnot, 2009).

The first stage is decision-making under risk: Decisions are choices between alternatives with different probabilities. Even if one chooses an alternative with a sure outcome, one risks rejecting an alternative with some chance of a better outcome, in the context of the present study, the decision of low-income earners in adjusting to the new policy of subsidy removal on PMS might be sacrificing the consumption of a balanced diet to increase allotted spending out transport. The

second stage is the Expected Value (EV), usually shortened to EV. The mathematical calculation of an optimal decision is easiest when the outcome is structured in terms of money. In this manner, both alternatives have the same metric and the metric is quantified.

Humans generally considered that more money is better than less. In the scenario considered in this study a low-income earner is expected to estimate the expected value in monetary terms the new decision made due to the change in transport cost. The third and final stage is the Expected Utility. Expected Utility (EU) takes into account the fact that the value of a commodity is different from one person to another due to differences in circumstance among other reasons. When choosing the best decision using the EU, the value of the competing outcomes to the decision maker is first established. When applying EU in the context of this study, it is commonsensical to also examine non-monetary decisions among the poor who are going to bear the brunt of the decision of the change in the pump price of PMS most. For instance, family structure might suffer among the vulnerable groups with less funds available for feeding, and schooling of kids.

3.2 Prospect Theory

This theory states that decision-making depends on choosing between various alternatives, but the decision depends on biased judgments. The seminal work of Kahneman gave birth to PT as a part of the larger body of DMT. Kahneman posited that heuristics and biases affect the assessment of the consequences and frequency of decision-making. Such judgments involve evaluations of the external world; decisions involve more fundamental internal choices across values. The second theoretical perspective employed in this study is the Prospect Theory (Kahneman & Tversky, 1979; Kahneman et al, 1991 Nigussie, 2012: Yohe et al, 2011: Ajayi, 2020²). PT has been used as a valid descriptive theory for assessing the decision-making processes of either an individual or a small community on the appropriateness of their responses to changes in governmental policies on environmental issues (Kahneman & Tversky, 1979; Kahneman et al, 1991 Nigussie, 2012: Yohe et al, 2011: Ajayi, 2020).

The application of PT to research work on individual or group decision-making to a policy change showed that there PT possessed the ability to give robust descriptive analyses on the causative factors behind decision-making processes in CCA measures. PT relies on the observations of the members of the community studied first, in the organization and formulations of the options available which then inform the decision on the eventual reactions to the newly formulated policy (Ajayi, 2020²). This is aptly termed 'reference points' (Kahneman et al, 1991 Nigussie, 2012: Yohe et al, 2011: Ajayi, 2020²). The second stage in the PT construct which is a direct consequence of the earlier stage is the editing phase.

At this stage, there is an opportunity for feedback or a review of the outcome of the reaction to the newly developed policy. These outcomes are then either classified as losses or gains in deference to the earlier change in lifestyle as occasioned by the reaction to the new policy or the reference point (Kahneman et al, 1991 Nigussie, 2012: Yohe et al, 2011: Ajayi, 2020). The application of PT, as done in this study, is a departure from its earlier extensive use in the environmental economics and supply chain management domains (Golicic et al, 2012; Barbosa et al, 2017: Ajayi, 2020). PT was used in analyzing the environmental economic effects that decisions on willingness-to-pay and willingness-to-accept-compensation measures had on climate change adaptive

measures (Golicic et al, 2012; Barbosa et al, 2017). Successive generations of Nigerians have grown up to believe that prices of PMS are ‘fixed’ by the government, rather than the global market dynamics. This change in the policy thrust will elicit consequential changes in household spending particularly among the poor. The use of PT in this study is to evince the likely changes to be witnessed in the daily trips decision-making among the low-income earning group as a result of the subsidy removal on PMS in Nigeria.

4. Expected Outcomes of the New Policy on the Transport Decision-Making among the Poor.

In terms of the structure of employment, the poor in Nigeria can be broken down into two distinctive groups. The first are those in the formal sector (public and organized private sector), they consist of the low-income earners in the sector. This group constitutes the smaller percentage. The other group consists of those engaged in the informal sector (Nigeria Bureau of Statistics, 2021). Available information from the Nigeria Bureau of Statistics (NBS) indicated that 56.25% (nearly 71 million) of the Nigerian labor force (workers between the ages of 16 to 64) are employed informally and a huge proportion among them depends on the public transit system as a mean of mobility rather than private vehicle ownership (Ajayi, 2022). Whether employed formally or informally, the reality is that the poor are expected to bear the brunt of the increment in the cost of transport more than any other income group in Nigeria. Below are some of the attendant impacts the policy change is expected to have:

4.1 Affordability and Limitation on Employment Opportunities

The low-income group as should be expected often has limited financial resources, and any increase in transportation costs can make it more difficult for them to afford travel expenses. Higher costs of transportation will force them to prioritize their spending and make difficult choices between meeting transportation needs and fulfilling other essential needs, such as food, housing, or healthcare (Smith, 1997; Buchack, 2016; Bradley, 2017). Limited access to affordable transportation also can limit the urban poor's ability to access job opportunities. If the cost of transportation becomes prohibitive, individuals may be compelled to seek employment within walking or cycling distance from their homes, reducing their options and potentially limiting their income potential

4.2 Preferred Modal Choice for Trips

The choice of transportation mode can be influenced by cost considerations (Ajayi, 2017: 2020²). As should be expected, an increment in the cost of public transportation which ordinarily is the preferred choice for low-income earners, will prompt a ‘change in the decision-making process’ (Dean, 2017; Alijoyo, 2021). Experience has shown that the poor may opt for alternative, less expensive modes of transport, such as walking or cycling, for shorter and longer distances (Guzman and Hessel, 2022). The expected trade-off of this decision will be long travel times, inability to take-up job new job offers at far distances from home, loss of jobs due to lateness, and health challenges occasioned by likely increased physical exertion from walking or cycling.

4.3 Trip Frequency

Higher transport costs will discourage the urban or rural poor from making some necessary or discretionary trips. They may reduce the frequency of non-essential trips, such as social outings or recreational activities, to save money. This can result in reduced access to educational, cultural, and social opportunities, limiting their overall quality of life. The impact on a routine activity like the school run for the children of the poor may be significant, particularly where schools are sited at far-flung distances from their residences (Ajayi and Ajayi, 2014; Ajayi, 2017).

4.4 Social Isolation, Health, and Well-being

Higher transport costs can contribute to social isolation among both the rural and urban poor (Ajayi and Ajayi, 2014). Increment in the cost of transport as occasioned by the removal of subsidy on PMS will limit access to visit family, and friends, or participate in community activities, this may lead to a feeling of disconnection from their support networks and heightened feelings of loneliness and social exclusion. Increased transportation costs may impact the health and well-being of the urban poor. For instance, if public transportation becomes more expensive, individuals may be more likely to choose cheaper but less healthy options, such as unhealthy food, due to limited access to affordable grocery stores. Additionally, reduced access to healthcare facilities due to increased transport costs can hinder their ability to seek medical attention when needed.

5. Conclusion and Areas of Future Research

Experience has shown that there is a disturbing gulf between the praxis of policy formulations and implementations in Nigeria (Adeolu and Evans, 2007; Iyoha et al, 2015). This has created a distrust between the governed and the government. The belief in some quarters is that the removal of the subsidy on the PMS may not fare better than previous boggled or failed government policies (Tuana, 2021; Nwannekanma and Musa, 2022; Afful, 2023; Nwafor, 2023). Already, early signs are portending that this fear may not be unfounded, weeks after the removal of the subsidy on PMS, the government is yet to bring the 'expected palliatives' to cushion its negative impact on the citizens. Recent experiences have shown that indecisiveness on the part of the government in addressing the needs of the poor in the Nigerian milieu could be a trigger point for the venting of pent-up frustration against the government, and the ruling class (Ajayi, 2022). A good example was the outbreak of the 'end-SARS' riot that broke out all over the country as a fallout of the perceived police brutality, and hardship inflicted by the downturn in the economy caused by the lockdown policy of the covid-19 pandemic (Ajayi, 2022).

Taking a cue from the DMT, middle and low-income earners will have to make 'some critical adjustments' in light of the latest development on the cost of trips. The immediate impact of the subsidy removal on the pump price of PMS will be that more Nigerians may fall below the poverty line. For some middle-income earners who own personal automobiles, and utilized such for trips, reordering of trips and priorities might occur. Most Nigerian cities are not compact in size. These cities were planned when the country enjoyed a subsidized regime on the pump price of PMS, the new reality occasioned by its removal will create a new set of connectivity problems for the urban poor. The challenge for the rural poor will be more related to the cost of haulage for farm produce to consumption centers, which incidentally are located in the cities.

Addressing these connectivity problems requires a multi-faceted approach. Governments, urban planners, and community organizations should work together to improve public transportation infrastructure and affordability. Regarding this, variants of the Bus Rapid Transit (BRT) system should be encouraged in different Nigerian cities. The design of the BRT system should incorporate the peculiarities of these cities into its design (Ajayi, 2017; Guzman and Hessel, 2022). Government should also explore innovative schemes that provide transportation subsidies for low-income earners, develop alternative transportation options such as bike-sharing programs, and ensure the equitable distribution of transportation resources across different cities. Additionally, initiatives to promote mixed-land-use development, where housing, employment, and services are integrated, should be the norm going forward (Guzman and Hessel, 2022).

This research is not without some limitations, one of such is that it is research that employs the use of a qualitative research approach of desk review. An empirical study on the subject will provide deeper insight into the discourse. Also, case studies on the coping strategies being employed by vulnerable groups to cope with the challenges of subsidy removal should be examined in different Nigerian cities. Finally, it is advocated that a study that examines the veracity of the claim that the entire subsidy regime is fraudulent should be investigated. Findings from such a study will be pivotal to the emergence of the new policy thrust that is bound to evolve as a result of the stoppage of subsidy on the pump price of the PMS. Despite the aforementioned limitations, this research has contributed to knowledge on this discourse by providing an incisive conceptual review of how the removal of the age-long subsidy on the pump price of PMS will affect trip decisions among the low-income earners in the country.

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