FUEL SUBSIDY REMOVAL AND HOUSEHOLD WELFARE IN NIGERIA: CONCEPTUAL AND THEORETICAL PERSPECTIVES

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Abstract
Fuel subsidy represents a complex and often controversial policy approach employed by governments worldwide. Also, fuel subsidy policy has long been a subject of intense debate and scrutiny in many countries, including Nigeria, because it often imposes significant fiscal burden on the governments and distorts market prices, leading to inefficient resource allocation. Therefore, this study examined the socio-economic implications of this policy realignment by the Federal Government of Nigeria (FGN) from the conceptual and theoretical perspectives. Utilizing a qualitative research approach, historical and content analyses, the study reviewed the relevant literature to provide a better understanding of the issues and challenges. Basically, the findings highlight the significant economic and social consequences of fuel subsidy removal, including rising prices of essential goods, increased transportation costs and financial constraints on households. In this direction, public transportation services have been particularly affected, with higher fares and reduced availability, exacerbating commuting challenges. Against this background, the FGN in collaboration with the State and Local Governments should urgently expand and enhance social protection programmes, such as direct cash transfers, food aid, transportation cuts and healthcare subsidies, to provide immediate relief to the most vulnerable households in Nigeria. Furthermore, the FGN should explore fiscal reforms like targeted tax relief for low-income households and tax incentives for businesses affected by increased operating costs, in order to minimize the economic hardships faced by ordinary Nigerians while maintaining the long-term objective of fiscal sustainability.

Keywords: Bergson criterion; Household welfare: Fuel subsidy; Government policy; Social protection programmes.
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Introduction

The removal of fuel subsidy has become a focal point of economic and policy debates, particularly in resource-rich countries like Nigeria. Traditionally, fuel subsidy was introduced to ensure the affordability of fuel, stabilize prices, cushion consumers against global oil price volatility, and alleviate economic pressure on low-income households (Adewunmi, 2014; Von Moltke, McKee & Morgan, 2004;). By subsidizing fuel, governments sought to enhance household welfare, improve living standards, and mitigate the socioeconomic challenges associated with fluctuating energy costs (Agu, Ekwutosi & Augustine, 2018). However, despite its intended benefits, the policy of fuel subsidization often imposes a substantial fiscal burden, distorts market dynamics, and fosters inefficiencies in resource allocation (Koplow, 2009). Considering the Nigerian experience, fuel subsidy reflects a complex interplay of economic, political, and social factors. Dating back to the military regimes, the introduction of fuel subsidy arose from an inability of domestic refineries to meet local demand, necessitating the importation of refined petroleum products (Francis, Olugboyega, Abiola & Kayode, 2023). Over time, these subsidies evolved into a contentious issue, with critics highlighting their role in perpetuating corruption, inefficiencies, and inequitable resource distribution. Proponents of subsidy removal argued that eliminating subsidies could redirect government resources to critical development sectors such as healthcare, education, and infrastructural development (Ogwumike, 2017). Conversely, opponents caution against the severe economic and social repercussions of abrupt subsidy removal, including inflation, increased poverty and social unrest (Ahmad & Sale, 2021).

Key milestones in Nigeria's fuel subsidy narrative include the 2012 attempt by the administration of President Goodluck Jonathan to increase petrol prices, which faced widespread resistance, and the more recent 2023 subsidy removal under President Bola Ahmed Tinubu. The latter resulted in fuel prices rising from ₦210 to over ₦620 per liter, sparking economic hardships, inflationary pressures, and public discontent. While the government justified this decision on the grounds of fiscal sustainability and the inefficiency of subsidy benefits—limited to a small segment of the population—the abrupt nature of the removal and lack of adequate palliative measures heightened public dissatisfaction (Francis *et al.*, 2023). From an economic perspective, the removal of fuel subsidy has both macroeconomic and microeconomic implications. At the macro level, it reduces fiscal deficits and reallocates resources to other developmental priorities. However, at the micro level, it directly impacts household welfare by increasing transportation costs, raising prices for essential goods and services, and reducing disposable income, particularly for low-income households (Sale & Sade, 2021).

The resulting inflationary pressures and socio-economic instability have underscored the importance of robust social safety nets to cushion the vulnerable population. Despite the wealth of studies on Nigeria's fuel subsidy challenges, there remains a gap in understanding the comprehensive impact of subsidy removal on household welfare. While some research focuses on macroeconomic outcomes, limited attention has been given to the microeconomic dimensions, particularly the lived experiences of Nigerian households amid rising energy costs (Tubini, Madugu & Shatima 2019). Against this background, this study conceptually and theoretically examined the socio-economic implications of this policy realignment by adopting a qualitative research approach, historical and content analyses, for a better understanding of the issues and challenges on fuel subsidy removal and its multifaceted effects on household welfare in Nigeria.

Conceptual Framework

The Concept of Fuel Subsidy

The concept of subsidy as defined by Lawson (2012) and the Academics Dictionary of Economics (2006), means a government providing financial incentives to businesses to reduce the cost of their products and enhance their competitiveness. It is essentially a policy tool that maintains consumer prices below market levels while ensuring that producer prices remain above market rates. In a broader sense, a subsidy can be seen as financial assistance provided to certain products or industries to keep prices low and stimulate economic activity (Umeji, Targun & Samsa, 2021). The World Bank and the International Energy Agency (IEA) defined a subsidy as any government policy intended to lower the price of a good or service consumed by citizens compared to what it would have been without such a policy (Okwuanya, Ogbu, & Pristine, 2015). Kadiri and Lawal (2016) further elaborate that a government subsidy occurs when a company's market pricing is lower than it would be without intervention, allowing individuals with lower purchasing power to afford the product. Fuel subsidies, therefore, constitute a form of financial assistance granted by governments to decrease the cost of fuel for citizens. Despite their intended benefits, the administration of fuel subsidies has often been plagued by corruption and inefficiencies (Bashir, 2016).

Atoyebi *et. al.* (2012) defined fuel subsidy more specifically as a government intervention that reduces the market price of fuel below its actual cost of production. This intervention is crucial, as fuel is not only essential for transportation but also for industrial production and household consumption. On the positive side, fuel subsidies can significantly reduce transportation costs for low-income households and improve access to energy, especially in rural areas. Additionally, they can help keep the cost of goods and services down, thus sustaining economic growth and development, potentially leading to job creation and a broader tax base (Okwuanya, Ogbu, & Pristine, 2015). However, as highlighted by Gunu and Kilishi (2010), fuel subsidy can also distort the market and create economic inefficiencies. Subsidized fuel can lead to increased fuel consumption and higher greenhouse gas emissions, which are harmful to the environment. Moreover, governments that provide subsidies often have to spend substantial amounts of money to sustain the programme, which can result in budgetary deficits. These deficits may eventually require cuts to public expenditures or tax increases, affecting overall economic stability. Additionally, subsidies create a moral hazard problem and encourage rent-seeking behaviour, as some individuals and businesses may take advantage of the subsidies for personal gain.

By reducing the cost of fuel, which includes petrol, gasoline, diesel, kerosene, and other petroleum products, governments aim to lower energy expenses, increase household disposable income, and ultimately enhance social welfare. Most nations that offer fuel subsidies are developing countries that heavily rely on the export of natural resources such as petrol and oil. These subsidies serve to protect local economies from fluctuations in the global market price of these commodities, ensuring steady fuel prices domestically (Afaha, John, & Ifarajimi, 2023). However, these subsidies can also lead to lower investment in the oil and gas industry, potentially limiting future production capacity. Therefore, in this study fuel subsidy represents a complex policy tool that aims to balance economic, social, and environmental objectives by making fuel available and affordable through lowering its price. While they can provide immediate relief to consumers, especially those with lower purchasing power, they also come with significant drawbacks and challenges. Effective implementation and monitoring of fuel subsidy is essential to ensure it achieve the intended goals of the policy without causing unintended harm to the economy or the environment.

The Concept of Household Welfare and its Determinants

Dang and Rogers (2008) defined household welfare as the state of well-being and living conditions of households, including social security, income, consumption, health, and education. It is a crucial idea in social policy and economics since it sheds light on the living standards and general well-being of people living in communities. Gallardo-Albarrán, Moya, and Negre (2019) asserted that household welfare is a multifaceted concept that represents the whole quality of life for individuals or families living in a household unit. It includes various aspects of well-being and living standards. It takes into account a number of variables, including wealth, spending habits, availability to basic necessities (like food, water, and shelter), social services (like healthcare and education), and general subjective well-being. Thus, measuring household welfare involves assessing the material resources and non-material aspects of well-being. Common indicators used to measure household welfare include income, expenditure, education, healthcare, assets, and access to basic services such as food, water supply, transportation, shelter, and electricity (Dang & Rogers, 2008).

Again, household welfare is influenced by a number of variables, including social, demographic, and economic ones. The state of the economy, including employment, earnings, and economic growth, is a major influence on household welfare. For example, poor salaries or high unemployment rates might result in less household income and worsening living conditions. Family wellbeing is also highly impacted by socioeconomic factors like access to social protection, healthcare, and education. In addition, the distribution and allocation of resources within households can be influenced by demographic parameters such as age, gender, and family structure, which in turn can affect welfare outcomes (Sale & Sade, 2021). Household well-being can be enhanced by comprehensive policies that take into account several welfare aspects, including access to healthcare, affordable housing, education, and income support. According to Gallardo-Albarrán *et al.* (2019), social safety programmes, progressive taxes, and focused interventions can all help to lessen social exclusion and inequality, which will improve household welfare. Furthermore, by improving employment prospects and fostering sustainable economic growth, skill development, and human capital investment can raise household welfare.

Government Policy

According to Chaudhuri and Jalan (2014), government policy refers to a set of principles, guidelines, and actions implemented by the government to achieve certain objectives and address various societal issues. These policies are typically developed to address a wide range of concerns such as economic development, social welfare, public safety, governance, and environmental sustainability. The process of formulating government policy involves a careful analysis of the existing conditions, identification of problems or areas of improvement, and then the development of strategies and measures to address those issues. These policies are often informed by consultations with stakeholders, including experts, interest groups, civil society organizations, and the general public, to ensure inclusivity and consider diverse perspectives (Toman & Jemelkova, 2014). Government policy is a significant and complex concept that involves numerous economic, social, and political considerations. This policy refers to the measures implemented by the government to support the well-being of households, particularly those belonging to low-income groups, while simultaneously reforming existing fuel subsidies. Such policies aim to strike a balance between ensuring the affordability of basic necessities, such as energy, and promoting a more sustainable and efficient energy market (Aregbeyen, 2020). According to Aremo and Ekperiware (2012), the primary rationale behind government policy related to household welfare and fuel subsidy reform is to address the inefficiencies and negative consequences associated with traditional fuel subsidy.

Fuel subsidy policy has been widely criticized for various reasons, including their regressive nature, wherein the benefits primarily go to higher-income households who consume more fuel. Moreover, subsidies can impose substantial fiscal burdens on governments, leading to budget deficits and crowding out public expenditures on essential services, such as healthcare and education. This policy aims to alleviate these issues by redirecting the subsidies towards targeted welfare programmes that directly benefit low-income households. By channeling resources towards social safety nets, governments can enhance household welfare and alleviate poverty. These welfare programmes often include cash transfers, food vouchers, or education subsidies, which have a more equitable distributional impact compared to broad fuel subsidies. Additionally, such programmes can help break the intergenerational cycle of poverty and empower individuals to lead more productive and self-sufficient lives. Therefore, government policy related to household welfare and fuel subsidy reform involves redirecting resources from broad fuel subsidies towards targeted welfare programmes, aiming to enhance household welfare and promote environmental sustainability. While the reform is driven by the regressive nature of fuel subsidies and the need for fiscal consolidation, its successful execution requires careful planning, well-designed compensatory measures, and effective governance and targeting mechanisms. By ensuring a balance between social welfare and economic efficiency, governments can create a more equitable and sustainable energy market that benefits both households and the environment.

Related Issues on Fuel Subsidy and Household Welfare in Nigeria

Fuel Subsidy Removal in Nigeria

The fuel subsidy removal in Nigeria refers to the government's decision to eliminate the subsidy provided on fuel prices. Typically, the government subsidizes the cost of fuel to ensure it remains affordable for its citizens. However, due to the economic challenges faced by Nigeria, such as declining oil revenues and a growing budget deficit, the government decided to remove the subsidy to reduce its financial burden. According to Abdulkadir, Funmilola and Abdulkadiri (2020), the removal of fuel subsidy is faulty even on theoretical grounds; on the demand side, there are millions of players but on the supply side there is a problem: Some 80 per cent of the petroleum products used in the country were imported and only 20 percent being refined in the domestic market. Under such a scenario, Abdulkadir *et al.* (2020) further argued that it becomes a challenge to determine an appropriate market-determined price. Thus, in his opinion, the subsidy issues become dubious since it raises a number of questions like: What is the proper petroleum pump pricing cost profile? Why does the nation still import roughly 80% of its petroleum products?

Atoyebi (2012) argues that improper manipulation of the fuel price (including the removal of subsidies) will lead to increases in the general price level, or structural inflation, which economists refer to as a phenomenon that, if allowed to happen, would have an impact on other significant macroeconomic variables like interest rates, nominal wages, investment, and unemployment; thus, making macroeconomic management of the economy challenging. Furthermore, the conclusion that there is currently no compelling argument for the removal of fuel subsidies unless the government effectively changes the economy's energy sector, lessens the country's dependency on petroleum revenue, and, among other things, puts laws and incentives in place for the building of refineries. In response to the Buhari-led administration's hike in the price of petrol at the pump, Kojima (2016) lists what could be considered as the "advantages" of the fuel subsidy removal to include:

i. the recurring fuel scarcity issue should be resolved by this new pump price, which will guarantee accessibility to products by enabling marketers to import goods to the maximum extent possible regardless of being constrained by regulatory import permission requirements;

ii. by including the private sector, it will lessen the stockpiling, smuggling, and diversion of petroleum products and help maintain product prices and the stability of free markets; labour

iii. through additional investments in private refineries, oil retailing, and the loss of excess crude via petrol flaring, it will stabilize the labour market and allow for the creation of jobs;

iv. it will ensure competition in the industry and market forces will drive down the price of petrol in the long run as witnessed in the telecoms sector;

v. improvement in the power sector: the current fuel price will lead to the research for cheaper power generation alternatives; and

vi. growth in government interests in other areas: the elimination of subsidies will allow the government to allocate more money for the advancement of other areas, including employment, health, education, and transportation.

Additionally, the policy limitations are listed by the author in the following order:

i. increase in cost of living: with the price of premium motor spirit (PMS) increases the economy will face a sudden surge of inflation. As inflation sets in, more Naira will purchase fewer goods causing depreciation in its value;

ii. increase in transport cost: transportation cost has gone up as much as 300 percent since the N145/litre increase. This increase has caused a ripple effect on other sectors of the economy;

iii. increase in the cost of small-scale business services. These businesses depend on subsidized fuel to render services as public electricity supply is not reliable;

iv. increase in cost of production and customer abuse.

Fuel Subsidy Expenditure in Nigeria

Table 1: Fuel Subsidy Expenditure in Nigeria (2005-2021)

Year	Payments (Billion Naira)	Payments ($ Billion)
2021	1,430	3.5750
2020	864	2.4069
2019	508	1.6547
2018	1,190	3.8889
2017	154	0.4739
2016	240	0.9449
2015	654	3.3367
2014	1,220	7.3939
2013	1,320	8.3019
2012	1,360	8.5535
2011	2,110	13.5256
2010	667	4.4172
2009	469	3.7823
2008	631	5.3025
2007	272	2.1760
2006	257	1.9923
2005	351	2.6600

Source: NNPC Financial Reports; NEITI Reports (2022)

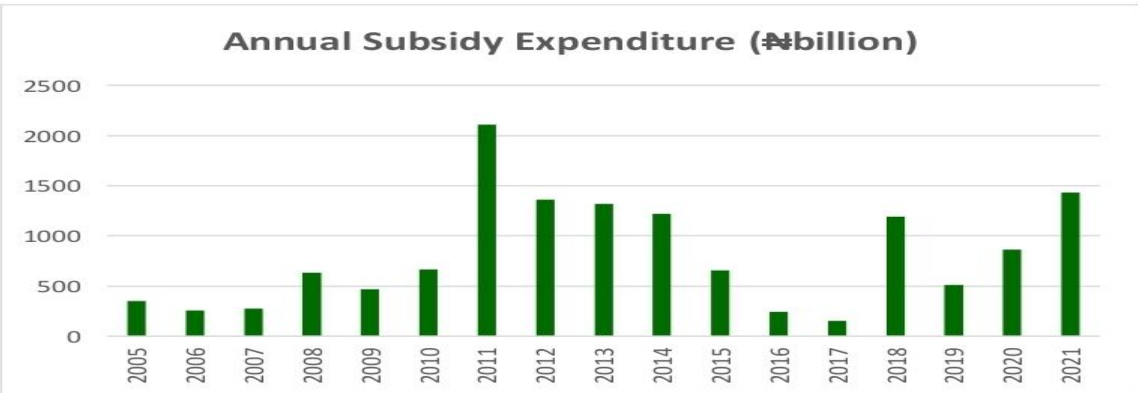

Figure 1: Annual Subsidy Expenditure (Billion)

Source: NNPC Financial Reports; NEITI Reports (2022)

Table 1 provides a detailed record of Nigeria's fuel subsidy expenditure from 2005 to 2021, highlighting a cumulative cost of ₦13.697 trillion (approximately $74.3862 billion). The data shows substantial variability in annual expenditure, with a peak of ₦2.11 trillion ($13.53 billion) in 2011 and the lowest spending of ₦154 billion ($0.4739 billion) in 2017. More recently, in 2021, the Nigerian government spent ₦1.43 trillion ($3.575 billion) on fuel subsidies (NNPC Financial Reports, NEITI Reports, 2022). These figures underscore the significant financial burden that fuel subsidies placed on public finances, raising questions about their sustainability and welfare impact. Fuel subsidies are often defended as a mechanism to shield consumers from the volatility of global oil prices, ensuring that domestic fuel remains affordable. This approach provides short-term welfare benefits, particularly for urban households and businesses. By lowering transportation and energy costs, subsidies enhance household consumption and allow families to allocate more income to essential goods such as food, healthcare, and education. Businesses, especially small and medium enterprises, also benefit from reduced operational costs, which can improve profitability and preserve jobs (World Bank, 2021).

However, these short-term benefits come at a significant cost. Subsidy payments divert resources from critical sectors such as education, healthcare, and infrastructure, which are crucial for long-term development. This misallocation of resources undermines investments in human capital, reducing overall welfare. Furthermore, subsidies are economically inefficient and regressive. Wealthier households, which consume more fuel, benefit disproportionately, while poorer households, especially in rural areas, derive minimal direct benefits (IMF, 2022). This contributes to widening income inequality and further marginalizes vulnerable populations. The economic strain of fuel subsidies also manifests in Nigeria's fiscal position. Persistent subsidy payments have exacerbated budget deficits and national debt, limiting the government's capacity to implement sustainable development programmes

Opportunity Cost Assessment of Fuel Subsidy

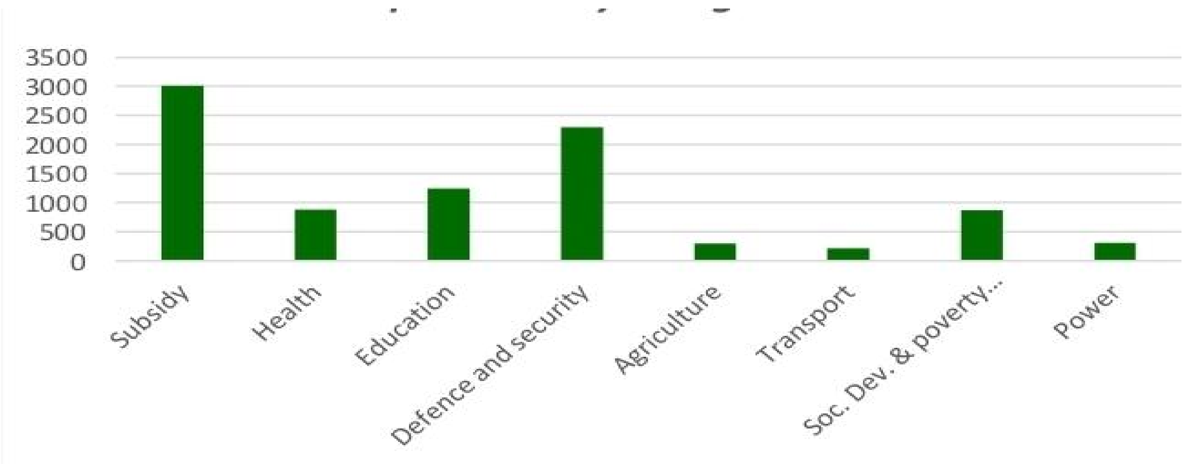

Figure 2: 2022 Supplementary Budget Allocations
Source: Budget Office of the Federation (2022)

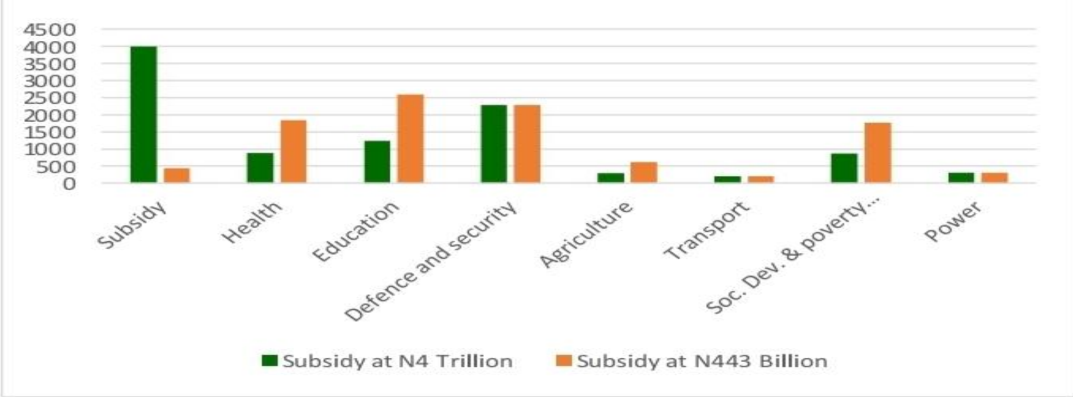

Figure 3: 2022 Supplementary Budget Impact
Source: Budget Office of the Federation (2022)

The figures presented in Figure 2 and 3 highlight the allocation of Nigeria's 2022 supplementary budget to various key sectors, providing a clear assessment of the opportunity cost of prioritizing fuel subsidies over critical investments in health, education, agriculture, and power. The data reveals a disproportionate focus on fuel subsidies, with significant implications for household welfare and national development. In Figure 4, the allocation to fuel subsidies stands out as the highest, at approximately ₦3.5 trillion, overshadowing allocations to all other sectors. By comparison, health, a sector directly linked to household welfare, received less than ₦500 billion. This limited funding reflects the insufficient prioritization of healthcare services despite Nigeria's persistent challenges with maternal mortality, child health, and communicable diseases (World Bank, 2022). Similarly, the education sector received approximately ₦600 billion, a figure inadequate to address issues such as low enrollment rates, poor infrastructure, and the quality of teaching (UNESCO, 2022). Meanwhile, the agriculture and power sectors, which are crucial for economic diversification and industrialization, were allocated around ₦700 billion and ₦300 billion, respectively, further emphasizing the skewed budgetary focus.

Figure 3 provides an opportunity cost analysis by comparing two subsidy scenarios: one at ₦4 trillion and another at ₦443 billion. The contrast is stark, with the ₦4 trillion allocations overshadowing potential funding for other vital sectors. A reduction in subsidy spending to ₦443 billion would free up resources that could significantly enhance investments in health, education, agriculture, and power. For instance, reallocating funds to the health sector could lead to substantial improvements in hospital infrastructure, the availability of affordable medications, and maternal health programmes, reducing household vulnerability to health shocks (WHO, 2022). Similarly, increased education funding could support teacher recruitment, the provision of learning materials, and the rehabilitation of schools, directly addressing barriers to quality education for low-income households (UNICEF, 2022).

Furthermore, redirecting resources to agriculture could boost mechanization, access to fertilizers, and irrigation systems, enhancing productivity and reducing food insecurity for millions of households (FAO, 2022). Investments in the power sector could expand electricity access for households and businesses, reducing reliance on costly alternatives like generators and improving living standards. These sectors play a critical role in economic diversification, employment creation, and poverty alleviation, particularly in rural areas where many households depend on agriculture and are disproportionately affected by unreliable power supply. The impact of these budgetary trade-offs on household welfare is significant. Underfunding the health sector limits access to affordable healthcare, disproportionately affecting low-income households and exacerbating health inequities. Similarly, inadequate education funding perpetuates inequalities in access to quality education, restricting opportunities for social mobility and deepening intergenerational poverty (World Bank, 2022). Moreover, the neglect of agriculture and power undermines efforts to create jobs and diversify the economy, ultimately reducing household incomes and increasing poverty levels (FAO, 2022).

Fuel subsidies, though aimed at cushioning consumers, are regressive in nature, disproportionately benefiting wealthier households that consume more fuel. In contrast, low-income households bear the brunt of the opportunity costs, as underfunded social services further entrench their economic vulnerabilities (IMF, 2022). The excessive allocation to subsidies represents a misalignment of fiscal priorities, diverting resources from sectors that directly impact household welfare and national development. Therefore, the 2022 supplementary budget allocation underscores the urgent need for a reassessment of fiscal policies. By reducing subsidy spending, the government could unlock resources for targeted investments in health, education, agriculture, and power, fostering inclusive growth and poverty alleviation. Prioritizing these sectors would ensure a more equitable and sustainable allocation of resources, directly improving household welfare and addressing structural challenges that hinder Nigeria's development (World Bank, 2022; IMF, 2022).

Household Welfare and Fuel Subsidy Policy in Nigeria

According to Abdulkadir, Funmilola and Abdulkabir (2020), the implementation of subsidy policy can have a direct influence on household welfare, particularly among low-income families. The author argues that subsidies can provide essential support to households, ensuring access to basic goods and services that may otherwise be unaffordable. For instance, subsidies on essential commodities like food, electricity, or fuel can significantly improve the disposable income of households, enabling them to allocate more resources towards other essential expenditures (Adagunodo, 2013). Ogbu (2012) further emphasizes the importance of subsidies in promoting household welfare, particularly in developing countries, Nigeria inclusive. The author highlights that subsidy can act as a safety net for vulnerable households, shielding them from the adverse effects of market fluctuations and ensuring their access to critical resources. This can lead to improved nutritional intake, better healthcare outcomes, and increased educational opportunities for children within these households (Ogbu, 2012).

Furthermore, Oyinlola and Akinwale (2019) postulated that inefficiencies in the implementation of fuel subsidy policies also undermine welfare in Nigeria. For instance, the shortage of petroleum products and long queues at filling stations are common occurrences, particularly during subsidy adjustments. Such inefficiencies result in increased fuel prices above the subsidized rates and cause economic hardships for vulnerable households who rely on cheap fuel for their livelihood. Inadequate regulation of the petroleum industry is also a significant problem that undermines the effectiveness of the fuel subsidy policy. The lack of transparency in the fuel subsidy process increases the opportunities for corruption and malpractices. These issues restrict the ability of fuel subsidy programmes to advance social welfare and worsen the financial situation of low-income households. Therefore, greater control, transparency, and efficiency in the application of fuel subsidy policies are required to increase social welfare in Nigeria.

However, the relationship between fuel subsidies and household welfare is not without its complexities. As noted by Idris (2014), the removal or reduction of subsidies can have significant consequences for households, particularly those with limited financial resources. The author suggests that poorly implemented subsidy reforms can lead to increased financial burdens on households, potentially exacerbating existing inequalities and undermining the well-being of vulnerable populations. Adewunmi (2014) further elaborates on the potential negative impacts of subsidy reforms on household welfare. The author argues that the removal of subsidies on essential goods and services can result in a surge in prices, reducing the purchasing power of households and limiting their access to these critical resources. This can have cascading effects on various aspects of household well-being, including nutrition, health, and education (Adewunmi, 2014).

Theoretical Framework

Neo-Liberal Theory

Neo-liberal theory provides a critical framework for understanding the rationale behind fuel subsidy removal. This theory emphasizes minimal government intervention, deregulation, and the primacy of market forces in allocating resources efficiently (Brenner & Theodore, 2020). Originating from the classical liberalism of Adam Smith and further advanced by economists such as Friedrich Hayek and Milton Friedman, neo-liberalism has been a guiding principle for economic reforms in many developing countries, including Nigeria. The argument for subsidy removal is rooted in the belief that subsidies distort market forces, leading to inefficiencies, resource misallocation, and fiscal strain on governments. In the Nigerian context, the continuation of fuel subsidies has historically drained public finances, leaving limited resources for critical sectors such as healthcare, education, and infrastructure (Fuchs & Sandavol, 2020). By eliminating subsidies, the government aims to foster competition in the energy market, attract investment, and redirect funds toward developmental projects.

However, neo-liberal theory's emphasis on efficiency often overlooks the immediate social costs of subsidy removal, such as increased transportation and energy costs, which disproportionately burden low-income households. This disconnects between economic efficiency and social equity highlights a critical limitation of neo-liberalism in the Nigerian context. While the theory provides a rationale for reform, it underscores the need for complementary policies to cushion the impact on vulnerable populations.

Bergson Criterion: The Social Welfare Function

The Bergson Criterion, as articulated by Samuel Bergson and later expanded by Paul Samuelson, offers a systematic approach for evaluating policy impacts on societal welfare. The Social Welfare Function (SWF) aggregates individual utilities into a single measure of collective well-being, expressed as: $W= f(U_1,U_2 \ldots\ldots. U_n)$ where W is the social economic welfare, f is the function, and U_1, U_2,U_3 are the levels of utilities of 1,2……n individuals. W is an increasing function of these utilities. This framework allows policymakers to assess how economic policies, like fuel subsidy removal, affect various dimensions of welfare, including income, access to services, and quality of life (Bergson, 1938; Cowell, 2011).

In the Nigerian context, the SWF provides an analytical lens to evaluate the distributional effects of subsidy removal. While the policy may enhance fiscal sustainability and promote investment, it also has significant adverse effects, particularly on low-income households. Higher fuel prices lead to increased costs for transportation, healthcare, and education, reducing access to basic services for many Nigerians. By highlighting these disparities, the SWF emphasizes the need for redistributive measures to ensure that economic reforms do not exacerbate existing inequalities. The application of the Bergson Criterion underscores the importance of balancing efficiency with equity in Nigeria's subsidy reform agenda. Policymakers are encouraged to adopt targeted interventions, such as cash transfers or subsidized services, to mitigate the negative impacts on household welfare while pursuing long-term economic goals for national development.

Rational Choice Theory

Rational Choice Theory (RCT) provides a behavioural framework for understanding how households respond to changes in economic conditions, such as fuel subsidy removal. This theory posits that individual make decisions by evaluating costs and benefits to maximize utility (Elster, 1989; Becker, 1976). In the context of Nigeria, RCT suggests that households will adapt their consumption patterns and resource allocation in response to rising fuel prices. For example, households may reduce their reliance on fuel-intensive activities, switch to alternative energy sources, or cut back on other expenditures to offset increased transportation and energy costs. Similarly, businesses affected by higher operating costs may pass these costs onto consumers or scale back operations, thereby affecting employment and income levels of the Nigerian economy and society.

Thus, RCT provides valuable insights into individual decision-making, it assumes that all actors have access to complete information and viable alternatives, which is often unrealistic in Nigeria. Many low-income households lack affordable substitutes for subsidized fuel, making them particularly vulnerable to price shocks. These limitations highlight the need to consider structural constraints and behavioural diversity in policy design. Nevertheless, RCT remains a useful tool for analyzing household responses and identifying adaptive strategies. By understanding these behaviours, policymakers can design interventions that align with rational decision-making processes while addressing systemic barriers to resilience.

Methodology

This paper adopted qualitative research design through selective content analysis and as such, the paper is essentially literature based. Therefore, qualitative research involves the use of a variety of empirical materials including field observations and texts analysis (Ambert *et al.*, 1995), not requiring necessarily prior hypotheses (Bogdan & Biklen, 2003). Moreover, concepts are very much important in qualitative research approach rather than development of measures (Robson, 2011; Bryman, 2008). As such, contents of some relevant texts in text books, journals, periodicals and online sources were reviewed, analyzed and discussed with a view to draw useful implications and conclusions to see how fuel subsidy affects household welfare in Nigeria from the conceptual and theoretical perspectives.

Discussions on the Socio-economic Implications

Social Implication of Fuel Subsidy Removal

Social factors also play a crucial role in determining household welfare, encompassing aspects such as access to education, healthcare, social networks, and community support systems. These factors are interlinked with economic conditions and can be influenced by policy changes such as the removal of fuel subsidies. The social factors affecting household welfare and how they relate to fuel subsidy removal in Nigeria are as follows:

i. access to quality education is a key social factor that impacts household welfare. Education can improve employment opportunities and income levels, leading to higher welfare. However, the removal of fuel subsidies can increase transportation costs, making it more difficult for households to afford schooling for their children, especially in rural areas (Ogwumike, 2017).

ii. access to healthcare services is another important social factor affecting household welfare. Higher fuel prices can lead to increased costs for healthcare transportation, making it harder for households, especially those in remote areas, to access medical services. This can negatively impact health outcomes and overall welfare (Onwujekwe et al., 2014).

iii. social networks and support systems within communities can have a significant impact on household welfare. These networks provide access to resources, information, and assistance in times of need. The removal of fuel subsidies can strain these networks, as households may have less disposable income to support each other (Adams & Akwani, 2013).

iv. community development initiatives, such as infrastructure projects and social programmes, can improve living conditions and welfare for households. However, the removal of fuel subsidies can reduce government revenue available for such initiatives, potentially slowing down community development efforts and impacting household welfare (Ogwumike, 2017).

v. fuel subsidy removal can exacerbate income inequality, leading to social tensions and reduced social cohesion. Inequality can reduce trust within communities and negatively impact social relationships, which are essential for overall household welfare (Adepoju & Olajide, 2016).

Economic Implications of Fuel Subsidy Removal

The removal of fuel subsidy in Nigeria is a complex policy decision that can have significant economic implications for household welfare. The removal of fuel subsidies can relate to the economic factors affecting household welfare in Nigeria such as:

i. the removal of fuel subsidies can lead to an increase in fuel prices, which can directly impact household budgets. Higher fuel prices can result in increased transportation costs, affecting both commuters and businesses. This, in turn, can reduce disposable income for households, especially for those in lower-income brackets, potentially leading to a decline in welfare (Adenikinju, 2012).

ii. the removal of fuel subsidies can contribute to inflationary pressures, as higher fuel prices can lead to increased costs of production and transportation, which may be passed on to consumers in the form of higher prices for goods and services. This can erode the purchasing power of households, especially those with fixed incomes, further impacting their welfare (Ogundipe *et al.,* 2016).

iii. the removal of fuel subsidies can have implications for employment and economic stability. Higher fuel prices can increase production costs for businesses, potentially leading to job losses or reduced hiring. This can have a negative impact on household welfare, particularly for those dependent on wage income (Aigbokhan, 2016).

iv. higher fuel prices can also affect access to basic services such as healthcare and education. Increased transportation costs can make it more expensive for households to access these services, particularly in rural areas where transportation infrastructure may be limited (Aluko & Alawode, 2012).

v. the removal of fuel subsidies can put additional strain on social protection programmes. Governments may need to allocate more resources to support vulnerable households affected by the removal of subsidies, such as through targeted cash transfer programmes to mitigate the negative impact on household welfare (Aliyu, 2015).

Therefore, the removal of fuel subsidy in Nigeria can have wide-ranging implications for household welfare, impacting income levels, inflation, employment, access to basic services, and social protection programmes. According to Ogundipe *et al.* (2016), policymakers need to carefully consider these factors when implementing such policies to minimize adverse effects on vulnerable households and ensure that welfare concerns are adequately addressed.

Conclusion and Recommendations

This study concludes that the removal of fuel subsidy in Nigeria could have profound and far-reaching socio-economic implications for household welfare and the country's development at large. In this direction, this policy shift has led to soaring prices for essential goods, increased transportation costs, and financial distress for individuals and households across the country. Importantly, public transportation sector in particular, has been significantly affected, with higher fares and reduced services making commuting more difficult for Nigerians. These abrupt changes, combined with inadequate socio-economic support systems, have resulted in widespread hardships and increased vulnerability within the populace. Despite government efforts to implement alternative programmes aimed at mitigating the effects of fuel subsidy removal, the mixed outcomes of these initiatives underscore the complexity of the issue and the significant challenges faced by vulnerable Nigerians.

Against this background, this study recommends that the FGN in collaboration with the State Governments should urgently expand and enhance social protection programmes, such as direct cash transfers, food aid, and healthcare subsidies, to provide immediate relief to the most vulnerable households and ensuring that the benefits of the policy transition are equitably distributed. Similarly, the government should prioritize the development and expansion of affordable and efficient public transportation systems. This includes subsidizing fares for low-income commuters, improving the quality and reliability of services, and expanding transportation networks to reduce the burden on Nigerians, particularly in urban and peri-urban areas. Furthermore, the FGN should explore fiscal reforms, including targeted tax relief for low-income households and tax incentives for businesses affected by increased operating costs. These reforms should aim to minimize the economic hardship faced by ordinary Nigerians while maintaining the long-term objective of fiscal sustainability.

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