The Impact of Fuel Subsidy on the Nigerian Economy in the Fourth Republic: An Analysis

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ABSTRACT

Fuel Subsidy means that a fraction of the price that consumers are supposed to pay to enjoy the use of petroleum products is paid by government so as to ease the price burden. Ever since President Goodluck Jonathan mooted the removal of fuel subsidy in 2012, the debate has been whether or not to remove the fuel subsidy. The history of fuel subsidies dates back to the '70s, when they were first introduced in Nigeria in response to the oil price shock in 1973. However, different regimes have been subsidizing fuel imports with Huge budgetary provisions but the actual amounts expended on Fuel subsidy and paid to Independent Oil Marketers had remained a myth. Besides, the actual impact of fuel subsidy on the Nigerian economy had become a subject of theoretical debate. This study is a bold attempt to determine and estimate the annual levels of fuel subsidy since 1981 and to empirically evaluate its impact on the Nigeria economy on the one hand as well as measure the shifts and changes in the economy under different democratic political regimes on the other, using the Total Differential Modeling Approach (Ecostatometrics). The result is that Fuel subsidy still holds a lot of promise for the Nigerian economy but its administration needs major reforms. It requires greater transparency and accountability among its operatives, both on the Government side and on the part of the Independent Marketers.

Keywords: *Total Differential Modeling Approach, Fuel Subsidy, Impact, Democratic Political Regimes, Shifts and Changes*

INTRODUCTION

Fuel Subsidy means that a fraction of the price that consumers are supposed to pay to enjoy the use of petroleum products is paid by government so as to ease the price burden. Subsidy generally arises when a government or organization pays part of the cost of a product to a business or industry to keep its price low. In this case, the reference point is fuel subsidy.

It is politically popular especially in a situation of rising market price of the product. It is expected to promote economic and social policies. In the final analysis, it is how well all the political, economic and social objectives are realized that determines how successful the policy is. The

history of fuel subsidies dates back to the '70s, when they were first introduced in Nigeria in response to the oil price shock in 1973. However, different regimes have been subsidizing fuel imports with Huge budgetary provisions but the actual amounts expended on Fuel subsidy and paid to Independent Oil Marketers had remained a myth. Bulk of petroleum products consumption is in the areas of premium motor spirit (petrol) and automotive gas oil (diesel) which are majorly used for road transportation and electricity production. Diesel has now been deregulated in Nigeria. Ever since President Goodluck Jonathan mooted the removal of fuel subsidy in 2012, the debate has been whether or not to remove the subsidy. Besides, the actual impact of fuel subsidy on the Nigerian economy had become a subject of theoretical debate. It is believed that underlying this debate is the fear that the funds deemed to have been spent are not being applied properly.

STATEMENT OF THE PROBLEM

This paper therefore seeks to expose a thorough understanding of the impact of fuel subsidy on the Nigerian economy and its ramifications especially as they relate to the performance of alternative democratic political regimes. This is taking cognizance of the fact that the country was governed by the Peoples Democratic Party, PDP from 1999 to mid-2015 while it is being governed since then by the All Progressives Party, APC.

OBJECTIVES OF THE STUDY

The objectives of this study among others, therefore include:

1) To determine and estimate annual fuel subsidy levels in Nigeria since 1981.
2) To use an expanded and comprehensive model of the Nigerian economy to determine its impact on the Nigerian economy as a whole, using the total differential modeling approach (ecostatometrics).
3) To analyze the role of the alternative democratic political regimes, with respect to fuel subsidy on the economy, especially as they affect:
    i. sectoral outputs,
    ii. poverty,
    iii. corruption,
    iv. investment,
    v. growth
    vi. and other socio-economic indicators of the Nigerian economy.
4) To estimate the feedback relation of fuel subsidy on fuel subsidy and fuel import.
5) Draw conclusions and make some recommendations.

The paper is therefore divided into five parts. Part I is the introduction and the objectives of the study. Part II is the literature review; while Part III is the methodology. In Part IV, the results of the analysis are presented and discussed and Part V concludes the study and makes some recommendations.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

It is clear that in a free economy, government allows individuals and corporate bodies to access market without restrictions thereby allowing opportunities for profit maximization. On the other

hand, in a centrally planned or command economy, government dictates the tune of the economic activities with direct control in all ramifications. However, in a mixed economy, there is a synthesis of some aspects of both free and planned economies thereby making provision for subsidies to exist as part of government's involvement (Barnier, 2022).

The operation of subsidies in an economy has political, economic and social justifications. The sensitivity of the existence of subsidies lies in the careful management of the satisfaction of some or all of these reasons. Subsidies can be of different types in any economy including Oil. Housing, Healthcare, Export, Agriculture, etc.

As per the Petroleum Industry Act, 2021 in Nigeria, the sectors of the Petroleum Industry are identified as follows:

i. Upstream – dealing with oil and gas exploration and production;
ii. Midstream – relating to transportation and storage; and
iii. Downstream – concerning refining and marketing (PIA, 2021).

Oil or Fuel subsidy which has to do with government offsetting part of the financial burden of making petroleum product available at a reduced price takes place by paying off part of the cost of supply for the consumers to enjoy at a reduced price. This is supposed to increase general supply and ensure availability. This also finds justification in the fact that Nigeria, as an oil-rich country, should have its citizens enjoy the benefits of owning the natural resource.

So, proponents of fuel subsidy advance cases in favor of it yielding greater economic efficiency considering the various uses of the petroleum product, particularly petroleum motor spirit, PMS (petrol). It is projected to support industry and create jobs, thereby reducing unemployment. It is also meant to support infant industry against harsh competition (Bazilian and Onyeji, 2012).

It is worthy of note that this subsidy can either be Direct or Indirect. It is direct when it involves cash payments while Indirect when it utilizes the benefit of tax holidays without actual cash disbursements. This fuel subsidy is a privileged financial aid to vitiate burden but with the ultimate aim of satisfying the general interest of the people. It therefore comes up as a form of promotion of public good.

Opponents of the operation of fuel subsidy also posit that it springs forth an opportunity cost in that it is a sort of diversion of scarce resources from more productive to less productive areas of the economy. It would also lead to a hike in tax burden on the citizenry to bridge the vacuum created by the subsidy.

Looking at the fact that fuel subsidy relates mostly to the Downstream sector of the Petroleum industry, the antagonists of fuel subsidy argue for total deregulation which they believe would engender transparency, integrity, create healthy competition, attract both local and foreign investments and boost the economy (Onwioduokit and Adenuga, 2000). Fuel subsidy is also seen by some critics as taxing the future generation of a country just to allow the current generation to consume more fuel.

According to Nnodim (2023), as at mid-March, 2023, from records given by the Nigerian National Petroleum Company Limited, the daily consumption of petrol reached afigure of 80millionlitres. With a landing cost of N315/litre but given to marketers at N113/litre, there is an estimated

N202/litre subsidy. With an exchange rate of N460/$, subsidy per month would record an average of about N484bn. Involved in this exercise is actually a joint subsidy by NNPC Ltd (on actual cost of petrol) and foreign exchange by Central Bank of Nigeria, CBN (on actual exchange rate for $).

Critics of fuel subsidy argue that it is essentially a form of unholy alliance between the Downstream sector of the petroleum industry and the State. This creates lobbying for its sustenance even when the usefulness is over. In practice, it would seem that fuel subsidy tends to shift wealth to the direct beneficiaries (the Marketers), to the detriment of the general populace, while supporting the retention of the key political players in government.

This could constitute a highly unsustainable expense in the long run. Large amounts of funds could be stolen through dubious means like over-invoicing, smuggling and round-tripping. So, corruption could actually be what is subsidized in the final analysis.

In terms of Theoretical Framework, this study can actually be guided by some elements of the Theory of Public Good (Samuelson, 1983), whereby with increased availability of petrol, one person's consumption will not reduce that of another citizen. It is thus non-rivalrous or non-excludable.

However, if the fuel subsidy policy is well operated, it could also draw from the Theory of Deregulation which will seek to cure regulatory failure, create a free economy, build working refineries with functioning fuel Depots and boost the economy (Agbonkese, Ogbeifun and Umueme, 2016).

While the policy of fuel subsidy is not totally a bad one, the way it is operated, the goal for its operation and the determination to have a sustained improvement of the Downstream sector determines the success story. This will be x-rayed in this study.

METHODOLOGY

The approach used in this study is termed the total differential modeling approach (see Aruofor, 2001, 2017, 2019, and 2020),Aruofor and Okungbowa (2018),Aruofor and Ogbeide (2019), and Aruofor and Ogbeide (2022a and 2022b). It assumes and rightly so, that in the real world situation, every economic variable or subsystem depends on and is depended upon by other variables or subsystems.

A schematic representation of the above theory is presented in Fig. 1.

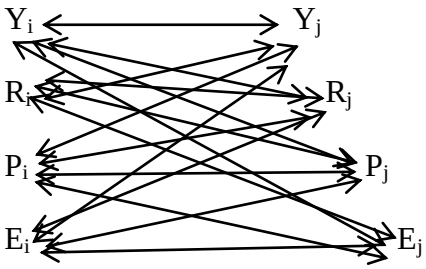


Fig: 1: The True Socio – Economic Causal Chain

Y = Production variables;
R = Primary Factors;
P = Policy instruments;
E = Environmental variables.

This theory was first mooted by Walras as early as 1874 even though it was not developed beyond the conceptual stage. The true practical empirical systems total differential modeling approach (Ecostatometrics) was achieved by Aruofor (2017) and relies on statistically significant multiple simple linear regression coefficients as opposed to multiple linear regression parameters. It is a blend between the traditional Input Output Analysis and Econometrics and assumes the structure of programming models. The theory behind it is that an economy is not truly dynamic but only dynamically static. It is the change that occurs in an economy in the current year (t) that determines where the economy (the endogenous variables) will be at the end of the current year (t) and not in the next year (t+1). This model is a departure from the normal econometric approach, where the structure of the economy is determined by combinations of economic theories. The true structure of an economy is so complex that economic theory will be self defeating (see Duesenberry et al, 1965 and Gordon, 1968). ***Indeed, Adeyoju (1975) had rightly noted that "the unstable nature of population and its growth, national income and its distribution, investment capacity, employment opportunities, balance of payments and raw material base often lead to conflicting theories of economic development".*** Thus, we do not need any elaborate theories to explain the working of an economy.

If we can estimate all the independent relationships among the variables of the economy taken two at a time, (depending on whether they are statistically significant) and classify the significant coefficients into a matrix ***B***, according to whether they are endogenous or exogenous, then we would have in matrix notation,

$$Y = BY + CX + A + U$$

$$\therefore [I - B]Y = CX + A + U$$

$$Y = [I - B]^{-1} CX + [I - B]^{-1} A + [I - B]^{-1} U$$

$$\frac{dY}{dX} = [I - B]^{-1} C$$

$$\therefore dY = [I - B]^{-1} C dX$$

i.e. $$\Delta Y = [I - B]^{-1} C \Delta X$$

$$\therefore Y_t = [I - B]^{-1} CX_t - [I - B]^{-1} CX_{t-1} + Y_{t-1}$$

Where, *Y*=endogenous and *X*=exogenous variables. The fact that the relationships are not estimated by multiple linear regressions means that the issue of simultaneous equation bias is by-passed and all the estimation difficulties, including multi-co linearity associated with econometric multiple linear regression, which renders it inconsistent and therefore non-operational, are also by-passed. Moreover, no complicated econometric and economic theories are needed to proceed. It is then possible to view the whole economy at a glance and the structure of the economy is determined automatically.

Thus, given a simple linear regression between two variables, X *and* Y we proceed as follows and state the equation as below:

$$Y = a + bX + u$$

Where Y = the dependent variable

X = the independent variable

a & b = parameters

u = error term.

The estimate of the parameters a & b is achieved by the application of least squares to the data on the variables, with a view to minimize the sum of squared deviations around the regression line (Koutsoyiannis, 1977,Aruofor, 2001, Aruofor, 2019 and Aruofor, 2020).

The parameters can be estimated by solving the following normal equations:

$$a\sum 1 + b\sum X = \sum Y \qquad (1)$$

$$a\sum X + b\sum X^2 = \sum XY \qquad (2)$$

This was the basic procedure adopted and the coefficients were estimated by means of computer software, ESM-Lab 4.4 that tested for statistical significance at the 5% level of significance using the asymptotic t-ratios. It was co-founded and designed jointly by Aruoforand Microcraft Nigeria Limited. The procedure is to determine the important variables required for the solution of the problem, classify them into endogenous and exogenous variables before feeding them to ESM-Lab 4.4. The model is then estimated, and the statistically significant coefficients are automatically classified into a matrix ***B*** and the structural relationship of the economy is automatically specified. Further analysis can then be performed. (The computer software can be downloaded as esmlab.com.ng from the internet and ran as administrator).For this study, the data were assembled

from the Central Bank Statistical Bulletin (CBN, 2017, 2018, 2019 and 2021) and Aruofor, (2017) and Aruofor and Ogbeide (2019). The time series ranged from 1981 to 2021. The list of variables consists of one hundred and thirteen variables, made up of one hundred and eight (108) endogenous variables followed by five (5) exogenous variables (see fig 2).

THE CONSTRUCTION OF THE COMPOSIT MODEL OF NIGERIA ECONOMY.

The Nigeria model consists of the primary sectors comprising of the agricultural sector, the manufacturing sector, petroleum oil refining, industry, construction, transport, services, education and health; and other real sectors including national income, consumption and investment, population, labor and employment, foreign sector, economic indicators and policy instruments. Together, they comprise the endogenous variables of the model, while the exogenous variables consist of Fuel subsidy, PDP and APC administrations of fuel subsidy variables.

THE POPULATION MODEL AND DERIVATION OF VARIABLES

Extant models of the Nigerian economy lacked data on total active work force, employment, etc. These are major defects and according to Stolper, (1966), the development planner cannot afford to assume his facts; he must find them as best as he can. We therefore proceeded as follows:

The population of Nigeria is growing at approximately 3% per year. Given this fact, we back cast the population at 3% discount rate to 1901 and projected it to 2021 assuming that the population has been adjusted for deaths.

1) Going by international standard, children are those people of ages Sixteen (16) years and below and was derived as:
   Children = Pop_t - Pop_{t-16}
2) Population of people eighty years and below was derived as:
   Pop_t– Pop_{t-80}
3) Estimated potential active work force (EPAWF) = Pop_t – Pop_{t-80} – Children.
4) Population of old people equals the residual.
5) Unemployed work force = EPAWF x Unemployment rate.
6) Employed work force (EMPWF) = EPAWF - Unemployed work force.
7) Employment = $\Delta EMPWF$
8) Average wage rate = $Labor \quad Force \quad Compensation / EMPWF$
9) National Productivity = NGDP/Labor force compensation
10) Labor Productivity = NGDP/ EMPWF
11) Demand for Employment = $\Delta EMPWF_{-1}$
12) Demand Pressure for Employment = ($\Delta EMPWF_{-1}$)/Unemployed Work Force
13) Demand for Health care = $\Delta HGDP_{-1}$
14) Demand Pressure for Health care = $\Delta HGDP_{-1} / Pop$
15) Demand for Education = $\Delta EdGDP_{-1}$
16) Demand Pressure for Education = $\Delta EdGDP_{-1} / Pop$
17) Demand for Imports = $\Delta IMPOTS_{-1}$
18) Penchant for Imports = $\Delta IMPOTS_{-1} / Pop$

19) Import Dependence = $IMPOTS/NGDP$
20) Slavery = EXTDEBT/Pop

Some other variables were derived from existing data as follows:

- $GROWT \quad RATE \quad = \quad ((\Delta GDP)/GDP_t)*100)$
- $DINCOM \quad = \quad GDP - TAX$
- $COLIVN \quad = \quad (CONS_{t-1}((1+(INFRT_t/100)))$
- $POOR \quad = \quad POP/((RGDP/EXCHRT)*\$720)$
- $ABPOOR \quad = \quad POP/((RGDP/EXCHRT)*\$360)$
- $RPOVRT \quad = \quad (1-((RGDP/EXCHRT)/RGDP)*100)$
- $DDMONY \quad = \quad (\Delta MONYSS)_{-1}$
- $DDMOPR \quad = \quad ((\Delta MONYSS)_{-1}/POP)$
- $IMPDD \quad = \quad (\Delta IMPORT)_{-1}$
- $IMPDDPR \quad = \quad ((\Delta IMPORT)_{-1}/POP)$
- $XPOTDD \quad = \quad (\Delta XPORT)_{-1}$
- $DBTBDN \quad = \quad (EXDBT/(GDP/EXCHRT))$

DERIVATION AND ESTIMATION OF FUEL SUBSIDY.

Petroleum fuel import data was only available between 1981 to 2010 and this was the premise on which we derived and estimated the fuel subsidy from 1981 to 2010, as relative incremental Government Expenditure with respect to Petroleum fuel import.

Thus: $FUEL \quad SUBSIDY = \left(\frac{\Delta GOVT \quad EXPDN}{GOVT \quad EXPDN}\right) x \, PETROLEUM \quad FUEL \quad IMPORT$

Fuel subsidy from 2011 to 2021 were obtained through ex-post forecast of the Nigerian economy. Demand for fuel subsidy was obtained as $(\Delta FUEL \quad SUBSIDY)_{-1}$

Fig 2: LEGEND OF VARIABLES NIGERIA ECONOMY COMPREHENSIVE

S/no.	ACRONYM	ACTIVITY	UNIT
1	AGRSEC(t)	1. Agriculture	N million
2	INDUST(t)	2. Industry	N million
3	MANUFC(t	(c) Manufacturing	N million
4	OILREFIN	Petroleum Oil Refining	N million
5	ELECTSS(t)	3. Electricity,Gas,Steam & Air conditioner	N million
6	WATER(t)	4. Water supply, sewage, waste Mang.	N million
7	CONSTN(t)	5. Construction	N million
8	SERVCS(t)	**C. SERVICES**	N million
9	TRADE(t)	1. Trade	N million
10	ACCOFOOI	2. Accomadation and Food Services	N million
11	TRASPOT(t	3. Transportation and Storage	N million
12	TRANSEV(t	e. Transport Services	N million
13	POSTCUR(t	f. Post and Courier Services	N million
14	INFOCOM(	4. Information and Communication	N million
15	TELECOM(t	a. Telecommunications and Information Services	N million
16	PUBLSHN(t	b. Publishing,	N million
17	MPIC&SNI	c. Motion Pictures, Sound recording and Music production	N million
18	BRODCST(t	d. Broadcasting	N million
19	ARTRECRTI	5. Arts, Entertainment & Recreation	N million
20	FININSUR(t	6. Financial and Insurance	N million
21	FINANCE(t	a. Financial Institutions	N million
22	INSURANS(	b. Insurance	N million
23	REALEST(t)	7. Real Estate	N million
24	PROFSERV(	8. Professional, Scientific & Technical Serv.	N million
25	ADMINSUI	9. Administrative and Support Services	N million
26	PUBADMN	10. Public Administration	N million
27	EDUCATN(	11. Education	N million
28	HLT&SOC	12. Human Health & Social Services	N million
29	OTHSERVS(	13. Other Services	N million
30	NGDP(t)	**GDP at Current Basic Prices**	N million
31	DISPINC(t)	Disposable Income	N million
32	REALINC(t)	Real Income	N million
33	REALGDP(t	Real GDP	N million
34	GROWTRT(	Growth rate	%
35	GROWTH(t	Growth	N million
36	CONS(t)	Consumption	N million
37	INVST(t)	Investment	N million
38	CAPITAL(t)	Capital accumulation	N million
39	FDI(t)	Foreign Direct Investment	N million
40	CPI(t)	Consumer Price Index	
41	INFLTD(t)	Inflation Dummy = 1 when CPI increases, otherwise = 0	
42	INFLATN(t)	Inflation = INFTD X CPI	
43	INFLTRT(t)	Inflation Rate	%
44	UNEMPL(t)	Unemployment Rate	%
45	LABCOMP	Labor Force Compensation	N million
46	CHLDRN	Children Population (16 years and below)	Million
47	CHDRNSS	Children Supply	Million
48	EPAWF	Estimated Potencial Active Work Force	Million
49	NADDWF	New Addition to Workforce	
50	POPOLD	Population of Old People (80 years and above)	Million
51	UNEMWF	Unemployed Work Force	Million
52	EMPWF	Employed Work Force	Million
53	EMPLMNT	Employment	Million
54	PRDTIVTY	Productivity	
55	LPROVITY	Labor Productivity	
56	AVWAGE	Average Wage Rate	Naira
57	DDEMENT	Demand for Employment	
58	EMDDPR	Employment Demand Pressure	
59	POOR(t)	Poor	Million
60	EXTPOOR(t	Extremely (Absolute) Poor	Million
61	POVRT(t)	Poverty Rate	%
62	SLAVERY	Slavery	
63	SAVINGS(t	Savings	N million

Fig 2: LEGEND OF VARIABLES NIGERIA ECONOMY COMPREHENSIVE CONTINUED

S/no.	ACRONYM	ACTIVITY	UNIT
64	BOT(t)	Balance of trade	N million
65	BOP(t)	Balance of payments	N million
66	EXTRES(t)	External reserve	N million
67	DBTBDN(t)	Debt burden or Bondage	
68	OILREV(t)	Oil revenue	N million
69	NOILREV(t)	Non-oil revenue	N million
70	CORPTD(t)	Corruption Dummy = 1 when DDMOPR increases, otherwise = 0	
71	CORRPTN(t	Corruption= CORPTD X DDMOPR.	
72	DDMONY(t	Demand for money	N million
73	DDMOPR(t	Demand for money pressure	
74	DEMOCY(t)	Dummy Variable 1.0 for New Democracy and 0 elsewhere.	
75	CORDEM(t	Equals DEMOCY x CORRPTN	
76	PWLFARE	Personal Welfare (Per capita income)	Naira
77	STDOLIVN	Standard of Living	
78	PUPWER	Purchasing Power	
79	FODSRITY	Food Security	
80	HLTCARE	Health Care	
81	DDHCARE	Demand for Health Care	
82	HCRDDPR	Health Care Demand Pressure	
83	HRESDEV	Human Resource Development	
84	DDEDUC	Demand for Education	
85	EDUDDPR	Education Demand Pressure	
86	WEALTH	National Wealth	
87	PWEALTH	Personal Wealth	
88	IMPDPEN	Import Dependence	
89	DDIMP	Demand for Imports	
90	PENCIMP	Penchant for Imports	
91	TIME(t)	Time	
92	EXCHRTRP	Exchange rate (Relative poverty)	N million
93	POP(t)	Population	Million
94	IMPORT(t)	Imports	N million
95	XPOTOIL(t)	Oil export	N million
96	XPTNOIL(t)	Non-oil export	N million
97	DODBT(t)	Domestic debts	N million
98	EXTDBT	External debts	$ million
99	GEXPDN(t)	Government expenditure	N million
100	PRIMELR(t)	Primary lending rate	%
101	INTSAV(t)	Interest rate	%
102	MONYSS(t)	Money supply	N million
103	TAX(t)	Tax	N million
104	ACGSC	Agricultural Credit Guarantee Scheme	N million
105	DFUELP(t)	Domestic fuel price	N/Litre
106	FUELIMP	Petroleum Fuel Import	N million
107	FULSUBDY	Fuel Subsidy	N million
108	DDFULDY	Demand for Fuel Subsidy	
	EXOGENOUS VARIABLES		
109	FULSUBDY	Fuel Subsidy	N million
110	PDP	Peoples Democratic Party (Administration)	
111	APC	All Progressives Congress(Administration)	
112	PDPFSDY	Peoples Democratic Party (Fuel Subsidy)	N million
113	APCFSDY	All Progressives Congress(Fuel Subsidy)	N million

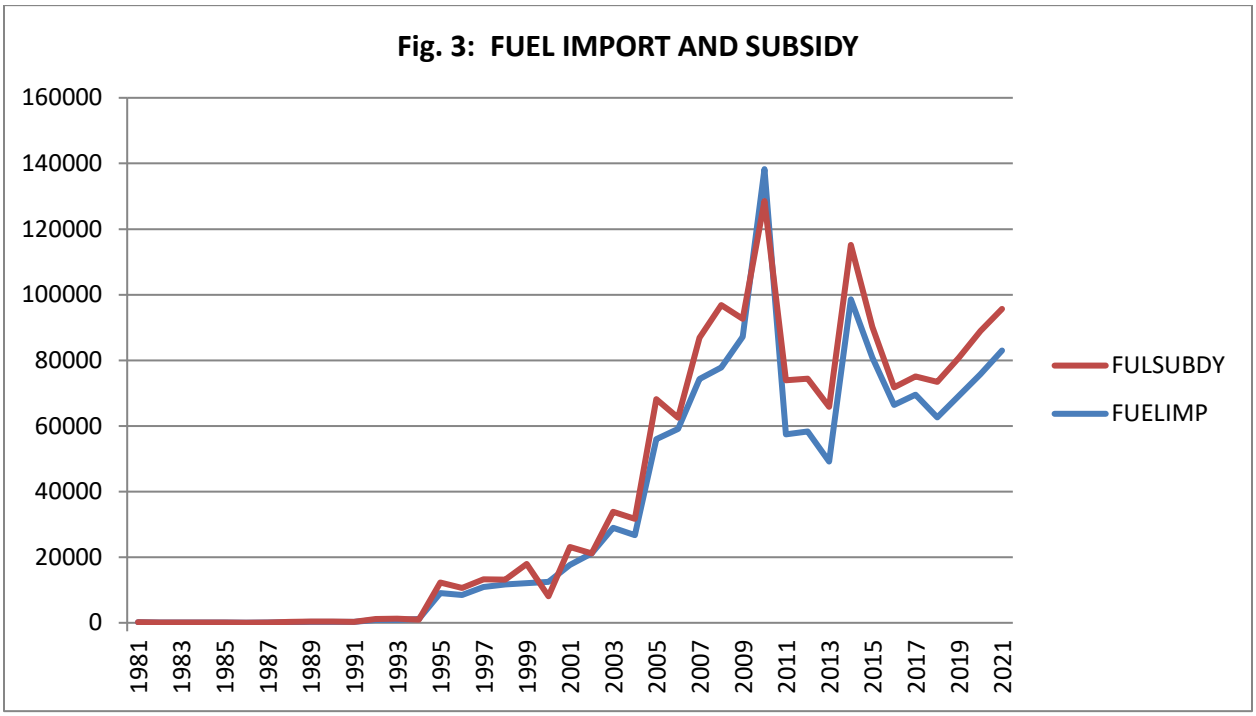
RESULTS AND DISCUSSION:

FUEL IMPORT AND FUEL SUBSIDY IN NIGERIA.

Fuel subsidy ranged from N4.94 million in 1982 and peaked at N18.9 billion in 2008 and N16.7 billion in 2013 under PDP administration, and again peaked at N13.2 billion in 2020 under APC administration and fell to N12.7 billion in 2021. The annual rate of change was N282.0 million per annum. The data is as presented in Table 1 and Fig. 3 below.

Table 1: ESTIMATED TIME SERIES DATA ON FUEL IMPORT AND FUEL SUBSIDY

YEAR	1981	1982	1983	1984	1985	1986	1987	1988	1989
FUELIMP	151.1	115.5	72	83.4	61.1	32	76.5	206.8	258.8
FULSUBDY		4.935525	-17.0853	2.445479	14.58733	6.277434	20.13368	42.70814	83.76056
YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998
FUELIMP	274.2	261.1	875.5	830.5	1139.5	9061.5	8439.4	10933.5	11723.9
FULSUBDY	87.53506	24.76796	247.3074	427.4843	-214.848	3200.886	2213.588	2323.416	1417.568
YEAR	1999	2000	2001	2002	2003	2004	2005	2006	2007
FUELIMP	12073.8	12518.6	17650.18	21112.72	28924.71	26709.92	56017.13	59061.87	74327.1
FULSUBDY	5867.857	-4404.01	5495.452	2.699858	4902.948	4940.159	12125.42	3427.005	12523.83
YEAR	2008	2009	2010	2011	2012	2013	2014	2015	2016
FUELIMP	77847.04	87194.18	138269.6	57426.24	58301.25	49126.34	98641.68	80837.61	66367.74
FULSUBDY	18973.34	5451.34	-9725.1	16512.8	16148.2	16676.76	16565.3	9372.555	5373.13
YEAR	2017	2018	2019	2020	2021				
FUELIMP	69550.26	62621.6	69136.91	75761.63	83013.07				
FULSUBDY	5564.504	10858.64	11574.92	13189.06	12661.79				



IMPACT OF FUEL SUBSIDY ON THE ECONOMY

The effect of fuel subsidy on the Nigeria economy is as presented in Table 2. The impact on the primary sector is mixed. Agriculture, Industry, Electricity supply and Construction sectors were depressed.

Table 2: IMPACT OF FUEL SUBSIDY ON THE NIGERIA ECONOMY.

S/no.	Acronym	FULSUBDY	PDP(t)	APC(t)	PDPFSDY(t	APCFSDY
1	AGRSEC(t)	-363.589	-1245338	-1614170	-367.253	-145.51
2	INDUST(t)	-314.937	-1513756	3433765	-260.783	-13.896
3	MANUFC(t	225.6969	5837680	-4663527	620.4102	-36.9739
4	OILREFIN	8.358135	79528.87	-124149	14.72762	3.229335
5	ELECTSS(t)	-6.13317	-7256.78	81468.16	-8.44853	-2.15281
6	WATER(t)	1.833063	47145.93	-14308.6	3.867742	0.421531
7	CONSTN(t)	-20.8009	47024.61	-317774	-28.8236	-39.5635
8	SERVCS(t)	48.85492	-1E+07	3000585	-951.368	-544.935
9	TRADE(t)	22.31905	-3731423	873559.2	-333.727	-208.401
10	ACCOFOOI	-13.5194	-85363.2	100288.2	-22.905	-9.78102
11	TRASPOT(t	0.930112	-29769.7	-404733	-1.21137	-17.542
12	TRANSEV(t	-0.61025	-10072.7	12410.21	-1.26687	0.291603
13	POSTCUR(t	0.550476	6725.457	933.3425	1.005285	0.631932
14	INFOCOM(	-27.4759	-1221081	599239.4	-211.372	-46.9925
15	TELECOM(t	-29.6856	-758064	-156442	-146.3	-41.5289
16	PUBLSHN(t	0.715321	9013.613	-8664.51	1.159242	0.010921
17	MPIC&SNI	-13.6121	-334938	163112.2	-44.0815	-7.03692
18	BRODCST(t	44.17862	259348.8	-598993	47.43429	1.040283
19	ARTRECRTI	6.893225	113210.2	-49259.2	12.40099	1.685602
20	FININSUR(t	7.428525	-440862	258340.1	-39.5817	-34.1601
21	FINANCE(t	6.315758	-384309	222042	-34.515	-29.7701
22	INSURANS(	0.529869	-55263.7	27372.8	-5.87703	-5.49921
23	REALEST(t)	-1.47759	168681.4	277929.5	-1.70069	-14.3918
24	PROFSERV(	77.91623	341255.6	-76323.7	55.94746	-43.6722
25	ADMINSUI	0.090922	-1078.23	-478.466	-0.03855	-0.10622
26	PUBADMN	86.56267	340058.9	-875959	113.5141	51.51285
27	EDUCATN(	29.38167	418127.9	38785.5	58.28427	27.17772
28	HLT&SOC	-8.42093	-144598	135476.7	-15.1164	4.190365
29	OTHSERVS(	125.3313	1243757	-1232389	169.8413	-4.30904
30	NGDP(t)	3075.739	24717910	-3.6E+07	4249.366	889.0702
31	DISPINC(t)	232.9598	-1.4E+07	6120186	-1161.92	-1075.62
32	REALINC(t)	-0.28057	45494.34	46252.67	-1.09383	2.198026
33	REALGDP(t	1671.633	6940735	-5999892	1881.958	678.7227
34	GROWTRT(	-0.00121	-37.0953	5.375937	-0.00316	-0.00068
35	GROWTH(t	-0.00023	-0.92373	1.803674	-0.00022	4.57E-05
36	CONS(t)	1556.909	26429833	-1.3E+07	2953.332	571.5448
37	INVST(t)	-391.835	-7147011	10714777	-917.102	-852.118
38	CAPITAL(t)	140.2511	6280276	-8020862	565.1237	-173.927
39	FDI(t)	11.80696	-493024	-313076	-40.727	-36.9521
40	CPI(t)	-0.00881	-150.049	66.254	-0.01265	-0.00308
41	INFLTD(t)	2.05E-05	-0.27804	0.188191	-2.4E-06	-1.2E-05
42	INFLATN(t)	-0.00225	-130.132	92.89776	-0.00477	-0.00289
43	INFLTRT(t)	-0.00047	-54.0409	2.748481	-0.00404	-0.00121
44	UNEMPL(t)	-0.00036	3.705067	-3.62667	0.000207	-0.00011
45	LABCOMP	-13.1992	1469649	-1672869	-173.946	-100.89
46	CHLDRN	0.000117	-6.46746	-9.749	-7.8E-05	0.000115
47	CHDRNSS	0.000327	-6.94705	-10.7978	-0.00048	-0.00055
48	EPAWF	-0.00081	-8.55353	2.195226	-0.00027	0.000133
49	NADDWF	-3E-05	-0.04827	0.362822	-2.2E-05	6.39E-06
50	POPOLD	-0.00015	-1.41542	0.321298	-0.00017	2.35E-05
51	UNEMWF	0.00013	11.51581	-13.7112	0.000988	-0.00053
52	EMPWF	-0.00026	-13.5204	-1.99439	-0.001	-3.9E-09
53	EMPLMNT	0.000277	7.096483	1.043525	0.000941	0.000188

Table 2: IMPACT OF FUEL SUBSIDY ON THE NIGERIA ECONOMY CONT'D

S/no.	Acronym	FULSUBDY	PDP(t)	APC(t)	PDPFSDY(t	APCFSDY
54	PRDTIVTY	-0.0027	-9.89287	15.1967	-0.0014	-0.00126
55	LPROVITY	14.19754	171847.9	-124958	29.93224	17.00968
56	AVWAGE	-2.0552	-32189.2	16971.89	-6.72823	-3.4982
57	DDEMENT	1.21E-05	5.696041	-4.50061	0.000322	-0.00012
58	EMDDPR	-3.8E-05	0.031344	0.726645	-2.2E-05	1.16E-05
59	POOR(t)	-0.00474	-48.7492	24.51768	-0.00718	-0.00043
60	EXTPOOR(t	0.000642	54.8646	-4.33507	0.003551	0.000305
61	POVRT(t)	-2.3E-05	-0.91558	-0.45908	-9.1E-05	-3.7E-05
62	SLAVERY	0.009865	17200.7	26913	2.269968	1.499907
63	SAVINGS(t	-46.7965	1035141	-504477	119.9443	1.970551
64	BOT(t)	88.42119	2233586	-2683295	462.3845	-15.6125
65	BOP(t)	417.0657	1079710	493508.7	389.6757	-32.4527
66	EXTRES(t)	-1.21752	-23270.6	17262.48	-1.41114	-0.09001
67	DBTBDN(t)	-4.7E-07	-0.06779	-0.10928	-2.1E-06	3.27E-06
68	OILREV(t)	-371.518	-3740795	3892820	-554.372	8.152628
69	NOILREV(t	78.69689	704831.1	-1290671	114.6365	0.267843
70	CORPTD(t)	-3.3E-05	0.368451	-0.35575	6.65E-06	1.49E-05
71	CORRPTN(t	1.44084	-12105.1	-41509.6	0.238452	-1.08428
72	DDMONY(t	108.6888	-1922638	-709618	-111.378	-83.2076
73	DDMOPR(t	0.464582	-5878.82	-19121.7	-0.20186	-0.91179
74	DEMOCY(t	6.38E-05	0.695141	-0.19042	7.71E-05	2.5E-05
75	CORDEM(t	1.453785	-12126.3	-41644.3	0.245412	-1.08746
76	PWLFARE	8.696339	17287.73	-65143.5	10.04076	1.360062
77	STDOLIVN	1.556012	-65954.6	71055.59	-4.69223	-12.5041
78	PUPWER	0.052165	781.3878	-472.661	0.050952	0.011106
79	FODSRITY	-2.99433	-44766.2	32876.07	-5.86516	-1.69648
80	HLTCARE	-0.04656	-877.479	742.2901	-0.10947	0.023486
81	DDHCARE	-4.67646	-3270.04	30529.63	-4.17264	-0.94434
82	HCRDDPR	-0.02224	97.90128	116.8801	-0.00928	-0.00184
83	HRESDEV	0.04824	450.0887	764.7205	0.150066	0.163363
84	DDEDUC	-14.7078	-154948	157994.5	-21.4247	0.190581
85	EDUDDPR	-0.07113	-1105.55	621.2423	-0.12958	-0.01397
86	WEALTH	1.65E-06	0.010644	-0.00359	3.26E-06	6.7E-07
87	PWEALTH	-0.17532	-4273.15	-7711.53	-0.24479	-0.38571
88	IMPDPEN	-7.2E-06	0.068591	0.101684	-3.5E-07	4.74E-07
89	DDIMP	-131.675	-7139163	2864722	-500.864	-43.8886
90	PENCIMP	-1.58581	-33349.5	23493.19	-2.99426	-0.18187
91	TIME(t)	-0.00166	-18.776	9.071773	-0.00234	-0.00047
92	EXCHRTRP	-0.00396	-54.513	-19.6414	-0.00642	-0.00164
93	POP(t)	-0.00488	-54.1336	21.58271	-0.00683	-0.00158
94	IMPORT(t)	-32.4463	-894542	1296311	-99.4903	71.39015
95	XPOTOIL(t)	-74.5753	1703519	-2179505	135.3899	77.09519
96	XPTNOIL(t)	-45.9443	44201.23	346219.8	-68.5377	-29.2119
97	DODBT(t)	123.5243	2025771	145379.1	268.7942	122.7216
98	EXTDBT	236.5308	2961006	-2134372	483.2473	222.5909
99	GEXPDN(t)	-42.1992	-504416	385653.6	-57.9931	-18.5003
100	PRIMELR(t	-0.0002	-4.8486	-2.08281	-0.00055	-0.00021
101	INTSAV(t)	-0.00048	0.461135	2.083235	-0.00027	0.000166
102	MONYSS(t)	368.3741	249293.6	-3337370	144.3826	-59.989
103	TAX(t)	256.122	6415631	1097358	656.3185	462.5636
104	ACGSC	826.5081	-2802646	-1961416	457.9051	-179.3
105	DFUELP(t)	0.001897	24.99819	-10.7814	0.00418	0.002499
106	FUELIMP	-0.60969	-21138	3162.839	-2.23208	0.782391
107	FULSUBDY	0.618316	582.7815	7626.951	0.955515	0.102402
108	DDFULDY	-0.97558	3850.665	-13240.3	-0.98127	0.00959

However, fuel subsidy had very profound impact on the manufacturing sector which increased by N225.7 million, Oil refining which rose by N8.4 million, Services sector which increased by N48.8 million, Trade which improved by as much as N22.3 million per annum and Education which improved by N29.4 million per annum. The improvement in the Transport sector was not as profound as it increased by only N0.93 million per annum.

Nominal income and disposable income rose by N3.0 billion and N232.9 million per annum respectively as a result of Fuel subsidy but the economy did not grow. Fuel subsidy boosted consumption rather than investment; with an increase of N1.6 billion per annum in consumption, while investment fell by N392.0 million per annum. Inflation and unemployment rates improved as well as Trade and balance of trade and balance of payments which rose by N88.4 million and N417.0 million annually. Generally, External reserves fell by as much as N1.2 million per annum, however, Foreign direct investment increased by as much as N11.8 million per annum. Fuel subsidy also increased non-oil revenue by as much as N78.7 million annually, even though oil revenue declined by as much as N371.5 million annually. Exports of oil and non-oil also fell by N74.6 million and N45.9 million per annum respectively thus suggesting that the improvement in trade was basically domestic in nature.

Corruption increased by N1.4 million per annum as a result of fuel subsidy and the demand for money and money demand pressure increased by as much as N108.6 million per annum and N0.46 million per annum respectively. However, personal wealth (per capita income), increased by N8.7 per annum, while standard of living and purchasing power increased by only N1.55 per annum and 5 kobo per annum respectively. Domestic debt rose by as much as N123.0 million per annum while external debt increased by N236.5 million annually. Taxation also increased by N256.0 million per annum. It will seem that the impact of fuel subsidy on the Nigeria economy is mixed but could be improved if applied honestly.

IMPACT OF FUEL SUBSIDY UNDER PDP ADMINISTRATION

The Peoples Democratic Party (PDP) ruled Nigeria from 1999 to 2014. The regime caused a shift of N5.8 trillion in the manufacturing sector and a change of N620.0 million per annum in the sector. Oil refining also experienced a shift of N79.5 billion and a change of N14.7 million per annum in oil refining. Education also fared better under the regime where a shift of N418.0 billion and an annual change of N58.2 million was recorded in the Education sector. Consumption also increased under the administration where a shift of N26.4 trillion and a change of N2.9 billion per annum were recorded. Capital was also boosted under the administration where a shift of N6.2 trillion and a change of N565.0 million per annum were recorded. Old people did not fare well under the administration although employment fared better; a shift of N7.09 million and a change of N941.00 per annum were achieved. Labor productivity was better under the PDP administration, where a shift of N171.8 billion and a change of N29.9 million per annum were achieved. Poverty was higher during the PDP administration as the extremely poor people recorded a shift of 54.8 million people and increased by 3,551 people each year.

The PDP administration borrowed more both domestically and externally. The shift in domestic debt was N2.0 billion and increased annually byN268.8 million. The shift in external debt was

N2.96 billion and increased annually by N483.0 million. Balance of trade and balance of payments under the PDP was positive with a shift of N2.2 billion and N1.08 billion respectively; and an annual change of N467.0 million and N389.6 million respectively. Non-oil revenue was better under PDP with a shift of N704 million and an annual change of N114.6 million. Purchasing power was also better under PDP with a shift of N781.00 and an annual change of 50 kobo. Education, that is human resource development also fared better under PDP with a shift of N450 million and a change of N150,000.00 per annum. The above are the highlights of the PDP administration with respect to fuel subsidy in Nigeria. The details are presented in Table 2.

IMPACT OF FUEL SUBSIDY UNDER APC ADMINISTRATION

The All Peoples Congress (APC), ruled Nigeria from 2015 to date. Old people fared better under APC with a positive shift of 321,000 people and a change of 2.35E-5 per annum. Employment did not compare with PDP with only a shift of 1.04 million and an annual change of 188 people.However, the details of APC fuel subsidy impact can be inferred from the last column of Table 2 but the levels are lower compared with that of PDP, on the fourth column. It must be noted that most of the negative shifts under APC can be explained by the fact that APC started its administration under recession in 2015.

FEED BACK IMPACT OF FUEL SUBSIDY.

Fuel subsidy inflates and propagates itself as N1.0 million paid as fuel subsidy to independent marketers causes it to increase by N618,000.00 per annum; N955,000.00 under PDP administration and N102,000.00 under APC. These are indications that all is not well and the need for reforms.

FINANCING OF FUEL SUBSIDY AND DEMOCRATICPERFORMANCE.

It can be inferred from Table 2 that fuel subsidy is financed in Nigeria mainly from oil export, domestic and external borrowings, taxes and money supply. Indeed, oil export under PDP administration increased by N135.4 million per annum, while it increased by N77.1 million per annum under APC. Domestic debt increased by N268.8 million per annum under PDP and by N122.7 million annually under APC. External debt under PDP increased by N483.2 million per annum while under APC, it increased by N222.6 million per annum. Taxes increased by N656.3 million annually under PDP and by N462.6 million per annum under APC. In addition, money supply under PDP increased by N144.4 million annually.

Both regimes operated a very oppressive government as the impact on non-oil exports fell across board by N68.5 million per annum under PDP and by N29.2 million per annum under APC. Standard of living also fell by N4.7 per person per annum under PDP and by N12.5 per person per year under APC. Personal wealth (savings per caput) fell across board by 24 kobo and 38 kobo under PDP and APC respectively. Extremely poor people increased by 3,551 persons per annum under PDP and 305 people per annum under APC. Though nominal income increased by N4.2 billion and N889.0 million under PDP and APC respectively as a result of fuel subsidy, disposable income fell across board by N1.2 billion per annum under PDP and by N1.1 billion per annum under APC. Investment also fell across board by N917 million per year under PDP and by N852

million per annum under APC. Foreign direct investment also fell across board by N40.7 million per annum under PDP and by N37.0 million per annum under APC.

CONCLUSION

Fuel subsidy promises a profound positive impact on the Nigerian economy but the administration under the extant democratic dispensation leaves much to be desired. The level of investment was rather very low and inadequate and the citizens were impoverished and distressed due to the very oppressive policies adopted by both the PDP and APC administrations in financing the fuel subsidy.

The mega picture is that the operatives of fuel subsidy in Nigeria are faced with many imperfections and irregularities and that corruption is still thriving. Fuel subsidy inflates and propagates itself which is indicative of sharp practices among the operatives. Indeed, N1.0 million paid as fuel subsidy to independent marketers causes it to increase by N618,000.00 per annum. Government expenditure fell by a shift of N504 billion and an annual decline of N58 billion under PDP, a measure of stolen funds by unpatriotic Nigerians. Even though a positive shift of N385.6 billion was recorded under APC as a measure of recovered stolen funds in her fight against corruption, it is worthy of note that a negative change of N18.5 million per annum in government expenditure is an indication of the money still being embezzled or stolen by fuel subsidy operatives under APC administration; which confirms that corruption is still rife in the economy.

Moreover, the financing of fuel subsidy in Nigeria generally and specifically under democratic governance is oppressive and is based on borrowings, taxation and money supply. Even though fuel subsidy impacts positively on education and human resource development, the standard of living is generally low. In addition, subsidy does not encourage productivity and discourages agriculture and non-oil exports. It also exacerbates the number of absolute poor due to corruption among its operatives and therefore should not be carried on indefinitely.

RECOMMENDATIONS

1. Fuel subsidy still holds a lot of promise for the Nigerian economy but its administration need major reforms. It requires greater transparency and accountability among its operatives, both on the Government side and on the part of the Independent Marketers.
2. Subsidy discourages productivity and should not be carried on indefinitely. Therefore the Government should embark on building more refineries and shun corruption in the award and execution of projects.
3. Government must not relent in fighting corruption in whatever guise it takes. Therefore the electorates are advised to be prudent in ensuring that they populate Government and its organs with credible and reliable citizens with excellent track records and who stand for the common good.
4. In particular, Government should facilitate and promote investments especially in manufacturing and industry, in order to deliberately create employment for the unemployed teeming masses of Nigeria.

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