# Evaluation of the Consequences and Implications of the Domestic Petrol Pump Price Increase in Nigeria by the Bola Tinubu Administration

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## *ABSTRACT*

*With the emergence of the Bola Tinubu administration on May 29, 2023 in Nigeria, one of the first policies embarked upon was the removal of fuel subsidy and subsequent increase of domestic pump price of petrol to an average of N600.00/liter. This has resulted in massive hue and cry on the social media, where some have alleged that the fuel subsidy is indeed a lie, while others have insinuated and alleged that the recent increase of the pump price of petrol is at the instance of the advice by World Bank and the International Monetary Fund (IMF). However, it is believed that Government exists to make policies for the common good of the people it governs and to manage the satisfaction of the Political, Economic and Social concerns of the economy. Since governance has to do with the people and their welfare, it requires a good leader who is capable of listening to the people in addition to being aided by capable institutions with expertise and capacity with well trained personnel. Is this the case in Nigeria? It is believed that extant policy advice to developing economies by International organizations are based on quantitative tools and paradigms that are either subjective or are partial in their analysis and therefore their prescriptions become counter-productive and self-defeating. This study is a bold attempt to use the total differential systems modeling approach (ecostatometrics) to analyze the true consequences and implications of the new policy of domestic petrol pump price increase on the Nigerian economy as a whole. The result is that the whole economy will be depressed given the two options considered. Output of all sectors will fall and all incomes and consumption will also fall. Inflation will be astronomical and the economy will not grow due to the policy and many Nigerians may die as a result. To ameliorate the situation, Government should embark on massive investments, build more industries in order to create employment, facilitate and promote non-oil exports, fight corruption in all its ramifications and ensure a more equitable distribution of income that will raise the per capita income of Nigerians to N8.9 million.*

**INTRODUCTION**

The Bola Tinubu administration came on board in Nigeria this year, 2023 in continuation of the policies of the All Progressives Party,(APC). One of the first policies administered by the regime is the removal of fuel subsidy; because according to President Bola Tinubu, Nigeria cannot afford to be subsidizing the neighboring countries of Chad, Niger, Benin, Cameroon and other Republics with its fuel subsidy policy.

With the removal of fuel subsidy, the domestic pump price of petrol (PMS) rose to an average of N600.00/liter across the country. This has resulted in massive hue and cry on the social media where some have alleged that the purported fuel subsidy was indeed a lie and that no money was supposed to have changed hands or to have been paid to any independent marketer according to the fuel subsidy agreement and that any money claimed to have been paid to any Independent Oil Marketer by the Nigerian National Petroleum Company (NNPC), must have been paid to fictitious marketers and indeed a fraud. Others have insinuated and alleged that the recent fuel price increase in Nigeria was at the instance of policy advice by the World Bank and the International Monetary Fund (IMF). If this is true, one wonders if the Nigeria decision and policy makers, i.e. Federal Ministry of Finance, Federal Ministry of National Planning and the Central Bank of Nigeria, took time and pains to really examine the consequences and implications of such a policy advice before implementing it.

With regard to the purported fuel subsidy in Nigeria, Aruofor and Ogbeide (2023) estimated and derived the level of what a commensurate fuel subsidy payment should be from 1981 to 2021 (given that 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), and used an expanded and comprehensive model of the Nigerian economy to determine its impact on the Nigerian economy as a whole, using the total differential systems modeling approach (ecostatometrics). They concluded that Fuel subsidy promises a profound positive impact on the Nigerian economy but the administration under the extant democratic dispensation left much to be desired. They noted that the huge budgetary provisions by extant administrations on fuel subsidy could constitute a highly unsustainable expense in the long run and should not be continued indefinitely. Large amounts of funds could be stolen through dubious means like over-invoicing, smuggling and round-tripping. So that corruption could actually be what is subsidized in the final analysis.  They recommended that Fuel subsidy still holds a lot of promise for the Nigerian economy but its administration needed major reforms. It required greater transparency and accountability among its operatives, both on the Government side and on the part of the Independent Marketers.

In the above connection, Aruofor (2004, 2019), observed that corruption and indiscipline are the bane of development of the Nigerian economy (Adegbie and Fakile, 2012 also).It is believed that Government exists to make policies for the common good of the people it governs.

Therefore, good governance apart from ensuring social emancipation of its citizenry, must also reduce poverty, inflation and corruption in addition to creating employment opportunities, high standard of living and optimum purchasing power, among others.

Moreover, Aruofor (2020) has observed that extant policy advice to developing economies by International organizations are based on quantitative tools and paradigms that are either subjective or are partial in their analysis and therefore counter-productive and self-defeating.

**Statement of the Problem**

This study is a bold attempt, using ecostatometrics, to analyze the true consequences and implications of the new policy of domestic petrol pump price increase on the Nigerian economy as a whole.

**Objectives of the Study**

The objectives include among others:

1. To use a complete and comprehensive model of the Nigerian economy to test the impact of the new domestic petrol pump price increase of N600.00/liter on the whole economy a'la the total differential systems modeling approach (ecostatometrics).

2. In particular, to evaluate the consequences and implications of the above policy especially as it affects:
    i. The primary sectors of the Nigerian economy
    ii. The real sectors of the economy
    iii. Income and Consumption
    iv. Investment
    v. Poverty
    vi. Inflation Rate and General Price level
    vii. Employment and Unemployment Rate
    viii. Corruption
    ix. Productivity
    x. Standard of living
    xi. Purchasing power
    xii. Policy Instruments
    xiii. Foreign Sector, and
    xiv. Other socio-economic indices

3. Draw conclusions and make recommendations

The paper is therefore divided into five parts. Part I is the introduction and states 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**

Governance has been defined variously to include the manner in which a government administers and manages the territory and people under its jurisdiction. It is the exercise of political power to move a nation's affairs and it encompasses the state's institutional and structural arrangements,

decision making processes and implementation capacity of government officials and the public (Landdell-Mills and Serageldim, 1991 and Onwiodiokit, 1999). According to Aruofor (2007), the performance of any government can be measured in terms of the degree of social emancipation achieved in the economy. Indeed, growth and development which do not touch the lives and standard of living of the citizens of a country cannot be regarded as development in real terms. In the above connection, real development must not only reduce the level of poverty of a nation but also the poverty rate of its citizens.

An evaluation of the consequences and implications of the recent petrol pump price increase in Nigeria arising from the removal of petrol subsidy by the current Bola Tinubu administration is tantamount to evaluating the policy itself.

It is worthy of note that this could be done along either of the two assessment lines namely, Formative assessment or Process evaluation which entails policy monitoring for the purpose of effecting improvements as implementation unfolds or Summative assessment (Outcome evaluation) which takes place after full implementation of the policy (Birkland, 2005).

For this purpose, the appropriate type is the Formative assessment.

This springs up valuable questions as follows:

a) Was an adequate diagnosis made to bring about the policy?
b) Were some crucial aspects of the analysis disregarded?
c) Were some critical data unutilized? and
d) Should the policy be amended or abrogated? (Granello and Wheaton, 2004).

The withdrawal of fuel subsidy effective 29th May, 2023 instantly led to a hike of the cost of petrol (premium motor spirit). To Ocheni (2015), even before the recent experience, any increase in fuel cost automatically propels a spill-over effect on transport fare, school fees, house rents payable as well as impose negative impact on food security. This is because of the vital relevance of petrol as an influencer in different aspects of life of the Nigerian citizen.

To Olorunfemi (2003), any form of fuel price hike, not even as astronomical as the one experienced since May, 2023, trims down the purchasing power of the average Nigerian. This is because that singular action has a holistic effect on the socio-economic activities in the country.

It is pertinent to note that Government is the legal agent or machinery by which the Will of the State is formulated and expressed. Aristotle, a Political philosopher, postulated that the main purpose of the State is to ensure good life for the people of the community. To Utilitarians, including Jeremy Bentham and John Stuart Mill, the key purpose of the State is to provide happiness to the greatest number of people under its rule. And to Harold Laski and John Locke, the State is expected to make men and women realize social good on the largest scale possible.

In summary, the critical two-fold function of the State is generally recognized as  the ability to ensure the security of the people as well as the welfare of the same people. While security entails the safety of the citizens, welfare encompasses a range of governmental programmes to aid citizens who ordinarily cannot support themselves.

This leads to the Common Good Theory which is one crucial ground of political obligation whereby government possesses the right to rule the people while citizens are obliged to reciprocate by fulfilling their duties, including tax payments (Raphael, 1990).

This Common Good entails facilities/institutions that all or most of the society (not only selected sectors), agree satisfy the interests they share in common. (Hussain, 2018). Three key elements of this concept include respect for the citizen, well-being of members of the group and maintenance of peace. Aristotle, Plato and Cicero are also seen as fundamental political theorists in this regard. (Morrison, 2012). While there are two main types of Common Good namely, Non-excludable type, involving benefit to all whether paid for or not, and Rivalrous type, where there is depletion as used, the Non-excludable type is applicable in this respect.

While some other writings have thrown up the negative repercussions from the withdrawal of petrol subsidy that recently created the instantaneous petrol price hike in Nigeria, this paper explores means by which modifications can be effected to make the policy beneficial to the citizens of the country as expected in the Citizen-State reciprocal relationship in a liberal democratic State, like Nigeria's.

**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) and Aruofor and Ogbeide (2019, 2022a, 2022b  and 2023). 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 systems.

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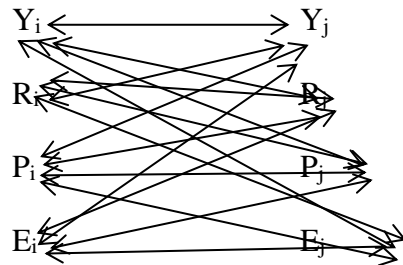


Fig: 1:  The True Socio – Economic Causal Chain

$$Y \quad = \quad \text{Production variables;}$$
$$R \quad = \quad \text{Primary Factors;}$$
$$P \quad = \quad \text{Policy instruments;}$$
$$E \quad = \quad \text{Environmental variables.}$$

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

$$Y = BY + A + U$$

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

$$dY = [I - B]$$

$$\therefore \frac{dY}{dX} = [I - B]dX$$

i.e $\Delta Y = [I - B]\Delta X$

Where, $Y$=endogenous and $X$=exogenous vector in this model. 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 $\boldsymbol{B}$ and the structural relationship of the economy is automatically specified. Further analysis can then be performed with Excel and Lotus 123 Smart Suit. (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 five variables, made up of one hundred and five (105) endogenous variables followed by one (1) exogenous variable at a time (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 pump price increase of N600.00/liter.

**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:

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

- $IMPDDPR \quad = \quad ((\Delta IMPORT)_{-1} / POP)$
- $XPOTDD \quad = \quad (\Delta XPORT)_{-1}$
- $DBTBDN \quad = \quad (EXDBT/(GDP/EXCHRT))$

## THE RESEARCH PROCEEDURE.

The endogenous variables comprise data on the whole Nigerian economy.  This was fed into ESM-LAB regressed and the B matrix was obtained transformed to $[I - B]$ and used to multiply the exogenous vector one at a time. Two options were tried:-

- Petrol pump price increase of N600.00 taken in isolation, and
- Petrol pump price increase of N600.00 in addition to other policy instruments given the ex-post forecast of the state of the economy as at 2021.

However, since we are trying to approximate the state of the 2023 Nigeria economy, we assumed that all negative instruments in 2021 will be positive as can be seen in Table 1. It would have been more appropriate to use data on the state of the Nigerian economy as at 2022 but the data was not available at the time of the analysis. However 2021 was used as surrogate and the results were  very revealing. The results are presented in Table 1 below. It should be noted that the above analysis belongs to the static realm but is very informative. However the dynamic analysis of the fuel price increase can be done as well through Markov Chains Analysis but will involve estimating the transition matrix for the Nigerian economy (see Aruofor, 2003). This is left as an exercise for further research.

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( | (c) Manufacturing | N million |
| 4 | ELECTSS(t | 3.  Electricity,Gas,Steam & Air conditioner | N million |
| 5 | WATER(t) | 4.  Water supply, sewage, waste Mang. | N million |
| 6 | CONSTN(t | 5.  Construction | N million |
| 7 | SERVCS(t) | C. SERVICES | N million |
| 8 | TRADE(t) | 1.  Trade | N million |
| 9 | ACCOFOO | 2.  Accomadation and Food Services | N million |
| 10 | TRASPOT( | 3.  Transportation and Storage | N million |
| 11 | TRANSEV( | e. Transport Services | N million |
| 12 | POSTCUR( | f. Post and Courier Services | N million |
| 13 | INFOCOM | 4.  Information and Communication | N million |
| 14 | TELECOM | a. Telecommunications and Information Services | N million |
| 15 | PUBLSHN( | b.  Publishing, | N million |
| 16 | MPIC&SN | c. Motion Pictures, Sound recording and  Music production | N million |
| 17 | BRODCST( | d. Broadcasting | N million |
| 18 | ARTRECRT | 5.  Arts, Entertainment & Recreation | N million |
| 19 | FININSUR | 6.  Financial and Insurance | N million |
| 20 | FINANCE( | a. Financial Institutions | N million |
| 21 | INSURANS | b. Insurance | N million |
| 22 | REALEST(t | 7.  Real Estate | N million |
| 23 | PROFSERV | 8.  Professional, Scientific & Technical Serv. | N million |
| 24 | ADMINSU | 9.  Administrative and Support Services | N million |
| 25 | PUBADMI | 10. Public Administration | N million |
| 26 | EDUCATN | 11. Education | N million |
| 27 | HLT&SOC | 12. Human Health & Social Services | N million |
| 28 | OTHSERVS | 13. Other Services | N million |
| 29 | NGDP(t) | GDP at Current Basic Prices | N million |
| 30 | DISPINC(t | Disposable Income | N million |
| 31 | REALINC(t | Real Income | N million |
| 32 | REALGDP( | Real GDP | N million |
| 33 | GROWTRT | Growth rate | % |
| 34 | GROWTH( | Growth | N million |
| 35 | CONS(t) | Consumption | N million |
| 36 | INVST(t) | Investment | N million |
| 37 | CAPITAL(t | Capital accumulation | N million |
| 38 | FDI(t) | Foreign Direct Investment | N million |
| 39 | CPI(t) | Consumer Price Index | |
| 40 | INFLTD(t) | Inflation Dummy = 1 when CPI increases, otherwise = 0 | |
| 41 | INFLATN(t | Inflation = INFTD X CPI | |
| 42 | INFLTRT(t | Inflation Rate | % |
| 43 | UNEMPL( | Unemployment Rate | % |
| 44 | LABCOMP | Labor Force Compensation | N million |
| 45 | CHLDRN | Children Population (16 years and below) | Million |
| 46 | CHDRNSS | Children  Supply | Million |
| 47 | EPAWF | Estimated Potencial Active Work Force | Million |
| 48 | NADDWF | New Addition to Workforce | |
| 49 | POPOLD | Population of Old People (80 years and above) | Million |
| 50 | UNEMWF | Unemployed Work Force | Million |
| 51 | EMPWF | Employed Work Force | Million |
| 52 | EMPLMNT | Employment | Million |
| 53 | PRDTIVTY | Productivity | |
| 54 | LPROVITY | Labor Productivity | |
| 55 | AVWAGE | Average Wage Rate | Naira |
| 56 | DDEMENT | Demand for Employment | |
| 57 | EMDDPR | Employment Demand Pressure | |
| 58 | POOR(t) | Poor | Million |
| 59 | EXTPOOR | Extremely (Absolute) Poor | Million |
| 60 | POVRT(t) | Poverty Rate | % |
| 61 | SLAVERY | Slavery | |
| 62 | SAVINGS( | Savings | N million |

Fig  2:   LEGEND OF VARIABLES NIGERIA ECONOMY COMPREHENSIVE CONTINUED

| | ACRONYM | ACTIVITY | UNIT |
|---|---|---|---|
| 63 | BOT(t) | Balance of trade | N million |
| 64 | BOP(t) | Balance of payments | N million |
| 65 | EXTRES(t) | External reserve | N million |
| 66 | DBTBDN(t) | Debt burden  or Bondage | |
| 67 | OILREV(t) | Oil revenue | N million |
| 68 | NOILREV(t) | Non-oil revenue | N million |
| 69 | CORPTD(t) | Corruption Dummy = 1 when DDMOPR increases, otherwise = 0 | |
| 70 | CORRPTN(t) | Corruption= CORPTD X  DDMOPR. | |
| 71 | DDMONY(t) | Demand for money | N million |
| 72 | DDMOPR(t) | Demand for money pressure | |
| 73 | DEMOCY(t) | Dummy Variable 1.0 for New Democracy and 0 elsewhere. | |
| 74 | CORDEM(t) | Equals    DEMOCY  x  CORRPTN | |
| 75 | PWLFARE | Personal Welfare (Per capita income) | Naira |
| 76 | STDOLIVN | Standard of Living | |
| 77 | PUPWER | Purchasing Power | |
| 78 | FODSRITY | Food Security | |
| 79 | HLTCARE | Health Care | |
| 80 | DDHCARE | Demand for Health Care | |
| 81 | HCRDDPR | Health Care Demand Pressure | |
| 82 | HRESDEV | Human Resource Development | |
| 83 | DDEDUC | Demand for Education | |
| 84 | EDUDDPR | Education Demand Pressure | |
| 85 | WEALTH | National Wealth | |
| 86 | PWEALTH | Personal Wealth | |
| 87 | IMPDPEN | Import Dependence | |
| 88 | DDIMP | Demand for Imports | |
| 89 | PENCIMP | Penchant for Imports | |
| 90 | TIME(t) | Time | |
| 91 | EXCHRTRP | Exchange rate (Relative poverty) | N million |
| 92 | POP(t) | Population | Million |
| 93 | IMPORT(t) | Imports | N million |
| 94 | XPOTOIL(t) | Oil export | N million |
| 95 | XPTNOIL(t) | Non-oil export | N million |
| 96 | DODBT(t) | Domestic debts | N million |
| 97 | EXTDBT | External debts | $ million |
| 98 | GEXPDN(t) | Government expenditure | N million |
| 99 | PRIMELR(t) | Primary lending rate | % |
| 100 | INTSAV(t) | Interest rate | % |
| 101 | MONYSS(t) | Money supply | N million |
| 102 | TAX(t) | Tax | N million |
| 103 | ACGSC | Agricultural Credit Guarantee Scheme | N million |
| 104 | DFUELP(t) | Domestic fuel price | N/Litre |
| 105 | FUELIMP | Petroleum Fuel Import | N million |
| | | EXOGENOUS VARIABLES | |
| | OPTION 1 | Domestic Fuel Price increase of N600.00/liter in isolation | N/Litre |
| | OPTION 2 | Domestic Fuel Price increase of N600.00/liter given 2021 state | N/Litre |

## RESULTS AND DISCUSSION:

The results of the analyses are as presented in Table 1. The discussion and presentation are in two parts. First, option 1, which is the increase of petrol pump price of N600.00/liter, taken in isolation of other policy instruments is analyzed, with the consequences discussed first then followed by the

implications. This is then followed by the analysis of option 2, which is the increase of petrol pump price to N600.00/liter but in combination with other policy instruments.

Table 1:  CONSEQUENCES AND IMPLICATIONS OF PETROL PRICE INCREASE

| S/No | ENDO-VARIABLES | NFULPR 1 | PREDICTN | 2021 | NFP&OPI | PREDICTN |
|---|---|---|---|---|---|---|
| 1 | AGRSEC(t) | O | -4.7E+07 | 33472787 | O | -2.6E+08 |
| 2 | INDUST(t) | O | -2E+07 | 16098490 | O | -1.6E+08 |
| 3 | MANUFC(t) | O | O | 143989.6 | O | -2.1E+07 |
| 4 | ELECTSS(t) | O | -385522 | 363092.1 | O | -3408603 |
| 5 | WATER(t) | O | -107786 | 114766.9 | O | -844623 |
| 6 | CONSTN(t) | O | O | 2205205 | O | -1.9E+07 |
| 7 | SERVCS(t) | O | -1.7E+08 | 1.06E+08 | O | -8.1E+08 |
| 8 | TRADE(t) | O | -5.8E+07 | 35281130 | O | -2.7E+08 |
| 9 | ACCOFOOD(t) | O | O | 477446 | O | -4166584 |
| 10 | TRASPOT(t) | O | O | 588370.6 | O | -6914193 |
| 11 | TRANSEV(t) | O | -43639.8 | 25244.84 | O | -378428 |
| 12 | POSTCUR(t) | O | -87903.7 | 52191.57 | O | -397566 |
| 13 | INFOCOM(t) | O | -2.7E+07 | 17209614 | O | -1.4E+08 |
| 14 | TELECOM(t) | O | -1.9E+07 | 11897974 | O | -9.9E+07 |
| 15 | PUBLSHN(t) | O | -30514.5 | 21325.57 | O | -204162 |
| 16 | MPIC&SND(t) | O | -2724273 | 1622814 | O | -1.4E+07 |
| 17 | BRODCST(t) | O | -2318187 | 1607723 | O | -1.4E+07 |
| 18 | ARTRECRTN(t) | O | -242352 | 186873.4 | O | -1541465 |
| 19 | FININSUR(t) | O | -1.1E+07 | 6679505 | O | -5.1E+07 |
| 20 | FINANCE(t) | O | -9464643 | 5783659 | O | -4.4E+07 |
| 21 | INSURANS(t) | O | -1452779 | 895596.1 | O | -6768997 |
| 22 | REALEST(t) | O | -3E+07 | 19448280 | O | -1.4E+08 |
| 23 | PROFSERV(t) | O | -1.4E+07 | 8509876 | O | -6.4E+07 |
| 24 | ADMINSUP(t) | O | -85757.5 | 52237.73 | O | -388732 |
| 25 | PUBADMN(t) | O | -1.4E+07 | 8588566 | O | -6E+07 |
| 26 | EDUCATN(t) | O | -1890795 | 1160524 | O | -1.4E+07 |
| 27 | HLT&SOC | O | -481413 | 227857.5 | O | -3945724 |
| 28 | OTHSERVS(t) | O | -4679591 | 3535596 | O | -3E+07 |
| 29 | NGDP(t) | O | -1.5E+08 | 93738286 | O | -9.4E+08 |
| 30 | DISPINC(t) | O | -2.9E+08 | 1.71E+08 | O | -1.3E+09 |
| 31 | REALINC(t) | O | -1276267 | 940503.6 | O | -6420839 |
| 32 | REALGDP(t) | O | 66963754 | -3.5E+07 | O | 1.92E+08 |
| 33 | GROWTRT(t) | O | 129.0507 | -90.2992 | O | 532.4128 |
| 34 | GROWTH(t) | O | -5.43369 | 18.12391 | O | -41.0767 |
| 35 | CONS(t) | O | -7.9E+07 | 63703602 | O | -5.2E+08 |
| 36 | INVST(t) | O | 21449934 | -5972336 | O | 17617698 |
| 37 | CAPITAL(t) | O | O | 10101992 | O | -6.1E+07 |
| 38 | FDI(t) | O | O | 532122.8 | O | -8854682 |
| 39 | CPI(t) | O | -570.539 | 407.5419 | O | -2829.73 |
| 40 | INFLTD(t) | O | -2.32254 | 2.370618 | O | -8.44653 |
| 41 | INFLATN(t) | O | -577.384 | 409.5691 | O | -2811.44 |
| 42 | INFLTRT(t) | O | 260.4876 | -192.678 | O | 1102.65 |
| 43 | UNEMPL(t) | O | -53.4841 | 43.57665 | O | -237.754 |
| 44 | LABCOMP | O | -6.6E+07 | 43403766 | O | -3.4E+08 |
| 45 | CHLDRN | O | -63.2786 | 88.44292 | O | -404.977 |
| 46 | CHDRNSS | O | -93.5306 | 54.72238 | O | -341.14 |
| 47 | EPAWF | O | -115.129 | 125.7646 | O | -627.075 |
| 48 | NADDWF | O | -3.3855 | 3.452112 | O | -18.1838 |
| 49 | POPOLD | O | -21.9016 | 23.53311 | O | -118.994 |
| 50 | UNEMWF | O | -59.5842 | 33.65518 | O | -247.889 |
| 51 | EMPWF | O | O | 53.99451 | O | -191.875 |
| 52 | EMPLMNT | O | 70.28311 | -40.3913 | O | 246.0324 |
| 53 | PRDTIVTY | O | 91.56947 | 38.85792 | O | 228.0954 |
| 54 | LPROVITY | O | -4607434 | 2814879 | O | -2E+07 |

Table 1:        CONSEQUENCES AND IMPLICATIONS OF PETROL PRICE INCREASE CONT'D

| S/No | ENDO-VARIABLES | NFULPR 1 | PREDICTN | 2021 | NFP&OPI | PREDICTN |
|---|---|---|---|---|---|---|
| 55 | AVWAGE | 0 | -850484 | 520751.7 | 0 | -4165537 |
| 56 | DDEMENT | 0 | -14.3077 | 9.239806 | 0 | -54.6848 |
| 57 | EMDDPR | 0 | 5.512043 | -3.08304 | 0 | 20.85615 |
| 58 | POOR(t) | 0 | -66.4606 | 27.98245 | 0 | -362.162 |
| 59 | EXTPOOR(t) | 0 | 0 | -35.5228 | 0 | -19.8779 |
| 60 | POVRT(t) | 0 | -6.66903 | 4.899633 | 0 | -26.0031 |
| 61 | SLAVERY | 0 | 315802.9 | -196501 | 0 | 1117092 |
| 62 | SAVINGS(t) | 0 | -5227419 | 2343131 | 0 | -3.9E+07 |
| 63 | BOT(t) | 0 | -2.3E+07 | 16179076 | 0 | -9.7E+07 |
| 64 | BOP(t) | 0 | -2.1E+07 | 13873390 | 0 | -7.5E+07 |
| 65 | EXTRES(t) | 0 | -137102 | 97816.57 | 0 | -694552 |
| 66 | DBTBDN(t) | 0 | 1.533006 | -0.69441 | 0 | 6.90197 |
| 67 | OILREV(t) | 0 | 8387801 | -5702895 | 0 | 7693179 |
| 68 | NOILREV(t) | 0 | -5019576 | 3677880 | 0 | -3.1E+07 |
| 69 | CORPTD(t) | 0 | 5.282396 | -2.71232 | 0 | 18.87776 |
| 70 | CORRPTN(t) | 0 | 153191.1 | -107598 | 0 | 467521.1 |
| 71 | DDMONY(t) | 0 | -3.1E+07 | 19995585 | 0 | -1.5E+08 |
| 72 | DDMOPR(t) | 0 | 0 | 32197.57 | 0 | -244993 |
| 73 | DEMOCY(t) | 0 | 2.948169 | -2.75955 | 0 | 7.42661 |
| 74 | CORDEM(t) | 0 | 153748.2 | -108199 | 0 | 469028.5 |
| 75 | PWLFARE | 0 | -2015101 | 1207456 | 0 | -8929446 |
| 76 | STDOLIVN | 0 | 301082.4 | -150720 | 0 | -29641.3 |
| 77 | PUPWER | 0 | 2651.973 | -2639.19 | 0 | 6364.649 |
| 78 | FODSRITY | 0 | -370932 | 234881.3 | 0 | -1794887 |
| 79 | HLTCARE | 0 | -8019.9 | 4823.951 | 0 | -42356 |
| 80 | DDHCARE | 0 | 0 | 112579.3 | 0 | -475641 |
| 81 | HCRDDPR | 0 | -359.694 | 614.2538 | 0 | -3115.59 |
| 82 | HRESDEV | 0 | -10200 | 4516.293 | 0 | -68261.8 |
| 83 | DDEDUC | 0 | 305254.9 | -267674 | 0 | 198828.5 |
| 84 | EDUDDPR | 0 | 3175.506 | -1907.43 | 0 | 6220.951 |
| 85 | WEALTH | 0 | 0.2935 | -0.07868 | 0 | 0.934541 |
| 86 | PWEALTH | 0 | 49618.92 | -43241.9 | 0 | 43566.7 |
| 87 | IMPDPEN | 0 | -0.56699 | 0.655028 | 0 | -2.6371 |
| 88 | DDIMP | 0 | 22500985 | -1.5E+07 | 0 | 89269810 |
| 89 | PENCIMP | 0 | 129860.7 | -81242.1 | 0 | 495839.8 |
| 90 | TIME(t) | 0 | -72.9729 | 62.58012 | 0 | -390.069 |
| 91 | EXCHRTRP | 0 | -462.089 | 340.272 | 340.272 | -1839.39 |
| 92 | POP(t) | 0 | -266.825 | 283.8424 | 283.8424 | -851.717 |
| 93 | IMPORT(t) | 0 | -8145397 | 3842010 | 3842010 | -6.6E+07 |
| 94 | XPOTOIL(t) | 0 | -2.4E+07 | 22287470 | 22287470 | -9.5E+07 |
| 95 | XPTNOIL(t) | 0 | 3367621 | -3116776 | 3116776 | 8682462 |
| 96 | DODBT(t) | 0 | -8996272 | 5849423 | 5849423 | -5.3E+07 |
| 97 | EXTDBT | 0 | 16059953 | -9784299 | 9784299 | 64911004 |
| 98 | GEXPDN(t) | 0 | -1.7E+07 | 11170388 | 11170388 | -5.8E+07 |
| 99 | PRIMELR(t) | 0 | -44.1609 | 47.3897 | 47.3897 | -84.9086 |
| 100 | INTSAV(t) | 0 | -29.7658 | 30.31813 | 30.31813 | -12.7121 |
| 101 | MONYSS(t) | 0 | 0 | 2556797 | 2556797 | -8.4E+07 |
| 102 | TAX(t) | 0 | 0 | -4783991 | 4783991 | -4882622 |
| 103 | ACGSC | 0 | 36612334 | -2.6E+07 | 25668018 | 1.61E+08 |
| 104 | DFUELP(t) | 600 | 600 | 381.7017 | 600 | -1422.83 |
| 105 | FUELIMP | 0 | -126662 | 83013.07 | 83013.07 | -594373 |

**CONSEQUENCES OF FUEL PUMP PRICE INCREASE IN NIGERIA (OPTION 1).**

From fourth column of Table 1, it can be inferred that the whole of the Nigeria economy will be depressed. All the primary sectors including agriculture and industry which will be depressed and their outputs will fall by –N4.7E+07 million and –N2E+07 million respectively. Manufacturing and construction will be crippled and collapse to zero output each. The outputs of all the other sectors will all be negative with trade and services recording –N5.8E+07 million and –N1.7E+08 million respectively. Education will be at a negative of –N49 trillion and Health will be depressed to –N1.3 trillion.

The other real sectors will also be depressed as can be inferred from Table 1. Nominal income will fall by –N1.5E+08 million. Consumption will also fall by –N7.9E+07 million. Growth will fall by N5.43 million and real income by –N1.27 trillion. The inflation rate will increase by 260.5%. The mortality of children and old people will reach 63.3 million and 21.7 million respectively. Average wage will fall by N850,484 while Labor productivity will also decline by N4.6 trillion. Sixty-six (66) million poor people will either die or emigrate to other lands and the extremely poor people will be completely wiped out in the long run as a result of the increase in petrol pump price to an average of N600.00/liter.

Nigerians will be enslaved further as the amount every person will be owing the international community will increase to N315,802.9/person. Savings will fall by –N5.3 trillion and External reserves will also fall by –N5 trillion. Capital will be completely wiped out and Foreign Direct Investment will be zero. Corruption will experience a shift of N5.7 million while corruption will flourish and increase by N53.2 billion. Nigerians will be impoverished as food security will fall by –N371 billion. In the long run fuel imports will fall by N126 billion.

**IMPLICATIONS OF FUEL PUMP PRICE INCREASE IN NIGERIA (OPTION 1).**

In order to ameliorate the above dreary and gloomy situation of the country, Government must do the following given Option 1:

1) Must increase real output (Real GDP) by N67 trillion
2) Grow the Nigeria economy by 125.05%
3) Increase investment by N23.4 trillion
4) Reduce the general price level by 570 points
5) Bring down inflation by 577.2 points
6) Bring down the unemployment rate by 53%
7) Provide employment for 70 million unemployed Nigerians
8) Increase productivity by N91.6 for every N1.00 spent on labor compensation
9) Increase oil revenue by N8.4 trillion
10) Increase the standard of living of Nigerians by N301 billion
11) Increase the purchasing power of the people by N2,652/person
12) Increase the demand for education and education demand pressure by N305,254.9 and N3,175.5 respectively.
13) Increase personal wealth i.e. (Per capita income), by N50,000.00
     **POLICY INSTRUMENTS**
14) Appreciate the value of the naira (N) by –N462/US$
15) Increase non-oil exports by N3.4 trillion

16) Reduce domestic debt by N9 trillion
17) Increase External debt by N16 trillion
18) Reduce Government expenditure by N1.7E+07 million
19) Reduce the interest and lending rates by 29.7% and 44% respectively which is like giving money free of charge
20) Money supply and Taxes should be zero respectively.

Even though Option 1 is not realistic because the increase in fuel price does not operate in isolation of other policies in the economy, the consequences and implications are very informative. They indicate that the Nigeria economy will collapse in the long run except Government can do what may seem impossible to prevent 266 million people in Nigeria from dying or emigrating to other lands in search of greener pastures.

**CONSEQUENCES OF FUEL PUMP PRICE INCREASE IN NIGERIA (OPTION 2).**
Even though Option 1 which is increasing the petrol pump price to N600.00/liter in isolation of other policy instruments gives us insight into the consequences and implications of the fuel increase policy, it is obvious that the prescriptions will be difficult if not impossible for Government to achieve. However, since policies don't operate in isolation, we then decided to try Option 2 which is increasing the petrol pump price to N600.00/liter in concert with the other policy instruments using the state of the Nigeria economy in 2021 as surrogate after making some adjustments to approximate 2023 (see Table 1).

As before, the whole Nigerian economy will be depressed. The outputs of all sectors will fall. Agriculture will fall by –N2.6E+08 million, Industry by –N1.6E+08 million, Manufacturing by – N2.1E+07 million, Electricity Supply by N3.4 trillion. Services will adversely fall by –N8.1E+08 million and Trade will also fall by –N2.7E+08. The decline in the other sectors can be inferred from the last column of Table 1. Education will fall by –N1.4E+07 and Health and Social services will fall by N4 trillion.

Nominal income, disposable income and real income will all fall by –N9.4E+08 million, -N1.3E+09 million and –N6.4 trillion respectively. Consumption will fall by –N5.2E+08 million, Foreign Direct investment will also fall by –N8.85 trillion. The inflation rate will sky rocket to an astronomical level of 1102.65%. Labor productivity will fall by –N2E+07 million, while average wage will fall by –N4 million. About 362 million poor people will ether die as a result or emigrate to other lands in search of greener pastures. In addition, two million absolute poor people will die and be wiped out.

Every Nigerian will be enslaved further as everyone will be owing the international community the sum of N1,117,092.00 each as a result of borrowed funds by the Government. Savings will fall by –N3.9E+07million. Balance of Trade and Balance of payments will fall by –N9.7E+07 million and –N7.5E+07 million respectively. External reserves will fall by N695 billion; Debt burden will rise to 6.90197 and what a catastrophe! Non-oil revenue will also fall by –N3.1E+07 million. Corruption will experience a shift of N18.88 million, while corruption will also increase by N4.68 billion. The naira will be useless and the demand for money will fall by –N1.5E+08 million. There will be anarchy in Nigeria as the index of democracy will be as high as 7.43 compared to 1.00.

Corruption in the new democracy will increase by N469 billion. Personal welfare i.e per capita income, will fall by N8.9 million and standard of living will also fall by N30 billion. Food security and health care will also fall by –N1.8 trillion and –N42 billion respectively. The demand for imported goods will be over the roof at N89.3 trillion, with the penchant for imports reaching N496 billion.

## IMPLICATIONS OF FUEL PUMP PRICE INCREASE IN NIGERIA (OPTION 2).

The above scenario of the Nigeria economy is not only melancholic but very dreadful and scary. No one will want to live in such a country; but that is the reality and fate facing Nigerians as a result the petrol pump price increase of N600.00/liter if nothing is done about it by Government to ameliorate it. Luckily, our model also provides some clues as to how to forge a solution.

Indeed, in order to ameliorate the above awful and gloomy situation, our model prescribes that Government must do the following:

1) Increase investment by N17.62 trillion
2) Increase and provide employment for 246 million unemployed Nigerians
3) Increase productivity by N228/N1.00 spent as labor compensation.
4) Increase Oil revenue by N7.7 trillion
5) Increase the purchasing power of Nigerians by N6,400.00/person
6) Increase the Personal wealth (savings) by N44,000.00/person
7) Facilitate and promote Non-Oil exports to the tune of N8.7 trillion
8) Borrow more money i.e. External Debt, (but to be used wisely) to the tune of N65 trillion
9) Reduce the interest and lending rates to optimal levels
10) Increase the Agricultural Credit Guarantee Scheme by N1.61E+08 million.
11) Appreciate the value of the Naira.

## CONCLUSION

Indeed, President Bola Tinubu is right when he said that Nigeria cannot afford to continue to be subsidizing our neighboring countries of Chad, Niger, Benin, Cameroon and other Republics with its fuel subsidy policy. However, from the consequences of the petrol pump price increase of N600.00/liter, as revealed by this study, the policy will have a crippling effect on the Nigeria economy in the long run and the agony Nigerians will face will be better imagined than experienced. The timing and therefore the implementation of the policy is ill conceived and draconian especially because Government has not prepared the economy and the populace for it.

From the consequences and implications elicited from this study, the way forward will **not** be to revert to the former pump price of petrol because this will only fuel corruption to the detriment of Nigerian masses as well as postpone the evil day.

However, the effect of the fuel price increase cannot be ameliorated by simple handouts of palliatives but by a bold, honest and positive effort on the part of Government to implement a range of policy initiatives, decisive leadership and the collective responsibility of the Nigerian masses and the institutions.

From all the prescriptions from both Options, it is evident that while the greater burden of responsibility rests on Government, it calls for the collective efforts and responsibility, discipline

and determination on the part of both Government and the Civic Society. It requires that Nigeria Labor Force must braze up and become more productive. It also requires that corruption which is the bane of development in Nigeria must be shunned by all Nigerians both born and unborn. Corruption is indeed a cankerworm that has eaten deep into the fabrics of the Nigerian populace and economy. The following recommendations outline the initiatives that Government should adopt. They would not happen simultaneously and their effects would not occur and felt automatically but requires commitment on the part of Government and discipline and responsibility on the part of Civic Society.

**RECOMMENDATIONS**
The initiatives that Government must embark upon are as follows:
1. Government must embark on massive investment in:
    a) Manufacturing
    b) Electricity
    c) Food Processing
    d) Education, and
    e) Agriculture.

In the above connection, we present one of the recommendations of Aruofor and Ogbeide (2022) which we consider still relevant to this study: "Nigeria has one of the largest and vibrant consumers markets as far as the international community is concerned. International politics, would want the status quo to remain except Nigerians themselves do something about it. In that regard, Nigeria must start to look inwards and invest and develop all the potential areas of commensurate advantage, if not comparative advantage. By this, we mean areas of comparative needs which tie in with our development aspirations, such that if developed, could result in import substitution if not comparative advantage.
Such areas will include:
1) Agriculture
i. Review of land use policy;
ii. Mobilization of the masses into agricultural production;
iii. Establishment and development of agricultural industries especially food processing.
2) Industry
a) Oil Industry
i. Establish more refineries to satisfy domestic and regional markets;
ii. Develop the petrochemical industry to world standards.
b) Solid Minerals
i. Borrow and complete the Ajaokuta iron and steel mill;
ii. Establish flat sheets mills;
iii. Establish and develop machine tools and bolts and nuts industry.
3) Services
i. Expand, develop and modernize electric power generation and distribution;
ii. Develop the infrastructure;

iii. Invest in qualitative education;
iv. Promote quality assurance research and technology."

2. Build Industries and create employment for the teeming unemployed masses of Nigeria. Regrettably Nigeria should not rely or depend on the World Bank or IMF as this is against their policies. The available option is to adopt the Public Private Partnership (PPP) approach.

3. Fight corruption in all its ramifications. Indeed, According to Aruofor (2019) and Aruofor and Ogbeide (2020), the fight against corruption must start with Government itself. "Salaries of all Public Servants including all categories of Politicians should conform to a reviewed Civil Service salary structure to make politics and government less attractive. In this regard, Legislators, Executives (Ministers), Judiciary (Judges), Chairmen and Heads of Parastatals including the Central Bank, should not earn salaries above a University Professor. Anybody who wants money should aspire to work in the Private Sector".

4. Facilitate and promote Non-Oil Exports to the tune of N8.7 trillion

5. Bring down the inflation rate to single digit by enacting policies and engaging in programmes and projects that will bring it down.

6. Grow the economy and increase the real output (Real GDP) of the economy by N1.92E+08.

7. Increase the Personal wealth i.e. the Per Capita Income of every Nigerian to N8.9 million. This could involve salary increase and palliatives but for it to be really effective, Government must seek ways of optimal distribution of income among all citizens of Nigeria. In this connection, Aruofor and Ogbeide (2022), recommended that Nigerian Politicians must make some concessions; The reduction of corruption must start with the reduction of the salaries and allowances of Political office holders and a conscious and deliberate implementation of national policies, with dedication, honesty, probity and accountability.

8. Finally, ensure the appreciation of the value of the Nigerian currency, the Naira (₦) to be at parity with the US$.

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