TITLE PAGE

THE IMPACT OF PETROLEUM SUBSIDY ON THE CONSUMPTION OF PETROLEUM PRODUCTS IN NIGERIA

BY

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CERTIFICATION

This is to certify that OCHUONU IZUCHUKWU GEORGE with registration number EC /2009 / 755 has successfully carried out a research work on "the impact of petroleum subsidy on the consumption of petroleum product in Nigeria" in partial fulfillment of the requirement for the award of Bachelor of Science (B. SC) degree in economics.

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DEDICATION

This research work is dedicated to God the father, God the son and God the Holy Spirit (Blessed trinity) and to my parents Mr. CHRISTIAN OCHUONU and Mrs. IFEOMA OCHUONU who chose my education and academic carrier to be of paramount importance to them.

To all Economics Graduates of 2012/2013 session and to the students of Caritas University.

To the Apostle of League Sacred Heart of Jesus Society and Jesus The Saviour.

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OCHUONU IZUCHUKWU .G.

“IZZIEY ”

ABSTACT

The petroleum sector is an indispensable body in Nigeria economy. It has remained the Nigerian biggest revenue earner. It still brings in more than 80% of the foreign exchange earned by the country. However, this resulted in the shortage of the quantities of petroleum products consumed locally in the country. Hence, the problem of development is generally faced in Nigeria. This work will as well go to show what actually constitute the petroleum subsidy in Nigeria. It will analyze the cost to the government if not removed and the welfare of the local consumers. It will also reveal to a greater extent what effect it has on the GDP of the economy, at its full sustenance, partly to be taken in the issue of petroleum subsidy in Nigeria. The research work used a dummy variable to explain its finds(1 when there is subsidy and 0 when there is no subsidy).The research work however, looks into the impact of petroleum subsidy on the consumption of petroleum products in Nigeria and it was found that there are more consumption of petroleum products with subsidy than without. Among other recommendations the study opines that government should diversify the economy as quickly as possible and direct its positives to other sector of the economy that have been overlooked.

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CHAPTER ONE

INTRODUCTION

Petroleum subsidy is one of the most passionate and controversial issue of the Nigeria's petroleum industry irrespective of the technical, economic, political aspects and implementation of politics adhering to one pricing system or another would largely hygiene the ultimate pattern of cost and profit sharing of the two major parties concern that is the producer (NNPC) and the consumers.

The momentum generated by the exploitation and exploration of oil has been regarded by many as a "mixed blessing". Nigeria started exploring its petroleum resources in the mid 60's, however, it was until the early 70's that large scale production was realized in Nigeria and by May 1970, had entered the league of the largest ten oil producers and by1973, oil accounted for over 80% of our foreign exchange earnings.

The presence of petroleum and the greater spending power which followed has no doubt acted as a catalyst in Nigeria's economic development constraints-finance. Consequently, however, it has given rise to the planning executive and completion of some worthwhile project and has given a stronger "twice" to Nigeria in international politics.

The oil arrival created its own problems, given Nigeria's absorptive capacity conceived in its widest context. There have been adjustments. However, not only has the petroleum power created illusion in the economy, it has given impetus to false hope. Many policy decisions were not given through thought since finances was not a constraint.

The consequences of FESTAC and UDORJI award are still with us. The enormous financial power also led to the federal government over extending its activities and responsibilities resulting largely to waste and inefficiency.

Petroleum subsidy has been removed several times in the past years beginning from 1980 to present, because of the drastic reduction in the government revenue as a result of oil glut in 1981 and the attendant austerity situation, also because of the loans collected from the international monetary fund (IMF). This is to enable the country to meet up with its foreign debts. In 1986 the federal government removed 80% of the subsidy on the price of petroleum products. The second tier foreign exchange marked (SFEM) and its successor foreign exchange market (FEM) inflated the remaining 20% subsidy to nearly (100%) because of the decline value of naira via-a-vis the us dollar.

The federal ministries of information disclosed sometime in 1987 that government would save or gain more than #6 billion per annum in revenues if

petroleum products were correctly priced. He analyzed that the cost of producing one barrel of petrol was #110.79. It was sold locally for #35.48 and showed a loss of #75.79. It was the intention of government to stop this loss, but the percentage of subsidy removed will be such that people will suffer undue hardship. It was contended that the removal would generate additional revenue to the government. It would also conserve petroleum products for export and so earn additional foreign exchange.

More so, the heavy subsidy of petroleum products contributed to the lopsided development of the Nigeria energy system. It was also inferred that the extra #6 billion could be used to support the economy and provide social amenities.

Currently the objective of subsidizing, that is to aid the poor- stabilize prices, promote economic growth which have not been achieved rather NNPC resorted to massive importation of products to stem the scarcity. The short fall between the landed cost of imported products and their selling prices are also the subsidy claim by NNPC. This so called subsidy can be justified for now and until such a time that the power supply situation in the country improves to the extent that it enables the ordinary Nigerian to work hard enough to raise his income level to a level absorb future increase in petroleum products, and until

there is an acceptable level of infrastructural development to cushion the impact of increased cost of petroleum products.

It is self-evident that as at the year 2000 there is no subsidy removal or whatsoever on Petroleum products in Nigeria. Indeed, from current cost of refining at $10 per barrel sold to the NNPC refineries, the price of petrol (PMS) should be #15 per liter as against the pump price of #22 per liter. Thus the current price of PMS includes sufficient government task indicating that no subsidy exists on the current product prices.

More so, when the naira hopefully recovers its lost grounds, a new (reversed) twist may be given for the problem of petroleum subsidizes. It goes to show that whatever the action the government may take on petroleum between 2000 and the year 2003, it probably will not be the last word on the matter

1.1 BACKGROUND OF THE STUDY

Nigeria is one of the major sources of crude oil in the world. The importance of petroleum to Nigeria can only be appreciated when one realizes the dominant role it plays in our economy. Petroleum products and export is the main stay of the Nigerian economy providing almost 90% of our export earning locally petroleum products are used as major sources of energy for the industry.

Petroleum is an international commodity, which is highly politicized since variation is supply of the commodity has been known to cause ripples in the international commodity is evident for the cartel cliché that exist to bring about a measure of control in the supply price marketing of petroleum. Petroleum prices are based on the dollar currency.

It has been believed in the past that Nigeria stood ready and in fact subsidized petroleum products. This accounted for low prices of petroleum products. this accounted for low prices of petroleum products in Nigeria and comparative prices obtained in other countries their oil glut which had affected the Nigerian economy adversely has caused the country to reduce the subsidy on petroleum products. Of later Nigeria has sought assistance from world international financial institution.

The aid has required that the nation reduce or reduce or remove entirely subsidy on petroleum products before any assistance can materialized Thus, so that the country can earn more income to solve its debt problems.

The dollar removal of subsidy and thus, increase in local prices of petroleum products has generated a lot of attention lately. All this reduced us to delve into the study of the economies petroleum subsidies in Nigeria

1.2 STATEMENT OF THE RESEARCH PROBLEM

During the national debate on the international monetary fund (IMF) loan, in 1985, most Nigerians oppose to the withdrawal of the so-called government subsidy on petroleum products in Nigeria, which was part of the (IMF) conditionality's. But the military government rejected the loan; it went along in 1986 to remove 80% of the subsidy. While the economy was still battling with the inflationary consequences of this, the second-tier foreign exchange market (SFEM) was introduced.

In addition to refueling inflation, SFEM introduced other distortions in the economy. One of such distortion is the pricing of petroleum products in Nigeria. Therefore, the need to review the domestic price of petroleum products has become necessary for the following problems.

1.2.1 The domestic price of local products is well below what operates in other countries including our neighboring countries. This low price level, for petroleum products has tended to encourage the usage of products as amply demonstrated in the growth pattern, which is not explainable on the rate of industrial growth of the country. Furthermore, this price differential has encouraged active trafficking in products across our borders and shores. The

result is that government is subsidizing a much larger population in respect of petroleum products.

1.2.2. The creation of distortions in the consumption of petroleum product. Subsidy discourages consumers (especially the private sector of the economy) from being cost conscious.

1.2.3. The current level petroleum prices does not adequately account for the capital outlay and overhead incurred in manufacturing and distribution of petroleum product in Nigeria.

1.2.4. The early 80% subsidy withdrawal and the impact it has on the economy, plus the effect of oil glut on prices of petroleum product, coupled with inflation which has eroded the expectation of the government in relation to the generation of appropriate revenue.

1.3 THE OBJECTIVE OF THE STUDY

The research would however intend to investigate on the major effect of petroleum subsidy on consumption of petroleum product in Nigeria. However, it will be able to determine how "the reduction in the price of petroleum products via subsidy" can consequently lead to distortion on the consumption of petroleum product (wasteful consumption) in the economy, adulteration and smuggling of petroleum products and however, does not account adequately for

the capital outlay and cost overhead incurred in the production and distribution of petroleum in Nigeria could adversely harmfully affect the revenue generation, economic development and human growth of the economy.

Moreover, i will always attempt to make some necessary policy recommendation which will enable the Nigerian government to make necessary economic decision towards the impact of subsidy on petroleum to remove or allow.

1.4 THE RESEARCH QUESTIONS

The following research questions would serve as a guide to enable this project achieves its identical problems solution and objectives. Which depends mostly on the impact of petroleum subsidy on the petroleum production and consumption in Nigeria and what government should do in order to boost stability in the economy via petroleum consumption?

The questions are:

- Has Nigerian government given subsidy on petroleum before?
- What are the impacts of the subsidy on petroleum consumption?
- What are the necessary policy recommendations for economic stabilization via the effect of petroleum subsidy?

1.5 THE STATEMENT OF THE HYPOTHESIS

Based on the available information and data, this researcher will be able to test the following hypothesis whether to accept and or reject them. This gives the researcher the insight to make the decisions and policy recommendations using a common decisions rules and certain level of significance. It follows:-

1. Petroleum consumption on the average does not have a linear relationship with the gross domestic products for capital and petroleum subsidy. Mathematically:

Ho: b1=b2=0

2. Petroleum consumption has linear relationship with the gross domestic product per capital and the petroleum subsidy. Mathematically:

Ho: b1≠b2≠0

1.6 THE SIGNIFICANCE OF THE STUDY

This work on petroleum subsidy in Nigeria will go a long way to trying to exposed the problem associated with the petroleum subsidy maintenance and its removal in the economy.

Meanwhile government, private and individual household sectors are expected to benefit much from this work. The firm and the household sectors

that form the major consumers of petroleum products will be able to either or not to appreciate government intentions to remove the subsidy on petroleum products in Nigeria.

This work will as well go to show what actually constitute the petroleum subsidy in Nigeria. It will analyze the cost to the government if not removed and the welfare of the local consumers. It will also reveal to a greater extent what effect it has on the GDP of the economy, at its full sustenance, partly to be taken in the issue of petroleum subsidy in Nigeria.

1.7 THE SCOPE OF THE STUDY

Based on the work, references are to be made on the production of petroleum in Nigeria, with special touch on pricing policy and the marketing strategy of petroleum. There will be general overview on the concept of subsidy and cost analysis in the petroleum industry, major elements of and basic assumptions for, the calculation of crude oil and consumption.

There will be a general overview of cost-benefit analysis of petroleum subsidy in Nigeria, particularly, to what effects its withdrawal and sustenance will have on the economy, influence of structural adjustment programmed (SAP) on petroleum subsidy, SFEM and subsidy will be reviewed, the nature of the country without oil will be looked into.

CHAPTER TWO

LITERATURE REVIEW

THE THEORETICAL REVIEW OF THE IMPACT OF PETROLEUM SUBSIDY ON THE CONSUMPTION OF PETROLEUM PRODUCTS IN NIGERIA

Petroleum, a very versatile and flexible non-reproductive depleting natural (hydrocarbon) resources is a fundamental input into modern economic activity, providing about 50% of the world total energy demand. It is an oily, bitummous liquid consisting of a mixture of many substances namely the elements of carbon and hydrogen. It's also contains vary small amount of non-hydrocarbons at about 0.6% in weight namely, nitrogen and oxygen. It generally occurs at depts. below 1,500 meters. It is the major source of energy and today has become the bedrock of man progress and revenue generation for government. The use of petroleum raw materials ranges widely from the production of pharmaceuticals, fertilizers, fibers for the manufacture of textiles and numerous other products essential for human consumption, petroleum jelly for the body, and candle for lighting and bitumen for tarring roads are some of the many by-products of petroleum.

Petroleum subsidy however, is one of the most passionate and controversial issue of the Nigeria's petroleum industry. Irrespective of the technical economic, political aspect and implementation of policies, adhering to one pricing system or another would largely influence the ultimate pattern of cost and profit sharing of the two main parties concerned namely the producer and the consumers.

The concept of "subsidy" has been defined by various authors and also from various perspectives via producers, consumers and government angles. One of the such definitions is that subsidy is a payment to individuals or business by a government for which it receive no product or services in return (the McGraw-Hill dictionary of modern economics, 1973, 496-497)

It is also define as a payment made by government (or possible by private individuals) which forms a wedge between the price consumers pay and the cost incurred by the producers, such that price is less than the marginal cost (Pearce 1983:373).

Again, the encyclopedia Britannica defined subsidy (1981:753) as a "direct or indirect government payment, economic concessions or special privileges granted to private firms, households or other government units in other to promote public objectives"

Encyclopedia Americana defined subsidy as “a grant of money, property or some other forms of and which the donor effects no direct returns or payments”. In international affairs, subsidy may refer to a grant of money or other aids to one country by another to help it in prosecuting a war or in developing its military preparedness or its national economy.

Subsidies are part of the vehicles of public policy with the primary aim of altering the outcome likely under operation of the free market and which are seen as socially, politically and developmentally undesirable. Such payment can be made to producers or distributors in order to reduce the heavy cost of production on such investors and consequently price of goods and services to consumers. The reasons may be to maintain a particular service at a price that the public can readily afford, but cannot otherwise be profitably supplied at this price. In effect such payments have a number of objectives including a transfer from tax payers to producers or consumers of a particular good. For example, in order to raise income to influence the behavior of suppliers or demander via the mechanism of elasticity of supply or demand.

Therefore, subsidy on petroleum can rightly be seen as the difference between production cost of and the domestic price of the product reflecting on “implicit” rather than an “explicit” subsidy. This should also reflect the difference between the price of local petroleum to refineries and the domestic

price to consumers. Thus when local crude oil was produced at $2 (about N8.00 then) per barrel and sold to Nigeria petroleum corporation (NNPC) at even doubtful figure of $5.145 (about N20.58 in 1984) a profit of about 52.55%. One sees the non-existence of subsidy. Hence government as an explorer, under such situation should definitely have felt concerned about its image with respect to the economy for as a regulator of the national economy; it would not have permitted any one to get away with a profit margin of 52.55% over production cost.

In the most specific application of subsidy the term refers to royal subsidies in England before the accession of Charles II (1660). There were financial grants by the House of Commons to English monarchs to argument their income from taxes and aids that were collected under the royal prerogative. Such subsidies may take various forms including on outright grant of money, land or other properties tax reduction, tax or tariff exemption, a low interest loan, a government guarantee, payment of premium is excess of what would otherwise be warranted for preferring some services to the government such as carrying the mails.

The effects of a subsidy are in generally the opposites of the effect of a tax on transactions, in that a subsidy encourages transactions while tax restricts it. A business man will not stay in operation very long unless revenue is high

enough to cover the cost outlay plus a returns on equity and on managerial effect as large as could be earned in other pursuits. If revenue from buyers is insufficient a subsidy from an outside agency may keep the firm in operations. It does not matter in theory whether the subsidy is paid directly to the firm. If the subsidy goes to the buyers, then it raises the price the buyer is willing to bid for a specified good. Even if a firm does not operate to make profit, revenue from buyers plus subsidies from philanthropists or government must be sufficient to meet the cost outlays and to replace deteriorating structures and equipment.

A subsidy can affect both the equilibrium quantity and the price of translations of a specified good. The actual result depends on the forms of subsidy. On whether or not the firms behave competively and on the elasticity of supply or demand.

The principal form of subsidy is the flat grant and the matching grant. Flat grants are fixed sum of money that are not dependent upon an exact volume of production. This is most common in private charitable giving such a religious contributions. Other examples are government grant to university for research for student financial aid in meeting tuition.

Matching grants employ some formula relating the amount of subsidy to the amount of production or cost incurred. Allowance of various deductions from taxable income is an important type of matching subsidy for socially favored expenses.

Flats grant increases the quantity of a good produced under two conditions. In one case, the firm or activity may otherwise cease to exist. This case is relevant in grants for basic research which produce valuable information, but often with unenforceable group such that private market are not induced to produce these goods in the appropriate quantity, education, home ownership and energy producing inventions may be cited as candidates. Then a subsidy may be preferable to direct government production for several reasons.

1. There may be relatively less efficient management control in a bureaucratic agency than in a private corporation.
2. Government may not produce the full variety and quantity of the good desired by individuals'.
3. The price elasticity of demand for the goods may be greater than one in which case, the revenue to government is less than the private induced by the subsidy.

Moreover, theoretically the production of petroleum is the sole responsibility of the federal government. To this effect, the government

stands as the natural monopoly (as in Nigeria). Even when there are the existences of some private industries into petroleum production, they do there operation with the direction of the federal government.

However, it becomes inevitable for the government to act as the natural monopoly because of the operations of private firms, which are not basically on the interest of the public. This is to ensure those products are given out to the consumers at a price that is reasonable and not merely to exploit them in order to earn high profit. For this particular reason, government dictate to the marketers as regards their output policies, their pricing policies and their extent of exploration and explication to which they should involve themselves.

The reason for the government acting as the natural monopoly in petroleum production is due to the fact that the cost condition is sub-addictive technologically. Under the category of natural monopolies, petroleum products fall under these in commercial public good.

When the coordinating mechanism for providing a collective good involves the power of the state, it is here defined as a public good. "This definition is given by Meir (1977). This is within the impure goods. They are called impure because they are free from the "free rider" problems. Free rider problem means that there is no demand curve for the

good; it has no revealed reference, so there is no marginal revenue curve for the good since there is no demand curve. Government comes into its production for the welfare of the people in the economy.

AN EMPERICAL REVIEW OF PETROLEUM SUBSIDY ON THE CONSUMPTION OF PETROLEUM PRODUCTS IN NIGERIA

A subsidy by definition is any measure that keeps prices consumers pay a good or products below market levels for consumers or for products below market levels for consumers or for producers. Subsidies take different forms; these include grants, tax reduction and exemptions or price controls. Others affect prices or cost indirectly such as regulations that skew the market price in favor of a particular fuel, government sponsored technology or research and development (R&D) Alozie (2009).

According to Eyiuche (2012) the federal government operated fuel subsidy with the aim of making petroleum products available to cushion the effect of actual market prices of the product on the general populace. The federal government during the military era was of the opinion that the cost of production transportation of fuel will be so much a heavy burden for the poor masses of Nigerian to bear alone and therefore decided to pay part of the total

amount of fuel cost for every Nigerian in order to make the product available and affordable. This is actually what is referred to as fuel subsidy; that is the government paying part of the total amount of fuel cost. His intention of cushioning the effect of actual market price of fuel product actually worked for a period of time, say from 1973-1983. On March 31st 1986, Gen Ibrahim Babangida increased the pump price of petrol from 20k to #39.5k; this was about 97.5% increment. Sources have that issues worsened with the advent of the democracy. On June 1st, 2000 Chief Olusegun Obansanjo increased the pump price of the petrol from #20 to #30 (50% increment). Gradually the aim of the military government that introduced the fuel subsidy was subdued and defeated.

The federal government claim to have spent over #1.4 trillion on fuel subsidy in the past five years. It also claimed to be paying heavily to subsidize kerosene which is imported into the country through the Nigerian national petrol petroleum cooperation (NNPC), the fuel subsidy policy has also bred several unintended consequences and practices such as smuggling of petroleum products out of the country, the federal government also claimed that the fuel subsidy policy has made them unable to tackle problems of our collective infrastructure which are the roads, power, agriculture, fixing the refineries etc., Omoniyi (2012).

Onanya (2012) was of the opinion that gives the antecedents that most Nigerians have not benefited from fuel subsidy, several economists view subsidies as highly corrupt, wasteful and bled money from the treasury into the private pockets of the rich fuel importers. As a result of this obvious reality, the federal government on January 1st of 2012 dramatically announced the end of fuel subsidy. With the intention of using the money accrued from fuel subsidy to develop other sectors of the economy and also to ensure sustainable develop and wealth generation for the nation.

According to sun newspaper May 5, 2012, the idea of subsidizing petroleum products to Nigeria was born following the collapse of the nation's four refineries Kaduna, Port Harcourt and Warri, due to the negligence of its management to carry out a routine turn around maintenance (TAM). As the refineries collapsed, it created a short-fall in the system, as the supply of petroleum products could not march the demand by local consumers. Therefore the next option left for the government was a resort of importation through the NNPC, importation had become inevitable to curb the embarrassing scarcity of products and the alleged soaring high prices experienced in all nooks and crannies of the country. However it was not only the refineries that collapsed due to the alleged graft in the system, key infrastructure in the downstream end of the business also went down with the refineries. The various petroleum

products storage and distribution pipelines ferrying fuel from the refineries primarily from Lagos, Port Harcourt, and Warri to other part of the country had all aged, rotten, obsolete bursting and non-functional. Indeed, importation poses a serious economic challenge in the country, the challenge came in and government had to opt to ferry the products via trucks (rather than pipelines) to the various part of the country. The trucks had to be hired and the owners paid for. Another economic challenge was that imported products had more templates (importers had to approach banks for credit facilities, which came with huge interest rate, they had to hire and pay for vessels, pay port charges, duty to customs and other taxes), which normally shot up the landing cost of products, far above what would have been obtainable had the products been refined in the country.

HISTORICAL SYNOPSIS OF PRIOR ATTEMPTS TO WITHDRAW SUBSIDY

Oil exploration began in Nigeria as far back as 1908 when the German company, the Nigerian bitumen cooperation started exploration in the Araromic area of the present Ondo state. Their pioneering efforts however, ended with the outbreak of the First World War 1914.

The development of the petroleum (oil) industry in the country began in the first decade of this country began in the first decade of this century. It started with the exploration activities by the German bitumen corporation. 1937, an oil prospecting license was granted to shell D'Archy exploration parties. In 1955, Mobil exploration Nigerian incorporated obtained concession over the whole of the former northern region of the country. This company carried out some geological work, drilled three deep wells in the former western region and abandoned the concession in 1961.

However, the first commercial discovery of crude oil in Nigeria was in 1956 by shell. In 1956, the company started production; in 1961 the federal government of Nigeria issued ten oil prospecting licenses on the continental shelf to five companies. Each license covered an area of 2,560 square kilometers and was subject to the payment of #1m. With these generous concessions full-scale on-shore and off-shore oil exploration began.

Oil was found in commercial quantities at Oloibiri in the Niger delta. Further discoveries at Afam and Borna established the country as an oil producing nation. By April 1967, oil from Nigeria had reached 2 million barrel per day.

The first oil well on the Nigeria continental shelf was struck by the gulf oil company at the Okan field, off the coast of bendel state. More off shore Wells have been drilled by other companies (such as Elf, Mobil, Agip, Texaco Etc.) and production rate rise steeply year after year through the global oil glut of the 1980's stemmed the trend.

Nigeria's crude oil production stood at 2.25567 billion barrels per day in 1974 and fell to 1.389 billion barrels per day in 1984. Price per barrel also fell from about #40 in 1980/81 to bellow #10 in 1986. At 9 Nov 2012 NNPC group managing director said local crude oil production has reached all-time high of 2.7 million barrel per day (bpd).

It is also important to point out that because of the need to conserve foreign exchange, create job opportunities to some extent, in addition to other multiplier effects derivable from setting refineries locally, the federal government in 1962 awarded a contract for the construction of a refinery at Alsea Eleme Port Harcourt, rivers state. The refinery was commissioned in 1965 with an initial designed production capacity of 35,000 but was later increased to 60,000 bpd (barrel per day). This volume was considered sufficient to meet domestic consumption of production for many years to come.

However between 1970 and 1978, the nation experienced an upsurge in demand for petroleum products averaging a rarely increase of 23.4 percent. Thus in 1978, the Warri refinery was officially opened with a total capacity standing at 100,000 barrels per day. By 1979, Nigerian's refining capacity stored at 160,000. Continued demand pressures led to building of a third refinery at Kaduna in 1980 with initial capacity of 260,000bpd. A fourth refinery has been constructed near Port Harcourt.

The federal Government intends to use some of the end products from refineries as feedstock in its petrochemical projects which are being implemented in 6 phases at Ekpan, Warri and Kaduna. Liquefied Natural Gas (LNG) project is also being executed. The first commercial discovery of crude oil in Nigeria was 1956 but actual production started in 1958 during which production was 1,876,000 barrel and an export of 1,820,000 barrels. By 1989 production had hit 625,456,000 barrels while export stood at 525,869,000 barrels. (Courtesy of NNPC, Nigerian Oil Industry Statistic Bulletin 1983, CBN, Annual Report and Statement of Accounts, Various Years). Though Nigeria has been an oil producing and exporting developing country for sixty years approximately, the oil sector as the prime move of the economy becomes apparent in the 1970s due to the dramatic increase in oil prices and the rise in the Nation's proven oil reserves and production. The resulting dramatic increase

in oil earning made Nigeria to delude itself by confusing wealth with income hence the euphoria and the oil wealth syndrome.(Anyanwu1990)

Indeed, oil's absolute share in Nigeria's Gross domestic Product (GDP) has been on the increase, reaching ₦11, 330 million, out of a total GDP of ₦85, 820 million (13.20%). Currently the contribution of oil to the overall economy fell to 13.4% from 14.3% in the same quarter in 2011. Oil output rose to2.52 million barrels per day (bpd), from 2.38 million bpd in the second quarter of last year (2012). In terms of export earning, oil contributed ₦509.6 million (57.6%) out of a total of ₦885.6 million in 1970. Oil contribution rose to 55,016.8 million (94.90%) out of a total of 57,971.2 million in 1989.

It will be pertinent here to look at the production of petroleum products and their consumption locally, in reflection to crude oil production and exports in Nigeria as the year's interest 1980 to 1993. It is very clear that the domestic consumption is still below the total production even with the total exports. Also in the year from 1987 to 1991, there was an increase in domestic consumption of petroleum products.

There was no petroleum subsidy on petroleum pricing in Nigeria before 1973, when the oil companies determined the retail price. A subsidy of 33.7% was introduced in 1973 when the federal government fixed the retail price of

domestic oil consumption at $1.9 per-barrel. The subsidy increased at 83% by the 1974 following the 1973-74 oil pricing increase at the world market. This was due to the fact that domestic price of oil was not adjusted.

In 1974, the subsidy was reduced to only 2% following oil price reviews. Then, the price of crude oil to the domestic refinery was increased to $13.8 per barrel. In 1980, the subsidy rose to 65.5% following the like live in crude oil prices to $40 per barrel at the world market and accompanied by a review of the domestic price. In 1982, the then civilian administration increased the retail pump price or pms from 15.30kobo per liter to 20kobo per liter.

Thus by 1985 according to NNPC calculation using 1982 consumption level, the subsides of 4kobo per liter remained on pms, kerosene, Ago and crude oil respectively. Following Nigerian's request for an IMF loan of about 2.3 billion dollars (a three year extended facility) in 1983, removal of petroleum subsidy was one of the three major (and 14 minor) preconditions (alias conditionality's). Though Nigerians rejected the loan late in 1985 as a result of public resentment (through a national debate), but the 1986, federal Bridget adopted most of the IMF world bank- supported structural adjustment programs and the removal of petroleum subsidy was one of such measures.

In fact, in his 1986 Bridget speech to the nation, president Babangida commenced the withdrawal of petroleum subsidy to the turn of 80% hence crude oil, began to be sold to domestic refineries at ₦20.58 per barrel. But within a matter of days from the commencement of the 1986 fiscal year, the world oil market suffered serious collapse and to date, the average OPEC price for crude petroleum has been well below $20 per barrel.

Consequently, from January 1986, the situation in Nigeria changed from one of an implicit subsidy to that of an implicit tax on the domestic consumption of crude oil (Obi, 1986). In 1986, the price of gasoline and diesel where increased in 97.5 and 168.2% to 39.5 and 29.5kobo per liter respectively.

Again, in April 1988, further withdrawals were made by the NNPC causing mass student in 'protest'. The increase in the prices of petroleum product announced in April (effective in April 10 1988) ranged between 6.3% (from 39.5kobo to 24kobo per liter) for gasoline and 415.8% for petroleum waxes. The increase were based on NNPC's new pricing policy which was determined by the price of crude oil stipulated by OPEC, the exchange rate of the naira and bank interest rate as they affect the corporation business. The price review of the product was started as first step towards the realization of what the NNPC called 'the import parity of the product'. (CBN'88)

During his 1989 budget speech, president babangida announced a two-tire pricing system of gasoline purportedly designed to assist low income group committers and users of motorcycle as well as to reduce inflation. In effect, price of petroleum used by private, (non-commercial vehicle operators in the country were increased again from 42kobo to 60 kobo per liter respectively, a 43% increase) Private vehicles paid 60k per litre while commercial vehicles paid 42k. This differentiation was in an effort to cushion the effect on ordinary people by avoiding a multiplier effect on the transport sector which would directly affect those people. With the failure of the system later that year, the prices were harmonized at 70k per litre.

Table 2.1: Petroleum Products Price Movement in Nigeria

Year	PMS (petrol) ₦ /Litre	DPK (Household Kerosene) ₦ /Litre	HPFO (Aviation fuel oil) ₦ /Litre	LPG (Diesel) ₦ /Litre	LPFO (Fuel Oil) ₦ /Litre
1973	0.095	0.081	0.15	0.088	0.026
1975	0.1	0.081	0.18	0.1	0.026
1980	0.125	0.1	0.225	0.12	0.05
1983	0.15	0.1	0.3	0.15	0.1
1985	0.2	0.1	0.4	0.15	0.2
1988	0.42	0.1	0.8	0.3	0.3
1989	0.42	0.15	1.0	0.35	0.3
1990	0.6	0.4	1	0.5	0.4
1991	0.7	0.5	1.05	0.55	0.5

1992	0.7	0.5	1.05	0.6	0.55
1993	3.25	2.75	5	3	2.5
1994	11	6	7	9	7
1995	11	6	7	9	7
1996	11	6	7	9	7
1997	11	6	7	9	7
1998	11	6	7	9	7
1999	20	17	24.4	19	12.4
2000	22	17	30	21	12.4
2002	26	24	35	26	26
2003	26	26	24	85	28.5
2004	41	43	39	180	125
2005	69	48.5	64	210	180
2006	92	65	76	250	210

Source: Ayodele and Falokun (2007) 'The Nigerian Economy, Structure and Pattern of Development' pg 118.

There was relative stability in the price of petroleum products between 1988 and 1992. In May 1992, an attempt to hike the prices was jettisoned. However, in November 1993, the Interim National Government (ING) adjusted the price of petroleum products upward by over 600 percent. In protest, the NLC called a general strike. In the midst of the ensuing 'dialogue' between the state and the labour, the Interim National Government was replaced by a full-blown military regime under General Sani Abacha. The regime, in search of legitimacy,

reviewed the prices down, fixing the price of petrol at N3.25 and kerosene and gasoline at N2.75 per Litre respectively. A similar scenario was enacted a year later in 1994 when the NNPC purportedly hike the prices of petroleum products before government 'intervened' to reduce the prices to their current levels.

The president further announced new increases in petroleum prices in his 1989 budget and as amplified by the budget and planning minister, the new price pranged from 60kobo(from 42 kobo) for fuel and for LPG to 50kobo (from 35 kobo) for kerosene 40kobo(DPK). Hence the purported subsidy remaining ranges from 45% on LPG to 75% on fuel oil. The president told the nation that following the inevitable information of the pump-head price of petroleum, it became necessary to streamline the price of all the fire major petroleum products in the domestic market as well as to ensure there adequate supplies to the consumers. The budget and planning Minister Alhaji Abubakar gave the reason of maintaining 'price relativity'.

In 1986, the military administration of Gen. Ibrahim babangida declared that due to the devaluation of the Naira, the domestic price level of fuel had become unreasonably cheap and was therefore burdensome to the federal government purse. The price of petroleum products was thus raised from 23kobo per liter through a negotiation process, eventually settling at 70kobo per liter. Chief Ernest Shoneken, the brief successor to the babangida regime, cried

out in dismay at the physical state of affairs upon taken over. The price of fuel was identified as one of the primary budgetary burdens based on the fact that the currency had further been acutely deva lid. In 1993, the price of gasoline (petrol) was therefore increased to N5 per liter based on the NNPC annual statistics; the federal government gave the level of subsidy in1989 as gas 75%, petrol 69%, kerosene 77%, diesel 70% and fuel oil 74%.

Unfortunately, the expected of further increase in prices have been created in the mind of Nigerians and sellers are allowed to exploit such increases for profiteers. Also as the controversially rages, comparative figures of petroleum price in Nigeria and its neighbors were given to buttress arguments for price hikes. For example, in 1987, we were told that while gasoline, diesel oil and household kerosene cost 39.5, 27.5 and 10.5 kobo respectively in Nigeria, the same products cost 236, 125 and 115kobo respectively in Niger, 380,380 and 320 kobo respectively in Benin. A comparative analysis was also made of prices in some oil producing and exporting countries in Africa.

Unfortunately, such figures do not give a correct picture of the countries concerned. Most Nigerian neighboring countries hardly have crude oil in abundance in Nigeria. In fact they all import to satisfy their petroleum needs.

For Nigerians, most indices and others have even worsened over the year. For instance, the inflation rate has increased from 16.2%. In 1987 to 38.3% and 47.5% in 1988 and 1989 respectively. Indeed, there is nowhere in the world where domestic price and fixed in accordance with international prices. Most especially when the later are highly volatile. As it is OPEC prices are on the downward trend and where it hits the rock bottom of about $10 per barrel as expected in 1986. Do we then reduce our domestic price of petroleum products?

Conversely, as recorded in the guidance business week February 28, 1993, there was overwhelming fear before the presentation of the year budget on the fact of subsidy on oil. The government could not keep to itself the much pressure it had from the western world and its external agencies on the urgent need for the country to do away with subsidy on oil in spite of assurance from the presidency that the oil subsidy will stay, peoples still apprehensive especially as the backdrop of the view expressed by the British secretary of for states overseas developments.

Baroness Lyda walker, who was in the country few days before the presentation of this year's budget. In the budget, the speech read by the chairman of the traditional council, the subsidy on the oil stays but that is for a short while. Then from the tone of the chairman, there is little doubt that government has taken a decision on this removal. What seems to be holding a

definite pronouncement on the so-called enlightnment programmes. The government plans to carryout and more importantly the phase of these withdrawals.

Shortly after GEN. Abacha grabbed power from the tethering administration of the Ernest Shoneken, he would reduce of petroleum products slightly to gain public support. With gasoline (petrol) now priced at N3.25 kobo/liter, fuel price adjustments had become a tool in the hands of the government for manipulating the support and mood of the people. Just over a year later in 1994, the government announced a sharp increase in the price of petroleum products. PMS (petrol) would now cost a fearsome N11 per liter which is double of what it was in 1993 before Abacha's regime (N5 per liter). Upon the death of abacha and the ascension of General Abdu salami, the price was once again reviewed and increased to N25 per liter. An outcry by the public and resistance from the labour congress forced the administration to reduce the price to N20/liter in January of 1999.

Subsidy on oil, government rationalizes not in the best interest of the nation; besides denying the vital income for development purpose across our border call for much concern, thus if subsidy on oil is removed, we stand to gain about N63billion which could be invested in productive venting . As it

stands now we are giving out petroleum products to our neighboring countries almost free.

This is looking at it from one perspective, but it does not end here. A lot of people have wondered around if there is actually subsidy on oil. If there is how is it? On the activities of smugglers, many have asked if our borders are meant to be wide open for all manner of people and transactions regulated. Who is supposed to be In charge of security at our borders? There are more questions to be raised on this.

Before we know if there is subsidy on oil and how much is involved, we need to work out the cost of production, how much oil men are paid, the royalty oil companies' pay, how much they spend for environmental cleaning and other social services. It is not enough to use the price of oil in international market to cost what we produced and consume locally. It is so unfortunate that we have so bastardize our naira that whatever transaction we do exception wages any way is computed in dollar, when the exchange rate was N1 to $1. Nobody talked about subsidy on oil. Why are we bordered with that now that over naira has been battered by no fault of ours?

The movement of petroleum products across our borders is the least convincing reason to give for this one begins to wonder while the custom and

immigration department should not be reminded to their work, assuming they have forgotten. We only hear sporadically of the apprehension of the smugglers, what happens to then afterwards is nobody's business. It is to be noted that appropriate authorities charged with the responsibilities at our border post have not failed the nation only in the area (petroleum products), but there seems to the emphasis on petroleum because the government is desirous to score cheap point, this is unfortunate.

It is a big irony that the pressure on us to remove subsidy on oil is more from the countries that they well entrenched welfare programes citizenry. In Europe, we know that beside subsidy on education that there are such welfare programes as unemployment and old age allowance if so significant that most youths prefer to live on that. In America there are chains of welfare service on education, health, including subsidy on agricultural products. Go make the price of grains and wheat's competitive in the international markets, the American's have gone even to the extent of buying large quantity of this over for consignment in the ocean. One of the wonders why these same countries that so much love their people's welfare want our own government to suffocate us with an unpopular policy.

The arguements that the amount realizes from the removal will be used for productive purpose and provision of infrastructural facilities does not appeal

to anyone. These have been such entropian ideal that have either not seen the light of the day or crashed at implementation stage. In this live, one will look one will ask what has happened to the man's transit programmes? How has that solved our erratic transport system problem? What of the investment wheat production? Has the government not responded to the public entry on cost of wheat products by lifting barn on importation through temporality? These are other examples of purposetedly noble projects that will either still born or half harzardly implemented. Many of such programmes have become, avenue to enrich some individuals that have assets to government with the unenviable records, nobody is carried away by all talk about investment money realized from removal of fuel subsidy judiciously. If for any thing, the subsidy (i.e. if there is any) is the most effective way to ensure that the national net wealth gross round. Transport system which will be the first victim of the proposed removal affects everybody either in his social or economic activities.

The international financial institution should be more patient with us. In responds their building almost all the vital government concerns have either been privatized or commercialized. These means a corresponding increase in the cost of service they render. These in thus handling anything now that is at reach of his common man. If subsidy on oil is removed our lots will be worsened just as it was last year 2012. This explains why a lot of conation

needs to be exercised in this adventure. If it is due, its social consequences may outweigh whatever economic return is expected from it. If we must refer to the international market in fixing the price of one oil for locally consumption then, we should do the same by fixing the wages of our workers.

Talking about the argument for the petroleum subsidy removal, one of the most important arguments (through less emphasized by NNPC) is that removal of the so-called subsidy on petroleum is the easiest way to bail out a cash-trapped federal government, it is estimated that the government would reap about N180billion yearly starting from 2012 once the removed was withdrawn. The extra revenue from the international markets, rising public debt, uncompleted projects and fall in non-oil receipts.

The second reason for the price increase is to check or stop illegal bunkering. In most case, Nigeria many officials deny the existence of illegal bartering they know of, there is fear that Nigeria does not have control over the activities of the mother vessels which usually fuel fishing travelling and other vessels in the open sea. The mother vessels get their petroleum products to a cheaper rate, but Nigeria hardly has any control over them or how they dispose of the products once they leave the nation's shores and get to the open sea. The logic this is that if "subsidy" is removed prices of the products would become highly competitive with what is obtained elsewhere in the world. (Akinrinde).

The third argument for the oil price increase is to check or stop the smuggling of petroleum products into neighboring countries. In 1987, the NNPC stated that truck load of petroleum (of 30,000 liters) bought at N9,885 in Nigeria and sold for example, in one of the countries to the north of Nigeria and sold for example, in one of the countries to the north of Nigeria would fetch between N90,000.00 and 114,400.00. The corporation also surmised that the smuggling activities contributed to locally scarcity of such products hence if prices increase, it would become less profitable to smuggle and scarcity would be reduced.

The major argument is that subsidies create distortion in the consumption of petroleum products, i.e. subsidies discourage consumers from being cost conscious. In other words, the government's intention is to crab waste and probably increase the average daily consumption of 290,000 to 300,000 barrels. Some people, even go to the extent of arguing that subsidy removal will lead to reduction in domestic consumption of these products and conserve surplus for export and hence boost Nigerian foreign exchange earnings. But this is a naïve argument for it is a reflection of ignorance of the economist of Nigeria's membership of OPEC and quota allocation.

Another plank of the campaign is adulteration of kerosene and other petroleum products which has become an innovative business but which is very

dangerous to households and car owners became of explosive that may result from such mixtures and the consequent enquiries knocks.

However, both adulteration and smuggling give an indication of the federal government to police Nigerian borders and NNPC inspectorate division's inability to monitor the oil sector effectively.

However, on a more general level of argument against petroleum price like include consequent rise in transportation will be suffering for the illegal act of a few (through smuggling, bribery and adulteration) coupled with no too effective law enforcement agents. Social deterioration, tendency forward, misdirected public expenditure and consequent structural distortion in the economy.

What happens in reality followed there general lines of argument. First, at each period of price increases transportation fare escalated and in some cases by more than 10%. These had spill-over effects on other sectors of the economy, inducing significant increase in the general consumer goods. For example, the CBN January 1989, reports had if that the consumer price index of fuel and light rose by 20.6% and 27.7% respectively over its level of the corresponding period of 1988. Same is true as the commodities as reflected in the inflation rate of 38.3% in 1988 and 47.5% in 1989. The rising cost of living

has lowered living standard, increased suffering of commuter while hunger and starvation is the order of the day. Without adequate food to eat in the period of naira squeeze and non-rising wage death becomes rampant.

In most cases, long run saving and investment climate becomes bleak while national income (growth) falls, eventually, the unemployment problem which we are making serious efforts to reduce the aggravating and further complicating the tax of economic management.

Petroleum price increase have also called to question the social justice stance of the government since such price like has resulted in huge profits for transporters and distributors at the expense of committers and consumers whose income rather than price falls in real terms.

The petroleum price increase also resulted in mass distract of human capital and property. Indeed, following the April 1988 oil price increase, students in Nigeria tertiary institution protested. Consequently open which the police unleashed fire on them then resulting to a substantial loss of life and property. The frequent and brutal police killing of students and honest citizens during such protest constitute loss of human capital in the form of potentiality high skilled labor. Apart from the loss and gives the parents, this help to set us

backwards technologically apart from the retarding economic growth and human development (Anyanwu 1986)

The assumption of most of the petroleum products fell during each of the price increase. For instance, during the first half of 1989, the consumption of liquefied petroleum gas declined by 4.7% aviation turbine kerosene by 33.3%, automobile gas oil (diesel) by 7.8% and low pair fuel oil by 23.3%. The fall in the assumption of diesel for example reflected in the reflect in the reduction of transportation services in major towns and cities despite government intervention through mass root transit programes (CBN 1989).

Product cost rose in both private and public sector of the economy. Apart from the inflationary effect, it worsened the unemployment situation as most small scale firms went down. Rise in production cost was also reflected in the fall in industrial capacity utilization from the average of 40.7%. In 1988 to 30% in 1989.

The other is the deleterious impact on fauna and flora due to the hike in kerosene price in particular, there had been a tremendous and mass switch from kerosene usage as a source of cooking light energy to the use of fire wood, lands will undermine the economic and environmental health of the country. Indeed, the ecological consequences entail read economic and social cost too.

The lot of rural villagers are been worsened while the national economy is being undermined. Plant and animal species extinguished and the earth's climate destabilized (Anyanwu 1990).

As democracy was ushered in the then newly "rebranded" Ex-president-General (rtd) Olusegun Obansanjo, soon found enough reason to want to remove the subsidy on oil product price. Obansanjo was the president who increased and inflated the price of petroleum products three times within a period of 8 years. Alongside some other economic indices, this action would bring about a hyperinflationary trend that remains unsolved even today. Phrases such as "subsidy removal" eliminate waste to free government funds and encourage foreign and local investment in upstream sector were thrown around with reckless abandon.

In the space of 8 years, the price of petrol went from N20k to N30k in 1999 but it was reduced to N22k because of public resistance in 2000. In 2002 prices went to N26k however, in 2003 it was increased to N40k but reviewed back to N34k because of another stiff resistance from the public. In 2006 however, the price was revised up to N40k again and finally as a party gift in 2007, the reprobate president would first a criminal and sudden increase to N75/ liter on the citizens. For his part, the feeble and morbid president Yar'adua who

succeeded Obansanjo, showed some compassion and reduced the official price of petrol to N65/liter.

After a mere 18 months in Aso rock, the incumbent president, Good luck Ebele Jonathan declared that the federal government of Nigeria could no longer afford to keep paying for the subsidy of oil products (by the stage diesel had already been surreptitiously deregulated). It was disclosed that the FGN was expanding an inordinate amount of money, a sum that totaled of whopping N1.3 trillion for the fiscal year of 2010. The president further alleged that the status grid and current arrangement was a painful and debilitating burden on the federal and thus is unsustainable. He further iterated that the FGN had made a decision to do away with all subsidy and deregulate the domestic petroleum product market – hence opening fuel supply and price up to capitalistic endeavor and free market forces. (Deja vu).

In 2010, Nigerian domestic market consumed approximately 280,000 Bpd according to official NNPC figures. Under the current dispensation, upwards of 92% of Nigeria's domestic demand for unfinished petroleum products is imported by independent marketers through the implementation of contract and license based arrangement with NNPC. The handpicked importers are allocated a proportion of the domestic demand which is expressed in weight/volume, upon which the allowed quantity of petroleum products is

imported to the nation. The difference in the cost accrued for importation for comparison to the official domestic price of N65/liter (PMS), along with an agreed profit out-called a reimbursement, these essentially is what is being referred today as subsidy.

According to information derived from the website of petroleum products pricing regulatory agency (PPPRA), the agency charged with the control and regulation of domestic fuel consumption, petroleum pricing templates are been used- a formatted and standardized formula for calculating the final landed cost of petroleum products. It is indicated that as of July 2011 the landed cost of petrol (PMS) was calculated to be N142.40/liter. This suggest that N77.40 will have to be subsidized by the FGN in other to sell that fuel for N65/liter. A closer study of the underlying component of the cost reveal that depot related cost are separately charged to federal government account, which amount to almost N50/liter. This fuzzy charge is said to be the cost of port demurrage alone without adding the landed cost of the imported fuel. In essence, the actual and total cost of a liter of PMS fuel to the FGN was a whopping N191.91/liter.

In 2006, Nigeria spent N261.1 billion (us $2.03 billion) on fuel subsidy. In 2007, the figure rose to N278.9 billion (us $2.3 billion). By 2008 the amount expended nearly tripled to N633.2 billion (us $5.37 billion). The drastic increase in the cost was partly attributed to the depreciation of currency and the

very high global price of oil products. However, there was also the incessant issue of massive graft and fraud which was opportune by the unfortunate and sordid chain of events that led up to the death of the former president. Once this procedure has been set in 2008, the stage was primed for inordinate as for annual increase in the cost to the FGN that would eventually culminate in the whopping cost estimate for the fiscal year 2011.

Conclusively, whatever is the diversified view of people about the withdrawal or maintenance of the petroleum subsidy, it is necessary to say that the major yardstick for measuring the impact of any government on the populace is how well its policies translate into the socio-economic well-being of the people.

A government would have failed it at the end of the day that the citizenry cannot determine its success in terms of how its economic policies have been able to enhance their standard of living. It is reasonable to expect Nigerians to enjoy price leverage on a resources God had blessed their land with or they have due to natural factor endowment. This is why Japanese and German cars are cheap in those countries than Nigeria. It becomes ironical than that Nigeria's should pay the same price or even higher than other countries for a commodity they are abundantly blessed with. We cannot afford to toil further with this welfare gain to Nigerian masses.

CHAPTER THREE

3.1 INTRODUCTION:

This chapter discusses the method adopted in carrying out this research project to a logical conclusion data, method of data analysis and model specification. The source of data or information's required for these analyses are obtained. However, on the other hand, method of data analysis discusses the way by which the data also collected from its various sources are analyzed. And more so, model forms info econometric model.

3.2 SOURCE OF DATA

Prior of the nature of the problem to be investigated and the tedious nature of the topic in question it becomes very difficult to gather fresh information through primary sources.

Library researches were carried out extensively in order to have valuable books, magazine and other related topics. The following libraries were mainly used during the course of the work:

- National library Owerri
- Imo state university library

- Anambra state library
- Caritas university reference library

They formed our secondary sources of data since we were not present when this date or information was collected. This data so collected helped in our literature review and in our subsequent data analysis.

3.3 METHOD OF DATA ANALYSIS

Some statistical method of data analysis has been chosen to enhance the interpretation and analysis of the data collected during our investigation. The null hypothesis with a normally distribute samples.

The hypothesis so formulated will either be confirmed and or reject at 5% level of significance. The relationship between subsidy on petroleum, consumption of petroleum products in Nigeria and the gross domestic products GDP per capital will be estimated using "linear regression model via ordinary least square method".

Regression analysis measures the nature of the relationship between the dependent variable and the explanatory variables.

For accuracy, computer is used for the regression analysis and the presentation interpretation and analysis follows in the subsequent chapter.

3.4 MODEL SPECIFICATION

The linear regression equation is given by the economic model:

$$Y=b0+ b1x1 + b2x2$$

To introduce an economically model we add U. Thus we have

$$Y=b0 + b1x1 + b2x2 + U$$

Where:

U is called the stochastic variable representing all the omitted economic variables not appeared or captured in the analysis.

Y = the consumption of petroleum products

X1= the petroleum subsidy

X2= the gross domestic product per capital income

b0= the intercept parameter

b1= the coefficient of the petroleum subsidy

b2= the coefficient of the GDP\per capital

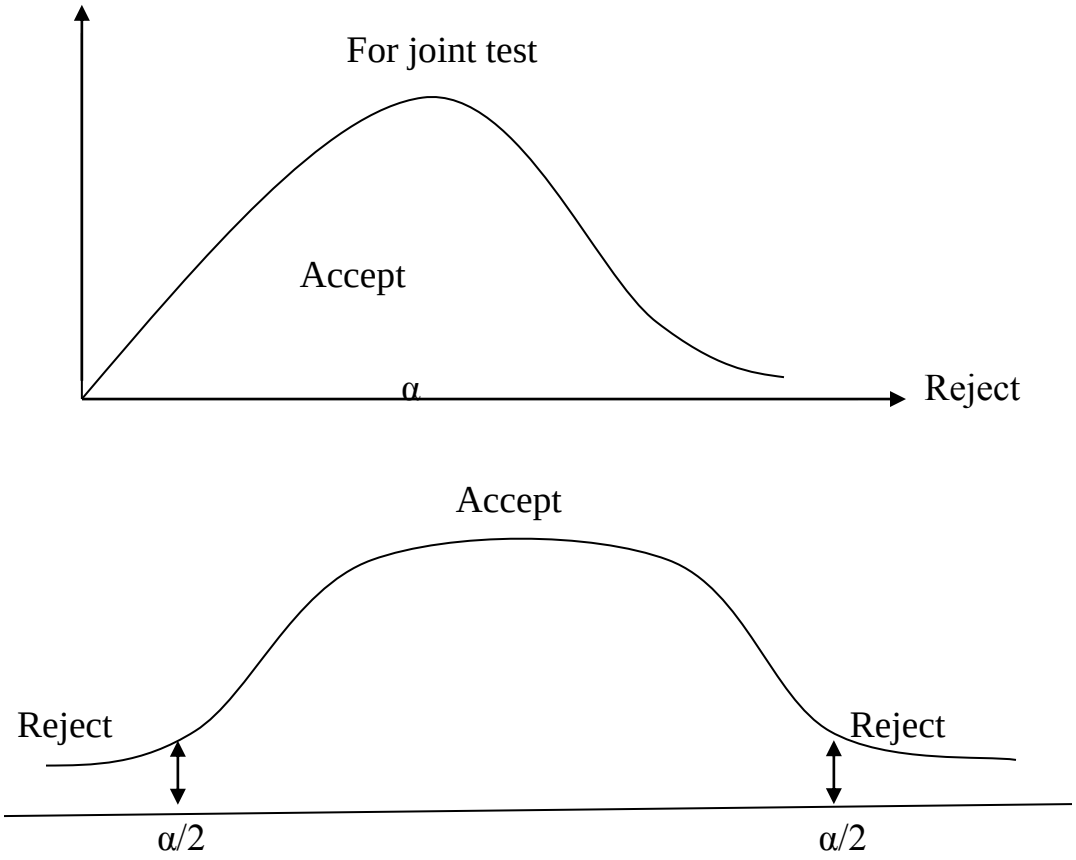
Therefore in b0, b1 and b2 in the model will represent the parameter to be estimated and which its estimates can be estimated and which its estimates can be used to interpret the economic consumption of petroleum products given a certain level of subsidy and decision or policy makeup.

However, the null hypothesis will be accepted if the following criteria hold

- if the F-table is greater than the F-calculated
- if the T-table is greater than the T-calculated

In this case we conclude that the parameters are statistically insignificant.

Otherwise we reject the null hypothesis. These criteria can be shown graphically



3.5 **ECONOMIC APRIOR TEST**

As regards economic theory, economic test will be used to determine the impact of each explanatory variable. In the explained variable based on their economic aprior expectation .In other words, the signs of the coefficient would be compared with aprior expectation. It would be preferred if there are similarities.

VARIABLES	EXPECTED SIGNS
Petroleum subsidy	+
Consumer price index	+

3.6 **EVALUATION OF MODEL**

Statistical and econometric tools are used as evaluation technique, these include: standard error, T-test, R-squared and durbin Watson statistics, error correction modeling, Jacque bera test.

- **COEFFICIENT OF DETERMINATION (R^2):**

The coefficient of determination explains the total variation in the dependent variable (exchange rate) caused by variation in the explanatory variables included in the mode. The closer the R is to 1, the better goodness of fit, whereas the closer the R^2 to 0, the worse the goodness of fit.

- **STANDARD OF ERROR:**

It is used to test the statistical significance of the parametric estimates, whether they are significantly different from zero. The rule of thumb guiding standard error is that for statistical significance to be ascertained the standard error of the parameter estimate must be less than

half of the parameter estimate. When this happens we are to accept the alternative hypothesis and respect the null hypothesis vice versa.

- **T-test:**

The t-test is used to test the statistical significance of the estimated parameter at a certain level of significance usually 5% or 1%.The rule of thumb guiding the t-test status that for the statistical significance to be established, the t-calculated must be greater than the t-estimated or the theoretical value at 5% or 1% level of significance. When the t-statistics is greater than the critical value, we are to accept the alternative hypothesis an also if the critical value is greater than t-statistic we are to accept the null hypothesis.

3.7 EVALUATION BASED ONECONOMETRIC CRITERIA

- **TEST FOR AUTO-CORRELATION:**

This is to test whether the errors corresponding to different observation are uncorrelated. The test will adopt the Durbin-Watson statistical because of the presence of caged dependent variable as are of regressions, when indicates that the model is an autoregressive model (Gujaratti 2014).

- **TEST FOR NORMALITY:**

  This test is conducted to find out if the error terms are normally distributed with the zero mean and constant variable. The Jacque bera test will be used for the normality in the time series variable used.

- **TEST FOR HETEROSCADASTICITY:**

  This test would be conducted to ascertain whether the error term (u) in the regression model have a common or constant variance. The white heteroscadasticity (with no cross term) will be adopted.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULT

4.1 Presentation and Interpretation of Result:

Dependent variable: Petroleum Consumption.

Method: Ordinary Least Square.

Period of study: 1961 – 2008

Included Observations: 48

Variable	Coefficient	Standard error	t-statistics	t-prob.	{95% Interval}	Confidence
Constant	4390.91	2741.357	1.60	0.116	-1130.467	9912.287
CPI	55.03795	41.67938	1.32	0.193	-28.90863	138.9845
PETSUB	22064.52	3378.79	6.53	0.000	15259.29	28869.75

$R^2 = 0.5607$ F{2, 45} = 28.72{0.0000} Prob > F = 0.0000

DW = 0.4886518 Root MSE =9496.3 for 3 variables and 48 observations.

Therefore where

PETCON=Petroleum Consumption

CPI=Consumer Price Index

PETSUB=Petroleum Subsidy

From the above, the interpretation of the result as regard the coefficient of various regressors' is stated as follows:

PETCON=4390.91+55.03795CPI+22064.52PETSUB

When there is subsidy the dummy variable is 1, when there is no subsidy the variable is 0

PETSUB=0

PETCON=4390.91+55.03795CPI+22064.52(0)

PETCON=4390.91+55.03795CPI

PETSUB=1

PETCON=4390.91+55.03795CPI+22064.52(1)

PETCON=4390.91+55.03795CPI+22064.52

The value of the intercept which is 4390.91 shows that the Nigerian economy will experience 4390.91 units petroleum consumptions when all other variables are held constant.

There is a difference in petroleum consumption between when there is subsidy and when there is no subsidy. The consumption of petroleum when there is no subsidy is,

PETCON=4390.91+55.03795CPI.

When there is subsidy the value of the petroleum consumption is,

PETCON=4390.91+55.03795CPI+22064.52

There is an increase in the petroleum consumption when there is subsidy in petroleum by 22064.52 in the economy. This shows that when there was no subsidy the consumption of petroleum is less by the value of 22064.52.

The estimate coefficients which are 55.03795 {CPI} shows that a unit changes in CONSUMER PRICE INDEX will cause a 55.03795 unit increase in Petroleum Consumptions (PETCONS).

4.2 **Economic Apriori Criteria**:

The test is aimed at determining whether the signs and sizes of the results are in line with what economic theory postulates. Thus, economic theory tells us that the coefficients are positively related to the dependent variable, if an increase in any of the explanatory variables leads to a decrease in the dependent variable.

Therefore, the variable under consideration and their parameter exhibition of aprior signs have been summarized in the table below.

This table will be guarded by these criteria

When $\beta > 0$ = conform.

When $\beta < 0$ = not conform.

Variables	Expected signs	Estimate	Remark
CPI	+	$\beta > 0$	Conform
PETSUB	+	$\beta > 0$	Conform

From the above table, it is observed that all the variables conform to the economic theories.

A positive relationship which exists between CPI, PETSUB and PETCONS indicates that an increase in CPI and PETSUB will result in a positive change in the Growth Rate of Petroleum Consumption (PETCONS). This conforms to the priori criteria because an increased or high CPI and PETSUB over the years will increase Inflation in the economy.

4.3 **Statistical Criteria {first order test}**

4.3.1. **Coefficient of Multiple Determinants {R^2}:**

The R^2 {R-Squared} which measures the overall goodness of fit of the entire regression, shows the value as 0.5607 = 56.07% approximately 56%. This

indicates that the independent variables accounts for about 56% of the variation in the dependent variable.

4.3.2. **The Student's T-test:**

The test is carried out, to check for the individual significance of the variables. Statistically, the t-statistics of the variables under consideration is interpreted based on the following statement of hypothesis.

H_0: The individual parameters are not significant.

H_1: The individual parameters are significant.

Decision Rule:

If t-calculated > t-tabulated, we reject the null hypothesis $\{H_0\}$ and accept the alternative hypothesis $\{H_1\}$, and if otherwise, we select the null hypothesis $\{H_0\}$ and reject the alternative hypothesis $\{H_1\}$.

Level of significance = α at 5% =

$$= 0.025$$

Degree of freedom: n-k

Where n: sample size.

K: Number of parameter.

The t-test is summarized in the table below:

Variables {t-value}	t-tab	Remark
CPI {1.32}	± 2.000	Insignificant
PETSUB {6.53}	± 2.000	Significant

The t-statistics is used to test for individual significance of the estimated parameters {β_1, and β_2}.

From the table above, we can deduce that PETSUB {6.53} is greater than ±2.000, which represents the t-tabulated implying, that PETSUB is statistically significant.

On the other hand, the intercept {1.60}, CPI {1.32} is less than the t-tabulated {±2.000} signifying that Intercept and CPI is statistically insignificant.

4.3.3. **F-Statistics:**

The F-statistics is used to test for simultaneous significance of all the estimated parameters.

The hypothesis is stated;

H_0: $\beta_1 = \beta_2$

H_1: $\beta_1 \neq \beta_2$

Level of significance: α at 5%

Degree of freedom: $V_1 = k-1$ $V_2 = N-K$ d/f

Decision Rule:

If the f-calculated is greater than the f-tabulated {f-cal > f-tab} reject the null hypothesis {H_0} that the overall estimate is not significant and conclude that the overall estimate is statistically significant.

From the result, f-calculated {28.72} is greater that the f-tabulated {3.15}, that is, f-cal > f-tab. Hence, we reject the null hypothesis {H_0} that the entire coefficient jointly do not have effect on the dependent variable which implies that our independent variables are simultaneously significant.

4.4 **Econometrics Criteria.**

4.4.1. **Test for Autocorrelation:**

One of the underlying assumptions of the ordinary least regression is that the succession values of the random variables are temporarily independent. In the context of the series analysis, this means that an error {Ut} is not correlated with one or more of previous errors {U_{t-1}}. The problem is usually dictated with Durbin-Watson {DW} statistics.

The durbin-watson's test compares the empirical d* and du in d-u tables to their transforms {4-d_L} and {4-d_U}.

Decision Rule:

- If d* < D_L, then we reject the null hypothesis of no correlation and accept that there is positive autocorrelation of first order.
- If d* > {4-d_L}, we reject the null hypothesis and accept that there is negative autocorrelation of the first order.
- If d_U< d* < {4-d_U}, we accept the null hypothesis of no autocorrelation.
- If d_L < d* < d_U or if {4-d_U} < {4-d_L}, that test is inconclusive.

Where: d_L = Lower limit

D_U = Upper limit

D* = Durbin Watson.

From our regression result, we have;

D* = 0.4886518

D_L = 1.462

D_U = 1.628

$4\text{-}d_L = 2.538$

$4\text{-}d_U = 2.372$

Conclusion:

Since If d* {0.4886518} < D_L {1.462}, then we reject the null hypothesis of no correlation and accept that there is positive autocorrelation of first order.

4.4.2. **Normality Test for Residual:**

The Jarque-Bera test for normality is an asymptotic, or large-sample, test. It is also based on the ordinary least square residuals. This test first computes the skewness and kurtosis measures of the ordinary least square residuals and uses the chi-square distribution {Gujarati, 2004}.

The hypothesis is:

H_0 : $X_1 = 0$ normally distributed.

H_1 : $X_1 \neq 0$ not normally distributed.

At 5% significance level with 2 degree of freedom.

JB = + = 2.11

While critical JB > $\{X^2_{\{2\}}df\}$ = 5.99147

Conclusion:

Since 2.11 < 5.99147 at 5% level of significance, we accept the null hypothesis and conclude that the error term follow a normal distribution.

4.4.3. **Test for Heteroscedasticity:**

Heteroscedasticity has never been a reason to throw out an otherwise good model, but it should not be ignored either {Mankiw Na, 1990}.

This test is carried out using White's general heteroscedasticity test {with cross terms}. The test asymptotically follows a chi-square distribution with degree of freedom equal to the number of regressors {excluding the constant term}. The auxiliary model can be stated thus:

$$Ut = \beta_0 + \beta_1 CPI + \beta_2 PETSUB + \beta_3 CPI^2 + \beta_4 PETSUB^2 + Vi.$$

Where Vi = pure noise error.

This model is run and an auxiliary R^2 from it is obtained.

The hypothesis to the test is stated thus;

H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ {Homoscedasticity}

H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 = 0$ {Heteroscedasticity}.

Note: the sample size {n} multiplies by the R^2 obtained from the auxiliary regression asymptotically follows the chi-square distribution with degree of freedom equal to the number of regressors {excluding constant term} in the auxiliary regression.

Decision Rule:

Reject the null hypothesis if $X^2_{cal} > X^2$ at 5% level of significance. If otherwise, accept the null hypothesis. From the obtained results, $X^2_{cal} = 12.80 > X^2\ 0.05\ \{4\} = 9.49$ we therefore accept the alternative hypothesis of heteroscedasticity showing that the error terms do not have a constant variance and reject the null hypothesis showing that the error terms have a constant variance.

CHAPTER FIVE

SUMMARRY OF FINDINGS, POLICY RECOMMENDATION AND CONCLUSION

5.1 SUMMARRY OF FINDING

In the course of the project, it was noticed that Nigeria was initially exporting all crude oil to overseas for refining and later reimported into the country. It was also noticed that the capacity of the four refineries at present is yet to attain full capacity in the production of petroleum products in the country. To this effects, the country still import petroleum products to enhance economic activities in the country.

However it is clear from the findings of the study that there is more consumption of petroleum product with subsidy than without.

The research also revealed that subsidy in Nigeria's petroleum industry is as a result of the comparison between the international price of crude oil and the local price of the crude oil to the various oil companies. The problem is mostly aggravated by the exchange rate parity, brought about by SAP in operation.

The extent of explicit and implicit petroleum subsidies were revealed and it is found that what actually exist in Nigeria is the implicit subsidy and not

explicit. This has the bearing that the little of the total crude oil production is used here in the production of petroleum products and the government price are not far below the cost of production.

5.2 **POLICY RECOMMENDATION**

Recommendation on how to reduce the adverse effect of petroleum subsidy removal and how to diversify the economy has gained audience in recent times. Most writers have either concentrated on elaboration of the corrective measures that are already known or have suggested some other measures that are recent in origin.

From the above analysis one simply sees that on the average petroleum price increases are an ill-wind that blows on any one good. It had been embarked upon to satisfy the whims and caprice of the western capitalists. It is therefore important that we should not allow the neocolonialist to push us from frying pan to fire.

Indeed as acknowledge by the NNPC in a recent seminar, there is nothing bad about subsidy. Ironically in most developed countries there is one form of subsidy or the other. For example in the United States, farmers are heavily subsidized and are often paid to produce, so for European governments. How can it be different in a country where human suffering has been worsening and

ranked nineteenth from the bottom in the human suffering level report on 130 countries? Further action therefore calls for greater improvement and imaginative policy

The so called subsidies to the petroleum sector should attract strings relating to efficiency in production and consumption activities so as to achieve the desired effects. Programmes of actions on the petroleum institution should be closely monitored regularly. This should be followed with commensurate punishments where variance exist show as smuggling activities.

There should be well articulated output and performance targets which are periodically monitored with respect to the NNPC in order to redress its observed operational inefficiency. Here, the management of the corporation has to be guaranteed the attainment of certain stated levels of financial, operational and managerial performance in return for enhanced operational autonomy. In addition information relating to production levels, value profits, average cost, market gaps, and consumption levels are well as problem envisaged and solution mapped out should be approved.

There should be also the need to regulate refined petroleum products markets since this will make the price of petroleum products markets since this will make the price of petroleum stabilized other than allowing the forces of

demand and supply to determine it(this is in the long run according to J.M. Keynes, we are all dead). Government should develop an alternative energy source since oil is a non-renewable resource. This definitely calls for co-ordinated investments in research and development in the direction.

However, there is no gain saying the fact that some men of the customs and excise department and about smuggling if petroleum product out of the country. The department needs constant reorganization with a view to shifting out bad eggs amongst them and meeting out adequate sanctions as well as reposing almost all the personnel to various border posts. Adequate and more sophisticated equipment should be provided for the department while smugglers should face stiffer penalties. To this end, existing law and regulation on smuggling need to be constantly reviewed.

Conversely, if subsidy is to be removed, then the following recommendations are;

The recommendations are structured to reflect the complexity of the challenge and the multifaceted responses needed to address it. The first set of measures are strategic in the sense that they aim at addressing what is commonly identified as the kernel of the subsidy problem, to wit, the historical failure to refine petroleum products locally. The second set of recommendations includes

measures required to facilitate the removal of subsidies, which must be approached as a structured process requiring policy action over the short-, medium- and long-term.

5.2.**1 SHORT TERM RECOMMENDATIONS FOR REDUCING THE COST OF PETROLEUM PRODUCTS**

These short-term recommendations are selected to achieve the twin objectives of reducing the costs of petroleum products and thereby reducing the subsidy burden on the public treasury. The measures are recommended as a half-way house towards the negotiated and orderly removal of subsidies.

5.2.1.1. **NEGOTIATE REFINING CONTRACTS WHICH DO NOT REQUIRE REFINERS TO BUY CRUDE AT WORLD MARKET RATES**

The basic idea here Nigeria supplies the crude at the rate which NNPC receives for local refining, and/or by paying the foreign refiners with crude oil rather than cash. None of these options is satisfactory or guaranteed. They depend on the agreement and cooperation of the foreign refiners and they both make sense only where the refining is in a non-oil producing nation. However, they have the potential to work if the refiners have unutilized refining capacity that they can deploy specifically for the purpose of refining for Nigeria. In any

case they indicate the areas of possible exploration that the government can pursue in order to reduce import costs.

5.2.1.2. **LIBERALIZE THE PETROLEUM PRODUCT SUPPLY MARKET.**

The main policy action here is to liberalize product importation and unbundle the underutilized PPMC pipelines and storage systems so that all importers (and not just NNPC) can use them to throughput their imports for onward distribution. This will create competition and thereby minimize the cartel-like profiteering built into the current import licensing regime that guarantees profit margins set by the government. Of course liberalizing importation requires strengthened monitoring to ensure the quality of imported products, which may be the only necessary regulatory function thenceforth.

5.2.1.3. **SECURE THE INTEGRITY OF THE DISTRIBUTION NETWORK.**

Related to the preceding recommendation, it will be necessary to secure the integrity of the pipeline network so that it will reduce the burden of road haulage of products.

5.2.1.4. END POLITICAL INTERFERENCE IN FUEL PRICES.

The pricing template currently used by the PPPRA includes politically determined costs such as distributor margins, which ideally should be a function of the market. A lesson from Nigeria's telecoms experience is that the market prices can sometime be lower than margins set by the government. Market efficiencies and competition should be monitored by a regulatory body with more autonomy than the PPPRA.

5.2.2. SUBSTANTIVE IMPACT MITIGATION MEASURES TO IMPLEMENT ALONGSIDE SUBSIDY REMOVAL

As part of the speech announcing subsidy removal, the Finance Minister, who is probably the most trusted cabinet minister, should publish a clear and credible schedule for the immediate implementation of the following (or comparable) impact mitigation measures. Stakeholder consultation and validation are necessary before these options can be firmed up into definitive policies.

5.2.2.1. EXTEND RAILWAY CARGO SERVICE TO NON-OIL TRADERS

Ensure that the aforementioned railway cargo services are available for non-oil traders as well. This will reduce the cost of transporting goods and

therefore keep prices of foodstuffs and essential household items within the reach of low income earners.

5.2.2.2. **CREDIT GUARANTEES FOR MASS TRANSIT OPERATORS**

Provide credit guarantees for lease-operators of subsidized commercial mass transit vehicles as was done in the 90s. The NLC has been running a transport service and can be involved in this initiative.

5.2.2.3. **ABOLISH FEES FOR FIRST 12 YEARS OF EDUCATION IN PUBLIC SCHOOLS**

Abolish fees for the first 12 years of education in all government schools and pay up school certificate examination fees for first-time candidates of these schools. This will relieve a significant financial burden for poor families. The measure can be a concurrent federal and state government responsibility in which each tier can take care of its own students. However, the Federal Government can still increase its outlay on the universal basic education programme in order to supplement that of the states. Another variation on this measure would be to introduce school lunches for the first nine years of school which is good policy in itself and a guaranteed political winner.

5.2.2.4. **PROVIDE FREE HEALTH CARE FOR PREGNANT WOMEN AND U5 CHILDREN**

Provide free treatment for pregnant women and under-5 children in all public hospitals. This policy is already being implemented to various degrees of success in various states, but it will need to be revamped by ensuring drug provision. Availability of drugs in public health facilities can be a problem, as they somehow find their way into the private market, so special arrangements will need to be made to ensure that they are available.

5.2.2.5. **PROTECT LOW INCOME USERS FROM INCREASES IN ELECTRICITY TARIFFS**

Maintain or even lower electricity tariffs for poor users. Of course this is not to transfer subsidy from one utility to another. Instead, it is to protect poor users while recovering costs from those who can afford to pay. The basic proposal is to provide electricity lifeline tariff of specified wattage per day per registered user. Users who consume more than the lifeline wattage should pay at full or premium rates as may be required to help cover the subsidy for the poor users.

5.2.3. LONG TERM RECOMMENDATIONS

5.2.3.1. INVEST IN INFRASTRUCTURE DEVELOPMENT, JOB CREATION AND SERVICE DELIVERY

The government must diligently follow through on the oft-repeated rational for subsidy removal is the need to invest in critical infrastructure, especially power, railways and roads. There should also be concerted action across the three tiers to improve services in the areas of health and education, along with investments aimed at creating a business enabling environment for job-yielding economic growth.

5.2.3.2. DEVELOP ALTERNATIVE SOURCES OF ENERGY FOR DOMESTIC AND VEHICULAR USE

Alternative energy sources such liquefied petroleum gas and compressed natural gas will relieve the pressure on petrol and kerosene and thereby reduce the demand and the costs of these products.

5.2.3.3. PRIVATIZE THE FOUR EXISTING REFINERIES

The refineries should be privatized with the requirement to demonstrate a capacity for sustaining local refining. A target of refining, say, at least

100,000 bpd throughout the first year and, say, 200,000 bpd from 2013 might be a good start.

5.2.3.4. PROVIDE A PARTIAL CREDIT RISK GUARANTEE TO HELP LICENSEES BUILD REFINERIES

The government can adopt the same principle used in the Sovereign Debt Instrument) to provide a risk guarantee of, say, US$5 billion, to enable licensees to raise credit and build refineries.

5.2.3.5 DIVERSIFICATION OF THE ECONOMY

Government should diversify the economy as quickly as possible and direct its positives to other sectors of the economy that have been overlooked. For even development Agriculture should take much of the oil revenue, so that when the oil goes the country can depend on the agricultural resources for our foreign exchange earnings.

5.3 CONCLUSION

It is a known fact that oil plays an important role in the economy of Nigeria. While the programmes of industrial diversification and agricultural revival is being pursued. It is also important to maintain and improve on the present level of performance in the oil industry.

Therefore, since subsidy is a temporary measure, if at all. The government wants to remove subsidy, it is not to the best no matter the golden objective which they have in mind such as the SURE_P, YOUWIN, etc. what they should do is to look at the various macroeconomic growth of the nation then will any removal stand as a drop in a tea cup, with little or no effect socially, economically and politically.

It is reasonable to expect Nigerians to enjoy a price average on a resource God has blessed their land with or they have due to natural factor endowment. This is why Japanese and German cars are cheaper in those countries than Nigeria. It would become absurd and unfortunate that Nigeria would pay the same or even higher than other countries for a commodity they are abundantly blessed with.

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