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Downstream Oil Deregulation Policy and Stability in Petroleum Products Administration in Nigeria

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ABSTRACT: ***This study evaluated the impacts of downstream oil deregulation policy on the stability of petroleum products administration in Cross River State, Nigeria. The study adopted the ex-post facto research design, the instrument of data collection was the questionnaire, and the data were analyzed using the simple regression technique. From the result, it was revealed that the downstream oil deregulation policy has a significant impact on petroleum products availability in Nigeria and the downstream oil deregulation policy has a significant impact on the removal of petroleum products subsidies in Nigeria. The study recommended that the government and independent marketers should make petroleum products available through efficient liberalization of the downstream sector, remove subsidies, build additional refining firms or maintain the available companies as well as regulate the prices of petroleum products in the country; the Nigerian government should put in place mechanisms to monitor the utilization of subsidy programmes to enhance the scrutinization of expenditure by citizens. Furthermore, the removal of subsidies should be preceded by the efficient functioning of the power sector, thereby reducing the burden on the citizens. Besides, the activities of independent marketers should be adequately regulated and monitored to efface some dishonest elements in the sector. In addition, the government should use the Petroleum Product Regulatory Agency to fix the prices of petroleum products in the country. Any defaulters who extort the system through rent-seeking behaviour should be tenaciously penalized, among others.***

KEYWORDS: Downstream, Oil deregulation policy, Petroleum products, Administration, Nigeria.

INTRODUCTION

Since the discovery of oil in a commercial scale in 1956 at Oloibiri in the Niger Delta region of Nigeria, oil and gas have continued as the mainstay of the economy. Oil and gas are widely adjudged as the life-wire of the country due to their ability to create jobs for the teaming population, contribution to the gross domestic product of the country, generation of revenue and boosting of foreign reserves (Odularu, 2008). However, despite the accrued benefits, the oil industry in Nigeria is hindered by many challenges. The government and individuals thought deregulating the downstream sector was the only panacea. In Nigeria, the issue of deregulating the downstream sector, which has to do with distributing and marketing the products, has become topical. The government in 2003 was constrained by a deficit in its national budget, external debt overhang, the balance of payments disequilibrium, and the government's inability to sustain the enormous fuel subsidies made her intent to deregulate the downstream sector of the industry.

Okafor (2012) argued that the vagaries in oil prices and revenues are no longer a new phenomenon in the global political dictionary since deregulation policy has been adopted internationally by many nations to reduce public sector dominance and promote market liberalization and the availability of petroleum products.

According to the CBN Governor, Nigeria spends about 1.7 trillion naira on fuel subsidies. This represents almost half of the budget for the fiscal year of 2011. This has slowed the stability rate in petroleum products and economic development in the country. That is why Ayankola (2010) advocated removing the petroleum subsidies and adopting the deregulation policy to replace them. Arguing on this, Gwegwe (2012) noted that removing petroleum subsidies will lead to many ripple effects such as rising pump prices, transport fares, school fees, house rent, food items, and health care services. Agreeing with Gwegwe, Olanrewaju (2012) opined that removing fuel subsidies is an invitation to anarchy, discomfort, death, anger and abject poverty since oil affects almost all sectors of the economy.

The advent of the democratic dispensation in 1999 brought an improvement in the supply and distribution of petroleum products but has not been without frequent spikes in petroleum products. Nigerians' recent deprivation and suffering are occasioned by the palpable tension in the petroleum sector. Although Nigeria is the 6th largest producer of petroleum products, it is contradictory to believe that the supply of the products has been plummeting. Ironically, as the supply of petroleum products decreases, the prices of the products have increased as successive government regimes are constantly searching for "appropriate pricing". The combination of supply inadequacies and rising prices of petroleum products have resulted in untold hardship for the people and, worse still, deprived economic resilience as promised by the current democratic government, given that the manufacturing capacity utilization has nose-dived due to the shortage of industrial products. Thus, these questions arise: How does downstream oil deregulation policy impact the availability of petroleum products in Nigeria? How does downstream oil deregulation policy affect Nigeria's removal of petroleum products subsidy?

The study's main aim is to ascertain how downstream oil deregulation policy impacts the stability of petroleum products administration in Nigeria. This study was delimited to Cross River State, one of the thirty-six states of Nigeria. The study covered the period between 2017 and 2018. This study was structured in five sections. Section one constituted the introduction. Section two reviewed relevant literature and theoretical framework in related subject areas. Section three discussed the study methodology. Section four presents the results, analyses and interpretation of findings of the study, while section five gives the conclusions and policy recommendations.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual issues

The concept of deregulation:

Conceptually, deregulation can be seen as gradually removing regulations to liberalize the economic system. It is the process that advocates the removal of constraints that affect trading, controlling the movement of goods and services, thereby giving ways for the free interplay of demand and supply forces to determine the prices of commodities and wages or services provided (Ojo and Adebusuyi, 1996). Ahmed (1993) posits that " deregulation is to ensure competitive economic system devoid of monopoly and allow price mechanism of demand and supply's principle of the economy to prevail."

Downstream Oil Deregulation Policy and Availability of Petroleum Products in Nigeria

Maduka, Ihonre & Anochiwa (2015) examined how the deregulation of the downstream oil sector will enhance the sector's performance. The study used the ordinary least square (OLS) technique. It was recommended that due to the significant impact of deregulation policy on the economy, the public sector should implement policies that will enhance complete deregulation and regulate the prices of the products to improve their availability and avoid a consistent rise in the price level. Anthony (2011) opined that the downstream oil deregulation policy would be too cumbersome and burden the masses. The study further posited that deregulation within the spectrum of the present devastating economic reality in the country is not sacrosanct. It will also be irrelevant due to the recent agitation for an upward review of salaries and wages. It will entail giving out something with the right hand and expecting a return with the left hand.

Koyi (2011) says that Nigerians are not impressed with the government's decisions to deregulate the economy's downstream oil sector. He termed it a political suicide and admonished the government to handle the crisis with caution because if not adequately addressed, it might result in a series of challenges that will hamper the country's economy. Nwachukwu (2010) thinks that if the government is transparent and adheres to the required procedures, deregulating the oil sector will benefit the country and its citizens. Sobowole (2012) argues that deregulating the oil sector can result in efficient utilization of crude products, make it available and competitive among investors and hence break down the monopolistic tendency of the Nigerian National Petroleum Corporation (NNPC).

Nati (2012) argued that by deregulating the oil sector, the government wants to know how efficient and competitive and open up the oil market to global investors and drive the economy positively. Once the subsidy is removed and the sector deregulated, the incentive for all these ills will be eliminated, and an open market will be created for potential investors.

Downstream Oil Deregulation Policy and Removal of Petroleum Products Subsidies

Birol (1995) examined how subsidy removal for product stability in Algeria, Iran and Nigeria promotes savings. Empirically, the findings revealed that deregulation would lead to adequate domestic oil savings that may translate into higher revenues for the economies. Anyadike (2013) studied how deregulating the downstream sector will enhance Nigeria's growth potential. Utilizing the Likert-scale method in designing the instrument for data gathering, it was revealed that deregulation of the industry is relevant despite the wrong implementation of the existing refineries. It was recommended from the findings that deregulation policies should be judiciously embarked upon but can only be efficiently done when the existing refineries are functional and at full capacity.

Ugwuanyi (2009) sees the need for deregulation; in his argument, he says that regulation and payment of subsidies encourage a lack of competition, corruption and wastage because of a lack of a plan, which has been responsible for demurrage and other factors that inflate the cost of fuel. To him, this is because importers know the government will certainly pay the extra cost through subsidy. Okafor (2011) opined that deregulating the industry would create jobs and grow the economy. However, she continued by saying that it is better to manage the economy and use the resources appropriately by using the money saved on subsidies to grow the economy through substantial public transportation and railways.

Ikuomola (2011) says that if annual fuel subsidy money alone will equal the capital budget (what federal government budget in one year for education, health, Agriculture and all other social services), then we are finished. Though it will cause a lot of hardship for the citizens, in the beginning, it will subsequently create great market competition, which will cause these

increased prices to find their real value level. In addition, the competition will create more jobs when the economy becomes open market operations.

Theoretical Framework

This study is rooted in the public interest theory, which A. C. Pigou propounded in 1932. The theory states that regulation and deregulation of public goods and services are in the interest of the general public at large. Theoretically, it can be shown that under some peculiar circumstances, the process of allocating resources by the mechanics of the market is optimally determined (Arrow, 1985). However, since these conditions are not strictly adhered to in the decision-making process, the allocation of resources does not follow due consideration, and the request for the technique of enhancing efficiency will arise (Balor, 1958). Hence, deregulation is one of the basic tenets of achieving efficient resource allocation by the public sector. According to this theoretical postulation, deregulation is instrumental in overcoming the crisis generated by market imperfection, imbalances in market fundamentals, missing market links and undesirable market outcomes.

Firstly, deregulation can enhance resource allocation through facilitating, maintaining, or imitating market operation. Furthermore, the theory predicted that deregulation would arise if the deficiency in the price system, which coerced regulation initially, were to disappear. Thus this can become obvious only with the expectation that restriction to entry is a relative and costly way of enforcing standards. This theory incorporates the efficiency of the oil sector through the availability of the products, promotion of local refining of products, removal of subsidies and the optimal pricing regime that will make petroleum products readily available for local consumption. It is applied in this work based on the tenets of the theory.

RESEARCH METHODOLOGY

Research Design

The design adopted in this study was an *ex post facto* (after the fact). This is because the events had already taken place before the investigation was carried out. This method is chosen because the researcher has no control over independent variables, and inferences about the relationship among the variables are made without the current interaction between the dependent and independent variables. The study made use of a questionnaire to collect data that enabled the researcher to conclude how the downstream deregulation policy impacted stability in petroleum products administration in Nigeria.

Study Area

The study focuses on the impact of downstream deregulation policy on stability in petroleum products administration in Nigeria. The study area is Cross River State, Nigeria. The petroleum products selected for study are petroleum motor spirit (PMS), kerosene, diesel and liquefied natural gas.

Population of the study

The study's population comprises the entire Cross River State population. The population of the state is 2,888,966 (NPC, 2006).

Sampling procedure and sample size determination

This study employed stratified and purposive sampling techniques. Taro Yamane formula was used to select the sample size. It is important to use the Taro Yamane formula to avoid bias. Taro's formula is expressed thus:

$$n = \frac{N}{1 + N\,(e)^2}$$

Where,

n	=	sample size
N	=	population size
e	=	tolerable error (0.05)
1	=	constant
n	=	$\frac{2{,}888{,}966}{1+2{,}888{,}966(e)2}$
n	=	$\frac{2{,}888{,}966}{1+2{,}888{,}966(0.0025)}$
n	=	$\frac{2{,}888{,}966}{7{,}223.415}$
	≈	**400**

Sources and data collection method

The primary source was adopted in this study because it helps in general retrieval from the respondents' original data on the issue raised.

Model Specification

The models are stated below along with the equation for the first hypothesis:

$$DODP = f\,(APP) \qquad \ldots 1$$

The equation format is;

$$DODP = b_0 + b_1APP + U_t \qquad \ldots 2$$

Where,

DODP= Downstream oil deregulation policy, APP = Availability of petroleum products, b_0 = constant term and U_t = error term

Equation for the second hypothesis:

$$DODP = f\,(RPPS) \qquad \ldots 3$$

The equation format is;

$$DODP = b_0 + b_1RPPS + U_t \qquad \ldots 4$$

Where,

DODP= Downstream oil deregulation policy, RPPS = Removal of petroleum products subsidies, b_0 = constant term and U_t = error term.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Data presentation and analysis

The tables presented below contain the analytical details relating to the findings. Of the 400 questionnaires distributed, 391 copies representing 97.8 per cent were correctly filled and returned to the researcher. In contrast, the respondents did not return nine (9) copies of the questionnaire representing 2.2 per cent, to the researcher. However, from the above analysis, the 391 was considered the workable sample size used in the data analysis and accurately represented the study population.

Demographic Profile of the Respondents:

The tables below show the responses to respondents' data.

Table 2: Sex Distribution of responses

Sex	No. of response	Percentage (%)
Male	205	52.4
Female	186	47.6
Total	391	100.0

Source: Field survey, (2022)

Table 3: Marital Status

Marital status	No. of responses	(%)
Single	150	38.4
Married	183	46.8
Divorced	19	4.9
Widow	39	9.9
Total	**391**	**100**

Source: Field survey, (2022)

Table 4: Distribution of responses by educational experience

Qualification	Number of responses	Percentages
FSLC	164	41.9
SSCE	115	29.4
NCE/ND	58	14.8
Bachelor/HND	32	8.2
Masters&Ph.D	22	5.6
Total	**391**	**100**

Source: Field work, (2022)

Table 5: Distribution of responses by age

Year	No. of responses	Percentage (%)
11-20 years	30	7.70
21-30years	144	36.80
31-40years	173	44.20
40years and above	44	11.30
Total	**391**	**100.0**

Source: Field survey, (2022)

Test of hypotheses

Hypothesis one:

- Null hypothesis (H_O): The downstream oil deregulation policy has no significant impact on petroleum product availability in Nigeria.
- The alternate hypothesis (H_1): The downstream oil deregulation policy significantly impacts petroleum product availability in Nigeria.

Table 6: Regression analysis of downstream oil deregulation policy and petroleum products availability

Dependent variable: Availability of petroleum products (APP)

Independent variable: Downstream oil deregulation policy (DODP)

Dependent variable: APP

Variables	**Coeff.**	**Std. Er**	**t-Stat.**	**Prob.**
C	3.6531650	0.2289840	15.953860	0.00000
DODP	0.1297310	0.0530670	2.4446510	0.00490
R^2	0.6151310			
Adjusted R^2	0.5825990			
F-stat.	15.976310	D-W Stat.		2.159927

Source: Statistical result from E-views 9

The equation in the first model regressed APP (availability of petroleum products) on DODP (downstream oil deregulation policy). Thus from a careful examination of the regression result and related statistics, the following facts emerged; the coefficient of the constant term is 3.65, and the associated t-value is 15.95. The constant term is statistically significant at 5% per cent level, implying that at zero implementation of the independent variable, DODP (downstream oil deregulation policy), the constant term will increase by 15.95 per cent, all things being equal. The regression coefficient of DODP (downstream oil deregulation policy) carries a positive sign, and the t-value is significant statistically at a 5 per cent alpha level. This implies that a unit change in DODP will instigate an increase of 0.12 per cent in the availability of petroleum products in the country. This is confirmed by the P-value of the t-statistic for DODP, which is 0.0049. The level of significance of 0.05 is greater than the p-value of 0.0049. The R^2 of0.582599 is instructive and indicates a good fit for the model. Simply put, about 58 per cent of the total variation in the availability of petroleum products (APP) is accounted for by the deregulation of the downstream oil policy (DODP) in the estimated model.

The value of the Durbin Watson (DW) statistic is 2.1. The tabulated DW at 5 per cent significance level using 391 observations indicated that the lower limit of the Durbin Watson statistic is 1.758 while the upper limit is 1.779. Therefore, the calculated value (DW) = 2.1 is greater than the upper limit (Du) = 1.779. There is no evidence of autocorrelation.

Hypothesis two:

- Null hypothesis (H_O): The downstream oil deregulation policy has no significant impact on Nigeria's removal of petroleum products subsidy.
- Alternate hypothesis (H_1): The downstream oil deregulation policy significantly impacts the removal of petroleum product subsidies in Nigeria.

Table 7: Regression analysis of downstream oil deregulation policy and the removal of petroleum products subsidies

Dependent variable: Removal of petroleum products subsidies (RPPS)

Independent variable: Downstream oil deregulation policy (DODP)

Dependent Variable: RPPS

Variables	Coeff.	Std. Err.	t-Stat.	Prob..
C	3.7482070	0.2369140	15.820980	0.00000
DODP	0.1007530	0.0549050	1.8350320	0.06730
R-squared	0.618582			
Adjusted R-squared	0.606033			
F-statistic	14.36211	D-W Stat.		2.278008
Prob(F-statistic)	0.000164			

Source: Statistical result from E-views 9

The equation in the second model regressed RPPS (removal of petroleum products subsidies) on DODP (downstream oil deregulation policy). The coefficient of the constant term is 3.74, and the associated t-value is 15.82. The constant term is statistically significant at 5 per cent level, implying that at zero implementation of the independent variable, DODP (downstream oil deregulation policy), the constant term will increase by 3.74 per cent, all things being equal. The regression coefficient of DODP (downstream oil deregulation policy) carries a positive sign, and the t-value is statistically significant at 10 per cent level of significance. The value of the Durbin Watson (DW) statistic is 2.27. The tabulated DW at 5 per cent significance level using 391 observations indicated that the lower limit of the Durbin Watson statistic is 1.758 while the upper limit is 1.779. Therefore, the calculated value (DW) = 2.27 is greater than the upper limit (Du) = 1.779. There is no evidence of serial correlation in the model.

Discussion of findings

This study was carried out to investigate the impact of downstream oil deregulation policy on stability in petroleum products administration in Nigeria. A descriptive analysis of the various demographic data was done to achieve this. Therefore, it can be affirmed that most selected households were male, with most of the respondents being married. It was equally revealed from the findings that many of the respondents were holders of the first school leaving certificates, and most of the respondents were between 31-40 years of age. From the downstream oil deregulation policy and availability of petroleum products equation, it was found that deregulation policy will enhance the availability of petroleum products in the economy. The a priori test is in line with the findings of Odidison (2003) and Maduka et al.

(2015) that deregulating the sector will result in the availability of petroleum products. However, the findings contradict the views of Anthony (2011), who asserts that deregulating the sector will be too harsh for the majority of the citizens of the country.

From the downstream oil deregulation policy and removal of the petroleum products subsidy model, it was found that deregulating the sector will promote the elimination of subsidies in the country. The a priori test corroborates the findings of Birol et al. (1995); Anyadike (2013), and Ugwuanyi (2009), who asserts that subsidy removal will harness sufficient local saving and will boost higher revenue generation of the nation. On the other hand, the regulation and payment of subsidies encourage a lack of competition, corruption and wastage because of a lack of a plan, which has been responsible for demurrage and other factors that inflate fuel costs in the country.

CONCLUSION AND RECOMMENDATIONS

The study explored the impact of downstream oil deregulation policy on stability in petroleum products administration in Nigeria, adopting the ordinary least squares technique of a simple regression model. It is concluded that the downstream oil deregulation policy should be done to enhance the availability of the products, as well as remove subsidies to enhance efficiency in petroleum products marketing in the country.

The following recommendations are made predicated on the findings of the study:

(i) The government and independent marketers should make petroleum products available through efficient liberalization of the downstream sector, remove subsidies, build additional refining firms or maintain the available companies, and regulate the prices of petroleum products in the country.

(ii) The Nigerian government should put in place mechanisms to monitor the utilization of subsidy programmes to enhance the scrutinization of expenditure by citizens. The removal of subsidies should be preceded by the efficient functioning of the power sector, thereby reducing the burden on the citizens. In addition, the activities of independent marketers should be adequately regulated and monitored to efface some dishonest elements in the sector.

(iii) The government should use the Petroleum Product Regulatory Agency to fix the prices of petroleum products in the country. Any defaulter who extorts the system through rent-seeking behaviour should be tenaciously penalized.

(iv) The government should provide adequate security in the country to protect prospective investors in the oil and gas sector. This will help attract foreign direct investment in the downstream oil sector of the economy.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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