DOWNSTREAM DEREGULATION POLICY AND AVAILABILITY OF PETROLEUM PRODUCTS IN NIGERIA: A STUDY OF AKWA IBOM STATE, 2015 – 2022

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ABSTRACT

This study examined the impact of downstream deregulation policy on availability of petroleum products in Nigeria vis-à-vis Akwa Ibom State. Therefore, the objective of this study is to examine downstream deregulation policy and availability of petroleum products in Nigeria: A study of Akwa Ibom State, 2015 – 2022. Survey design was used in the methodology of the study. Primary and secondary sources of data collection was used in this study. The hypotheses formulated were tested using ordinary least squares linear regression technique. The study revealed that the downstream deregulation policy promotes the availability of petroleum products in the economy. The study also revealed that modular refining of petroleum products positively impacts on deregulation of the downstream policy in the country. It was further revealed from the findings that tips in the allocation of petroleum product is a major cause of non-availability of petroleum products in Nigeria as well as Akwa Ibom State. Therefore, this study recommends that modular refining of petroleum products is a pathway for availability of petroleum products; also, government should monitor the lifting of petroleum products from refining to outlay stations.

KEYWORD: Downstream, Deregulation, Policy, Availability and Petroleum products.

INTRODUCTION

Nigeria is the Organization of Petroleum Exporting Countries (OPEC) sixth largest producer of crude oil globally, and with her abundance natural resources still imported and pay heavily for a product it has in abundance. The government reported that the cost incurred in subsidizing petroleum products importation was estimated at $1.5 billion yearly (Ibanga, 2006), and unable to sustain, hence the need to deregulate the downstream petroleum sector.

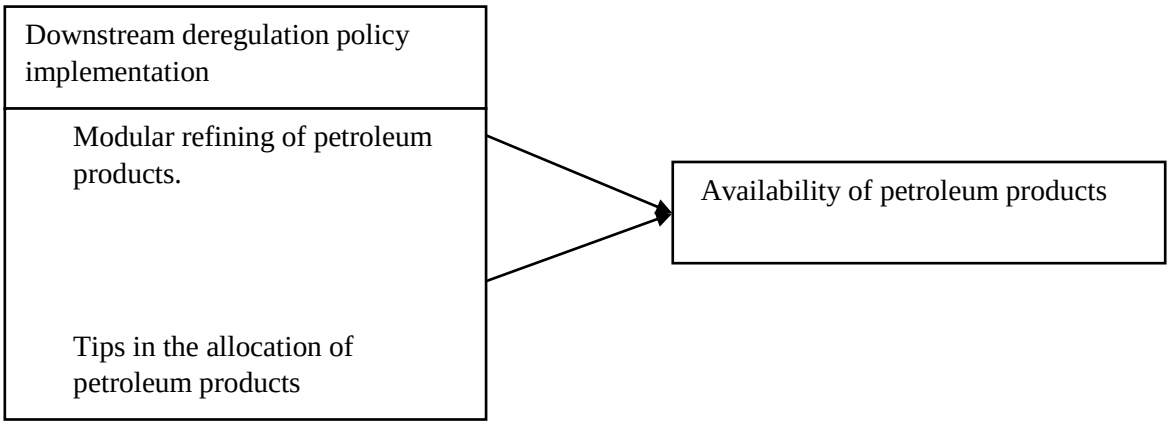
However, the deregulation of the downstream sector of the oil and gas industry has become a controversial issue in Nigeria. Over the years, the government has been bedeviled with fiscal deficit, high external debt, unfavorable balance of payments and inability to sustain the huge subsidy for petroleum product announced her intention to deregulate the downstream sector. Consequently, the nation spends 3.0

trillion naira on petroleum subsidy between 2019 and 2020 according to the Central Bank of Nigeria (CBN, 2021). This represents a reasonable chunk of the budget for the fiscal year 2020, which adversely affect macroeconomic development in the country, Hence, advocacy for the removal of subsidy and the introduction of deregulation in its place. As contended by Ayankola (2010), it would be difficult to get adequate financing and investment in refineries in a regulated pricing regime, and observed that this country spends approximately 600 million naira per day on oil subsidy, while government struggles to fund infrastructure, health, transport and other competing needs in the economy. The country has often experience paradox petroleum product prices with persistent scarcity of petroleum products.

Consequently, it is incontrovertible that the Federal Government of Nigeria cannot continue to subsidized petroleum products a gesture which is unsustainable due to corruption, cross border smuggling, lack of modular refining of petroleum products, as well as challenge of effective leadership has necessitated the need for total deregulation of the sector to end excessive dependence on importation of refined petroleum products, irregular supply of petroleum products, hoarding of petrol, and also bring an end to end long queues in search of petroleum product in filling stations in Nigeria including Akwa Ibom State. Therefore, this study examines the relationship between the of downstream deregulation policy and availability of petroleum products in Akwa Ibom State, Nigeria from 2015 – 2022, the relationship between downstream deregulation policy and tips in allocation of petroleum products in Nigeria particularly to Akwa Ibom State, and also investigate the relationship between downstream deregulation policy and modular refining of petroleum products in Akwa Ibom State. And the questions bleeding for answers are; what is the relationship between downstream deregulation policy and tips in allocation of petroleum products in Nigeria particularly to Akwa Ibom State, what the relationship between downstream deregulation policy and modular refining of petroleum products in Akwa Ibom State.The hypothesis are; there is no significant relationship between downstream deregulation policy and tips in allocation of petroleum products in Nigeria, there is no significant relationship between downstream deregulation policy and modular refining of petroleum products in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Framework



Conceptual model of downstream deregulation policy and availability of petroleum products.

Model 1 has identified two prominent variables responsible for unavailability of petroleum products in Nigeria vis-à-vis Akwa Ibom State, these are modular refining of product and tips in the allocation of petroleum products.

CONCEPT OF DOWNSTREAM DEREGULATION

Different authors have written differently on the downstream deregulation. Fashola (2012), conceptualized deregulation as "to allow private enterprises to drive productive activities in the economy of our nation". To this end, downstream deregulation involves the withdrawal of constitute interference or control by the government on the goods and services to allow a free flow of privately driven economy on demand and supply of goods and services. This means that government rules and regulations governing the operations of the system are relaxed or held constant in order for the system to decide its own optimum level through the forces of' supply and demand (Ekundayo and Ajayi, 2008). As asserts by Adetunji (2016), the deregulation is a tool for reducing government intervention in economic activities and providing the relevant structure of incentives that would put the economy on the path of recovery and growth. By so doing government create platform for competition in economic activities in the private sector operators, for more efficient use of resources and also to bring about national development. To Kalejaiye, Adebayo and Lawal, (2013), deregulation of the downstream sector involves the removal of government control on petroleum products prices and the removal of restrictions on the establishment and operations including refining jetties and depots, while allowing private sector players to be engaged in the importation and exportation of petroleum products and allowing market forces to prevail. Therefore, downstream deregulation is the relaxation of the composite framework on the downstream petroleum sector to allow even competition by the private sector on petroleum business transaction but ensures strict compliance to the existing petroleum laws.

- **Downstream Deregulation Policy and tips in allocation of Petroleum Product**

Tips can also be seen as corruption because it involved dishonesty and illegal act for purpose of personal financial gain. Obioma, 2012 categorizations four level of corruption in the Nigerian petroleum sector as follows: Policy Corruption: This involves corrupt influence on the design of sector policies, as well as the enactment of sector laws and taxes in a manner intended to provide political or personal gains at the public expense. Administrative Corruption: This is the abuse of administrative office to extract illegal benefits in exchange for approval covering a wide range of commercial and operational activities. Commercial Corruption: Under this heading are the broad areas of procurement abuse, including tender rigging, kickbacks, and cost inflation. Grand Corruption: Direct theft of massive amounts of money through diversion of production; products, or revenues are cases of grand corruption (Obioma, 2012). Therefore, what constitute corruption in the public sector also involved both misappropriation of funds and abuses of opportunity in the offices.

- **Downstream Deregulation Policy and Modular Refining of Petroleum Products**

As opine by Adelabu (2012), Nigerian refineries refine 18 million liters of petrol per day while the daily national demand is approximately 40 million liters. Nigeria economy relies on imported petroleum while the local refineries produce less than 40% of their installed capacities

Umukoro (2018) argued that the inability of the Nigerian government to improve the performance of state-owned refineries has made Nigeria a major importer of petroleum products. The failure of the government to harness the ingenuity of artisanal refinery operators in the Niger Delta has adverse effects on the Nigerian state. In other words, this increases the spate of modular refining of petroleum products especially in the Niger Delta region of the country.

REVIEW OF EMPIRICAL STUDIES

Yakubu, Abubakar, Idowu, and Isyaku (2021), investigated the effects of downstream deregulation of the petroleum sector on the economic development of Nigeria from 2004 – 2019. Ordinary Least Square (OLS) method and regression equations were employed. The study, found the presence of cointegration among the study variables. There was no long or short run term causality between oil revenue and development indicators such as education, health, and agriculture. The study recommends that corruption, smuggling of petroleum products and inappropriate pricing of oil products be addressed through accountability, capacity building of the police/ judiciary departments through increase of budget and technical means.

Ite, Willie, Eyo, and Edet (2022) conducted a study on Downstream Deregulation Policy and Stability in Petroleum Products in Nigeria with reference to South-South Region. Survey design was used in the methodology of the study. The hypotheses, formulated were tested using ordinary least squares linear regression technique. The study revealed that the downstream oil deregulation policy promotes the availability of petroleum products in the economy. It was recommended that the government should make petroleum products available through efficient liberalization of the downstream sector, remove subsidies, build more refineries or maintain the existing ones and regulate the prices of petroleum products in the country.

In a related study Omotosho (2019), studied the macroeconomic implications of oil price shocks and the extant fuel subsidy regime for Nigeria. He developed and estimated a New-Keynesian DSGE model that accounts for pass-through effect of international oil price into the retail price of fuel. The results show that oil price shocks generate significant and persistent impacts on output, accounting for about 22 percent of its variations up to the fourth year. Under our benchmark model (i.e., with fuel subsidies), it shows that a negative oil price shock contracts aggregate GDP, boosts non-oil GDP, increases headline inflation, and depreciates the exchange rate.

Monday and Ekperiware et al. (2010) carried out a study on the relationship between deregulation of the downstream sector and Nigerian economic performance using annual data from 1980 to 2009. The Ordinary Least Squares (OLS) regression method was employed to analyze the data. The findings reveal that increase in price of petroleum products and inflation rate were not as a result of deregulation, and deregulating price of petroleum products significantly influence economic growth with marginal inflation. The paper recommends that government should encourage private sector participation in the oil and gas industry.

THEORETICAL FRAMEWORK

This study was rooted on the public interest theory propounded by A. C. Pigou (1932), The theory states that regulation and deregulation of public goods and services is for the interest of the public at large. This public interest can be further described as the best possible allocation of scarce resources for individual and collective goods. By application government should ensure the availability of petroleum products in Nigeria, without interfering in the process but rather at adhere strictly on the extant policies. This will create free market, people acting to further their will be led by an invisible hand to promote efficiently the interest of the society as a whole. Hence, with a competitive market unlike the regulated downstream sub-sector of the petroleum industry, an absence of government regulation and control will result in a competitive market price which will bring about an optimum allocation of resources, at the lowest possible cost.

METHODOLOGY

The research design used for this study is survey research because it best serves to answer the questions and the purposes of the study. Survey research is a research method involving the use of standardized questionnaires or interviews to collect data about people, their preferences, thoughts, and behaviours in a systematic manner (Arnold, 2012). In survey research a group of people are studied by collecting and analyzing data from only a few people considered being representative of the entire group. Similarly, McBurney (1994) defines the survey assessing public opinion or individual characteristics by the use of questionnaire and sampling methods.

The researcher used questionnaires which lead the test instrument. Interview and systematic observation methods is used to support our findings. The study was conducted in Akwa Ibom State in the South-South geopolitical zone of Nigeria. The study adopted survey research design. The study covered the transaction on Premium Motor Spirit (PMS) in the three senatorial district of the state Ikot Ekpene, Uyo, and Eket, independent marketers, fuel station managers and the consumers with a total population of 620,225(NPC,2006).

The study adopted Krejcie and Morgan (1970) method of determining sample size for research activities which does not required calculation see table below,

Table 3.1: Population and Sample Size of Respondents

Study Area	Population	No. of Sampled Respondents	Percentage (%)
Uyo	305,961	318	69
Eket	172,856	105	22.7
Ikot Ekpene	141,408	38	8.3
Total	**620,225**	**461**	**100**

From the above table, a population which was equal to or greater than 1,000,000, the required sample size was 384. Therefore, based on the total population of 620,225, the sample size would be 384. In order to capture the respondents and provide for error that may occur, additional 20% was added to the sample size, hence the sample size for this study was put at 461. These figures were purposively and proportionately distributed among the selected Local Government Areas in each of the senatorial district Akwa Ibom State. However, the study adopted purposive and stratified sampling techniques. The descriptive tools include the use of frequency counts, simple percentage in analysis and interpreting data collected. However, for the purpose of testing the hypotheses, Pearson chi-square was used as a technique of analysis with the aid of SPSS (Statistical Package for Social Science). All tests will be at 5% (0.05) level of significance.

DATA PRESENTATION AND ANALYSIS

MODULAR REFINERY	AGREE	40	22.0
	DISAGREE	8	4.4
	STRONGLY AGREE	112	61.5
	STRONGLY DISAGREE	3	1.6
	UNDECIDED	19	10.4
TIPS IN ALLOCATION OF PETROLEUM PRODUCT	AGREE	42	23.1
	DISAGREE	13	7.1
	STRONGLY AGREE	95	52.2
	STRONGLY DISAGREE	11	6.0
	UNDECIDED	21	11.5

For the influence of downstream deregulation petroleum (DDP) on Modular refining of Petroleum (Premium Motor Spirit) in Nigeria, 61.5%, 22%, 10.4%, 4.4%, and 1.6% strongly agreed, agreed, were undecided, disagreed and strongly decided, respectively. Over 80% of the respondents strongly agreed and agreed that there is an influence of DDP on modular refining of Petroleum (Premium Motor Spirit) in Nigeria. The high percentage of those who strongly agreed and agreed is evidence that there is actually a significant influence on DDP on the other variable.

For the influence of DDP on cross-border smuggling of Petroleum (Premium Motor Spirit) in Nigeria, 52.2%, 23.1%, 11.5%, 7.1%, and 6% of the respondents strongly agreed, agreed, were undecided, disagreed and strongly decided, respectively. The respondents that strongly agreed and agreed that there is an influence of DDP on modular refining of Petroleum (Premium Motor Spirit) in Nigeria constitute 75.3% of the total respondents. The high percentage of those who strongly agreed and agreed is evidence that there is actually a significant influence of DDP on cross-border smuggling of Petroleum (Premium Motor Spirit) in Nigeria.

RESEARCH QUESTION 1:

What is the relationship between downstream deregulation policy and Corruption in Petroleum products in Nigeria?

RESEARCH HYPOTHESIS 1:

There is no significant relationship between downstream deregulation policy and corruption in petroleum products in Nigeria

TABLE 4.1.1: MODEL FITTING INFORMATION

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	262.4			
Final	257.46	24.94	4	0.002

Link function: Logit.

Since the p-value of the Model Fitting is 0.002, less than 0.05 (level of Significance), we reject H0 and conclude that there is a difference between the baseline model and the final model; hence there is a significant relationship between downstream oil deregulation policy and corruption in petroleum products in Nigeria.

TABLE 4.1.2: GOODNESS-OF-FIT

	Chi-Square	Df	Sig.
Pearson	10.155	12	0.602
Deviance	10.938	12	0.534

Link function: Logit.

Since the P-value of the Goodness-of-Fit (0.602) is not statistically significant, we do not reject H_0; hence, we conclude that the observed data is having goodness of Fit with the fitted data.

TABLE 4.1.3: PSEUDO R-SQUARE

Cox and Snell	0.427
Nagelkerke	0.723
McFadden	0.313

Link function: Logit.

Recall that the Pseudo R-square is the proportion of the variance explained by the independent variable on the dependent variable on the regression model. The Nagelkerke value is 0.723 which is above 0.7; hence, we conclude that there is a 72.3% proportion of the variance explained by the independent variable (Corruption in petroleum products) on the dependent variable (Downstream oil Deregulation policy)

INTERPRETING THE ODDS RATIO

Generally, the proportional odds assumption is not simply that the odds are the same but that the *odds ratios* are the same across categories. These odds ratios can be derived by exponentiating the coefficients (in the log-odds metric), but the interpretation is a bit unexpected. For instance, recall that the coefficient represents a one unit change in the long odds of agreeing strongly that the policy of the downstream oil deregulation is a very good policy versus the fact that it is a very poor policy.

TABLE 4.1.4: PARAMETER ESTIMATES

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Downstream = Average]	-1.691	0.429	15.551	1	0	-2.531	-2.25
	[Downstream = Good]	0.033	0.395	0.007	1	0.031	0.74	0.806
	[Downstream = Poor]	0.128	0.395	0.105	1	0.013	0.646	0.901
	[Downstream = Very Good]	4.4	0.638	47.588	1	0	3.15	5.65
Location	[Corruption=Agree]	0.55	0.499	1.215	1	0.000	1.428	1.529
	[Corruption=Disagree]	0.271	0.548	1.526	1	0.000	1.397	1.752
	[Corruption=Strongly Agree]	0.902	0.473	3.634	1	0.000	1.425	1.83
	[Corruption=Strongly Disagree]	0.18	0.517	0.122	1	0.035	0.834	1.194
	[Corruption=Undecided]	0[a]	.	.	0	.	.	.

Link function: Logit.

All the p-values are less than 0.05. This affirms the conclusion that there is a significant relationship between the two variables.

INTERPRETATION OF THE ESTIMATES

Categories of Respondent on Corruption	Estimates (β)	Exponential value (Exp (β))
Strongly agree	0.902	2.46452724
Agree	0.55	1.733253018
Disagree	0.271	1.31127507
Strongly Disagree	0.18	1.197217363
Undecided	0	1

Strongly agree has an exponential value of 2.46, meaning that strongly agree has 2.46 times more relationship than the undecided category. This affirms the conclusion that there is a relationship between downstream deregulation policy and corruption.

TEST OF PARALLEL LINES[A]

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	257.46			
General	246.639[b]	10.822[c]	12	.544

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

b. The log-likelihood value cannot be further increased after maximum number of step-halving.

c. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model..

Since the p-value is 0.544 > 0.05, we do not reject H_0; hence we conclude that our location parameter (slope coefficients) are the same across response categories.

RESEARCH QUESTION 2:

What is the relationship between downstream deregulation policy and modular refining of petroleum products in Nigeria?

RESEARCH HYPOTHESIS 2:

There is no significant relationship between downstream deregulation policy and modular refining of petroleum products in Nigeria.

TABLE 4.2.1: MODEL FITTING INFORMATION

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	268.453			
Final	264.904	23.552	4	0.032

Link function: Logit.

Since the p-value of the Model Fitting is 0.032, less than 0.05 (level of Significance), we reject H_0 and conclude that there is a difference between the baseline model and the final model; hence there is a significant relationship between Downstream Deregulation policy and Modular Refining of petroleum products in Nigeria.

TABLE 4.2.2: GOODNESS-OF-FIT

	Chi-Square	df	Sig.
Pearson	18.33	12	0.106
Deviance	20.834	12	0.053

Link function: Logit.

Since the P-value of the Goodness-of-Fit (0.106) is not statistically significant, we do not reject H0; hence, we conclude that the observed data is having goodness of Fit with the fitted data.

TABLE 4.2.3: PSEUDO R-SQUARE

Cox and Snell	0.534
Nagelkerke	0.792
McFadden	0.456

Link function: Logit.

Recall that the Pseudo R-square is the proportion of the variance explained by the independent variable on the dependent variable on the regression model. The Nagelkerke value is 0.723 which is above 0.7; hence, we conclude that there is a 79.2% proportion of the variance explained by the independent variable (Modular Refining of petroleum products) on the dependent variable (Downstream Deregulation policy)

TABLE 4.2.4: PARAMETER ESTIMATES

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Downstream = Average]	-2.229	.397	31.446	1	.000	-3.008	-1.450
	[Downstream = Good]	-.509	.345	2.186	1	.000	1.185	.166
	[Downstream = Poor]	-.415	.344	1.455	1	.001	1.088	.259
	[Downstream = Very Good]	3.841	.595	41.636	1	.000	2.674	5.007
Location	[Modular refining=Agree]	.530	.495	.004	1	.003	.941	1.000
	[Modular refining=Disagree]	.239	.472	1.303	1	.000	-1.465	.387
	[Modular refining=Strongly Agree]	.993	.425	.207	1	.000	-.639	1.026
	[Modular refining=Strongly Disagree]	.086	.545	.276	1	.000	.782	1.354
	[Modular refining=Undecided]	0[a]	.	.	0	.	.	.

Link function: Logit.

All the p-values are less than 0.05. This affirms the conclusion that there is a significant relationship between the two variables.

INTERPRETATION OF THE ESTIMATES

Categories of Respondent on Corruption	Estimates (β)	Exponential value (Exp (β)
Strongly agree	0.993	2.699320298
Agree	0.530	1.698932309
Disagree	0.239	1.269978537
Strongly Disagree	0.086	1.089806328
Undecided	0	1

Strongly agree has an exponential value of 2.69, meaning that "strongly agree has 2.7 times more relationship than the undecided category. This affirms the conclusion that there is a relationship between downstream deregulation policy and corruption.

TEST OF PARALLEL LINES[a]

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	264.904			
General	236.339[b]	28.565[c]	12	.175

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

b. The log-likelihood value cannot be further increased after maximum number of step-halving.

c. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model.

Since the p-value is 0.175 > 0.05, we do not reject H_0; hence we conclude that our location parameter (slope coefficients) are the same across response categories.

DISCUSSION OF FINDINGS

The first finding of this study revealed that there is a significant relationship between downstream oil deregulation policy and corruption in petroleum products in Nigeria. This was because the p-value of the Model Fitting is 0.002, less than 0.05 (level of Significance). Since the P-value of the Goodness-of-Fit Fit (0.602) is not statistically significant, we do not reject H_0; hence, we conclude that the observed data is having goodness of Fit with the fitted data. The Pseudo R-square is the proportion of the variance explained by the independent variable on the dependent variable on the regression model. The Nagelkerke value is 0.723 which is above 0.7; hence, we conclude that there is 72.3% proportion of the variance explained by the independent variable (Corruption in petroleum products) on the dependent variable (Downstream oil Deregulation policy). As for the odds ratio, "Strongly agree" has an exponential value of 2.46, meaning that "strongly agree" has 2.46 times more relationship than the undecided category. This affirms the conclusion that there is a relationship between downstream oil deregulation policy and corruption. For the test of parallel lines, since the p-value is 0.544 > 0.05, we do not reject H_0; hence we conclude that our location parameter (slope coefficients) are the same across response categories. This is in line with Donwa *et al.* (2015). In the study they found out that the level of corruption in Nigeria has significant impact on economy growth. The implication of this finding is that economy cannot grow fast without zero tolerance in corruption. The study concluded that despite efforts of ICPC and EFCC corruption still remain problem to Nigeria economy.

In the second finding of this study, the results show that there is a significant relationship between downstream oil deregulation policy and modular refining of petroleum products in Nigeria. This was because the p-value of the Model Fitting is 0.032, less than 0.05 (level of Significance), we reject H_0 and conclude that there is a difference between the baseline model and the final model; hence there is a significant relationship between Downstream Deregulation policy and Modular Refining of petroleum products in Nigeria. Since the P-value of the Goodness-of-Fit (0.106) is not statistically significant, we do not reject H_0; hence, we conclude that the observed data is having goodness of Fit with the fitted data. The Pseudo R-square is the proportion of the variance explained by the independent variable on the dependent variable on the regression model. The Nagelkerke value is 0.723 which is above 0.7; hence, we conclude that there is 79.2% proportion of the variance explained by the independent variable (Modular refining of petroleum products) on the dependent variable (Downstream Deregulation policy). As for the odds ratio, "Strongly agree" has an exponential value of 2.69, meaning that "strongly agree" has 2.7 times more relationship than the undecided category. This affirms the conclusion that there is a relationship between downstream deregulation policy and modular refining of petroleum products. For the test of parallel lines, since the p-value is 0.175 > 0.05, we do not reject H_0; hence we conclude that location parameter (slope coefficients) are the same across response categories.

CONCLUSION

Based on the findings of the study, the following conclusions are made: The study revealed that the non-availability of petroleum products in Nigeria vis-à-vis Akwa Ibom State are cause by cross-border smuggling, leadership, corruption and non-refining of petroleum products locally. Therefore, the objective of this study is to examine downstream deregulation policy and availability of petroleum products in Nigeria: A study of Akwa Ibom State, 2015 – 2022. Survey design was used in the methodology of the study. The hypotheses formulated were tested using ordinary least squares linear regression technique. The study revealed that the downstream deregulation policy promotes the availability of petroleum products in the economy. The study also revealed that modular refining of petroleum products positively impacts on deregulation of the downstream policy in the country. It was further revealed from the findings that cross-border smuggling; corruption and leadership are the major causes of non-availability of petroleum products in Nigeria as well as Akwa Ibom State.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

- Government should revamp modular refining of petroleum products as this is a pathway for availability of petroleum products.
- Government should monitor lifting of petroleum products from refining to outlay stations to checkmate excessive corruption in oil and gas sector.
- Government should strengthen petroleum taskforce across Nigerian borders to checkmate petroleum products smuggling.
- Government should ensure that leadership in the petroleum sector is effective and efficient, transparency and accountability be urgently addressed.

REFERENCES

Adelabu, N. S. (2012). The political economy of oil deregulation in Nigeria's fourth republic: Prospects and challenges. *Journal of Emerging Trends* in *Educational Research and Policy* Studies, 3, 193-198. Retrieved from www.jeteraps. scholarlinkresearch.org

Adetunji, A. T. (2016). Deregulation policies in theory, privatization in practice: a case of Nigerian universities. *International Research Journal of Management, IT and social sciences, 3(3),* 34-39.

Donwa, P. A., Mgbame, C. O. & Julius, O. M. (2015) "*Corruption in the Oil and Gas Industry: Implication for Economic Growth"* European Scientific Journal August 2015 edition vol.11, No.22 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431

Donwa, P. C., Mgbame, C. O. and Julius, O. M. (2015). Corruption in the oil and industry: Implication for economic growth. *European Scientific Journal.* 11(22):212-230.

Ektndayo, A. and Ajayi, A. 1. (2008). the deregulation of multiversity education in Nigeria: Implication or quality assurance. *Nebuta* 5 (4), 21-28.

Ibanga, S. E. (2022). *"Downstream Deregulation Policy and Availability of Petroleum Products in Akwa Ibom State, Nigeria"* AKSU Journal of Administration and Corporate Governance (AKSUJACOG) Volume 2 Number 1, April, 2022

Kalejaiye, P. O., Adebayo, K., and Lawal, O. (2013). Deregulation and privatization in Nigeria: The advantages and disadvantages so far. *African Journal of Business Management,* 7(25), 2403-2409.

Monday, J. U., Ekperiware, M. C. and Muritala. B. K. (2016). Downstream oil deregulation and Nigerian economy. Ecoirum 5(8):207-214.

Obioma, B. K (2012). Corruption reduction in the petroleum sector in Nigeria: Challenges and prospects. *Mediterranean Journal of Social Sciences.* 3(15):98-107.

Obioma, B. K. (2012). Corruption reduction in the petroleum sector in Nigeria: Challenges and prospects.

Omotosho, B. S. (2019). Oil price shocks, fuel subsidies and macroeconomic instability in Nigeria. *International Journal of Economic and Business Review,* 6 (3):35-48.