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PUBLIC SECTOR EXPENDITURE AND THE ECONOMIC DEVELOPMENT IN NIGERIA (1999-2015)

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ABSTRACT: *The study examined the interaction of public sector expenditure and economic development from 1999 - 2015. The specific objective was to assess the extent to which GDP affects EDU, HLT, DFS, AGR and PDS. Secondary data employed were from the CBN bulletin published in 2016. Multiple regression analysis and t-test were the statistical tools applied, with the use of SPSS for both data analysis and to test the hypotheses formulated for the study at 5% level of significance. The result revealed that GDP does not significantly affect EDU, HLT and AGR and as a result they do not have impact on economic growth. On the contrary, GDP significantly affects the DFS and PDS which do not have effect on economic development. The result shows that government spending on defense, security and public debt servicing has not brought about economic development. Therefore, there is need for change of orientation. The government should concentrate on investing in provision of proper education and adequate health facilities for the citizenry. More attention should also be given to agriculture for the purpose of sufficient food supply. All these measures could provide solution to insurgency and militancy which the government has spent so much to no avail.*

KEYWORDS: Economic development, education, health, agriculture, defense and security, Public sector expenditure, public debt servicing.

INTRODUCTION

According to Akrani (2012) public sector expenditure "is spending made by the government of a country on collective needs and wants such as pension, provision, infrastructure, etc." In Nigeria, government expenditures are in two categories: the recurrent expenditure and capital expenditure. Recurrent expenditure refers to all payments made by the government or firms for all purposes excluding those that are capital in nature. It includes, government spending on health, education, agriculture, administration, defense and security of lives and property of the citizenry. Capital expenditure is that part of government spending that can be referred to as capital projects such as construction of roads, bridges, dams, schools etc. Over the years, scholars have been inquisitive to know the effect of government spending on the economic development of Nigeria. To some, it has been fair, while others have maintained the opinion that government negligence on the rights of the citizenry shows lack of good governance. May 29, 1999 marked the restoration of democracy in the Federal Republic of Nigeria when the former President Olusegun Obasanjo assumed office as the elected democratic president of Nigeria. The need to empirically investigate

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the government expenditure on education, health, defense/security, public debt servicing and agriculture as it affects the economy becomes very imperative to assess the performance of the democratic government so far. Perhaps this study could enable our law and policy makers to have an insight into the lapses in the economy and adjust their minds to make policies that are for the interest of the common masses. In the area of agriculture, the study is expected to draw the government attention to more meaningful investment that will improve the agricultural sector and alleviate the burden of the citizens. Too much dependence on oil has over the years crippled the agricultural sector which is supposed to be the life bone of a nation. However, a turn in the right direction may still avail the nation the opportunity of taking advantage of the fertile farmlands we have.

Objective of the Study

The major objective of this study is to examine the effect of public sector expenditure on the economic development. The research also seeks to achieve the following specific objectives:

1. To assess the extent to which GDP affects the government expenditure on Education (EDU);
2. To examine the extent to which GDP affects expenditure on Health (HLT) sector;
3. To ascertain the effect of the GDP on defense (DFS) and security;
4. To determine the extent to which GDP impacts on Agriculture (AGR);
5. To evaluate the extent to which GDP affects the public debt servicing (PDS).

Research Questions

To achieve the above objectives, the following research questions have raised:

1. To what extent does GDP affect the EDU?
2. How has GDP affected the HLT?
3. To what extent does GDP influence expenditure on DFS?
4. How does GDP impact on the AGR?
5. To what extent does GDP affect the public debt servicing (PDS)?

Research Hypotheses

Ho1: There is no significant relationship between the GDP and the EDU.

Ho2: Significant relationship between GDP and HLT does not exist.

Ho3: The relationship between GDP and DFS is not significant.

Ho4: There exists no significant relationship between the GDP and AGR.

Ho5: GDP and PDS do not have any significant relationship.

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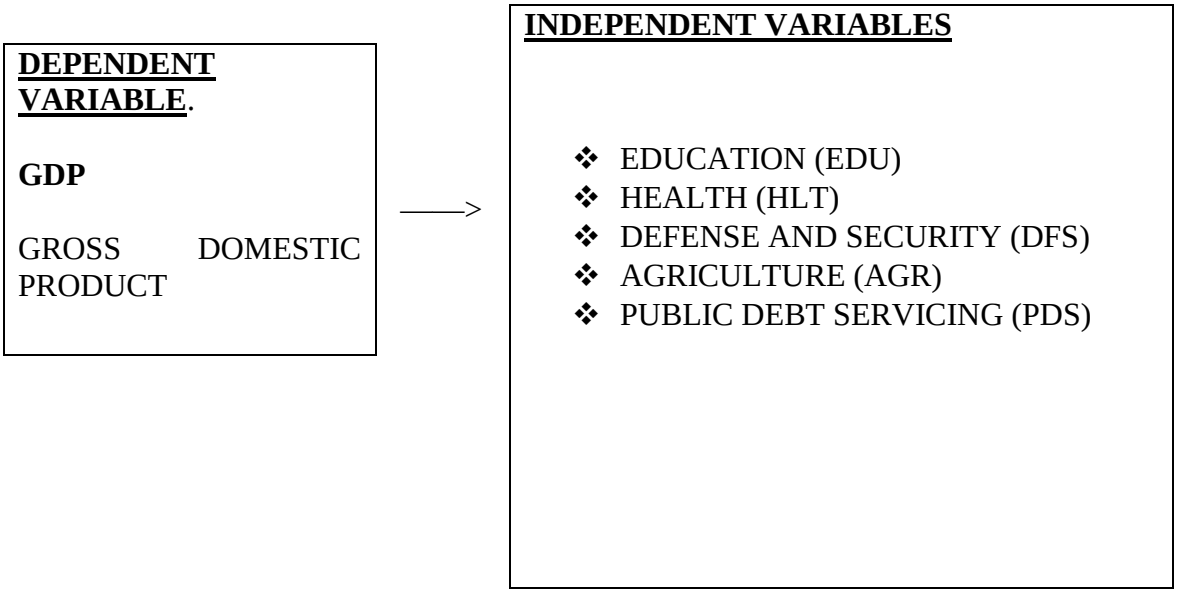
LITERATURE REVIEW

Conceptual Definitions

Gross Domestic Product (GDP) is employed as proxy for economic development in this study and it is conceptualized as the total monetary value of all goods and services produced in an economy over a defined or specified period of time, say one year.

Public Sector Expenditure refers to government spending both capital and recurrent. For the purpose of this study we focused on few selected recurrent expenditure sensitive to economic development in our time. These are government spending on education, health, defense and security, agriculture and public debt servicing. The government owes the citizenry protection of lives and properties. In Nigeria Boko haram insurgency and Niger Delta militancy have posed serious challenge that the government has to spend more to protect lives. The health of people in developing countries as well as illiteracy eradication also stand as important public expenditure items. The issue of external and domestic debt servicing cannot be ruled out in the Nigerian context, since it's an obligation that must be met.

FIGURE 1: CONCEPTUAL FRAMEWORK



ISSN 2055-608X(Print), ISSN 2055-6098(Online)

Theoretical Review

Adolph Wagner's Law of Increasing State Activity

Adolph Wagner, the German economist carried out an in depth study which relates to rise in government expenditure in the late 19thcentury. His study gave birth to a law called "The Law of Increasing State Activity". The law Wagner propounded states that "as the economy develops over time, the activities and functions of the government increase". According to him, "Comprehensive comparisons of different countries and different times show that among progressive peoples (societies), with which alone we are concerned; an increase regularly takes place in the activity of both the Central Government and Local Governments, constantly undertake new functions, while they perform both old and new functions more efficiently and more completely. In this way economic needs of the people to an increasing extent and in a more satisfactory fashion, are satisfied by the Central and Local Governments."

Wagner's Statement Indicates Following Points:

1. In Progressive societies, the activities of the central and local government increase on a regular basis.

2. The increase in government activities is both extensive and intensive.

3. The governments undertake new functions in the interest of the society.

4. The old and the new functions are performed more efficiently and completely than before.

5. The purpose of the government activities is to meet the economic needs of the people.

6. The expansion & intensification of government function & activities lead to increase in public expenditure.

7. Though Wagner studied the economic growth of Germany, it applies to other countries too both developed and developing (Gaurav, 2011).

The Peacock-Wiseman Hypothesis

Peacock and Wiseman did a research which was based on Wagner's Law. They examined the public expenditure in U.K. from 1891 -1955. They discovered that Wagner's Law is still valid and relevant.

Peacock and Wiseman went further to state that:-

1. "The rise in public expenditure greatly depends on revenue collection. Over the years, economic development results in substantial revenue to the governments, this enabled to increase public expenditure".

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2. There exists a big gap between the expectations of the people about public expenditure and the tolerance level of taxation. Therefore, governments cannot ignore the demands made by people regarding various services, especially, when the revenue collection is increasing at constant rate of taxation.

3. They further stated that during the times of war, the government further increases the tax rates, and enlarges the tax structure to generate more funds to meet the increase in defense expenditure. After the war, the new tax rates and tax structures may remain the same, as people get used to them. Therefore, the increase in revenue results in rise in government expenditure. According to Gaurav (2011), Wagner's law and Peacock-Wiseman hypothesis emphasize on the fact that public expenditure has tendency to increase overtime.

Empirical Review

Olugbenga and Owoye (2007) examined the relationships between government expenditure and economic growth for a group of 30 OECD countries within the period of 1970 to 2005. The regression results indicated the existence of a long-run relationship between government expenditure and economic growth. In addition, the authors observed a unidirectional causality from government expenditure to growth for 16 out of the countries, which is in line with the Keynesian hypothesis. However, causality runs from economic growth to government expenditure in 10 out of the countries, confirming the Wagner's law. Finally, the authors found the existence of feedback relationship between government expenditure and economic growth for a group of four countries.

Okoro (2013) cited Liu and Hsu and Younis (2008) who studied the causal relationship between GDP and public expenditure for the US data between 1947- 2002. The causality results showed that total government expenditure could cause growth of GDP. On the contrast, growth of GDP does not lead to an increase in government expenditure. Moreover, the estimation results revealed that public expenditure improves the US economic growth. The authors therefore concluded that, judging from the causality test Keynesian hypothesis exerts more influence than the Wagner's law in US.

Abu and Abdullahi (2010) did a short-run analysis of recurrent and capital expenditures, as well as government spending on agriculture, education, defense, health, transport and communication sectors as it affects the Nigerian economy. The results of the study revealed that government total capital expenditure, total recurrent expenditure, and government expenditure have negative effects on economic growth. On the contrary, the rising government expenditure on transport, communication, and health results to an increase in economic growth.

Tajudeen and Ismail (2013) studied the impact of public expenditure on economic growth in Nigeria during the period 1970 to 2010 making use of annual time series data. The work made use of the bounds testing (ARDL) approach to determine the long run and short run relationships between public expenditure and economic growth in Nigeria. The bounds test showed that the in

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the long run the variables of interest put in the framework are bound together. The associated equilibrium correction was also significant confirming the existence of long-run relationships. The study revealed that a negative impact of total public spending on growth which is consistent with other past studies. Recurrent expenditure however was found to have little significant positive impact on growth. They concluded that government should increase its spending on infrastructure, social and economic activities.

Okoro (2013) investigated the impact of government spending on the Nigerian economic growth. Ordinary least square multiple regression analysis was the statistical tool used to estimate the model specified. Real Gross Domestic Product (RGDP) was adopted as the dependent variable while government capital expenditure (GCEXP) and government recurrent expenditure (GREXP) represents the independent variables. With the application of Granger Causality test, Johansen Co-integration Test and Error Correction Mechanism, the result indicated that a long-run equilibrium relationship exists between government spending and economic growth in Nigeria. The short-run dynamics adjusts to the long-run equilibrium at the rate of 60% per annum.

Robinson et al (2014) studied the empirical relationship between government expenditure and economic growth. Government expenditure was disaggregated unto, total expenditure, public debt expenditure, expenditure on health and government expenditure on Education. The ordinary least square (OLS) was employed to assess the short-run relationship between variables, however, the Augmented Dickey Fuller (ADF) test, was used to ascertain the long-run relationship between variables in the equation. Results revealed that there is an inverse relationship between government expenditures on health and economic growth; while government expenditure on education sector is seen to be inadequate considering the demands of the sector.

Micheal and Cordelia (2015) empirically examined the impact of government expenditure on the growth of the Nigerian economy between 1980 and 2013. Multiple regression of least square estimate was used to analyze the data. Their study revealed that causal relationship between government expenditure and economic growth does not exist and that and that government expenditure has a zero effect on economic growth. It was also discovered that GDP and education expenditure exerted negative influence on both the government expenditure and economic growth while the health care expenditure, standard of living and unemployment rate had a positive influence and were significant on the government expenditure.

This study is an improvement on other studies on economic growth-government expenditure relationship in Nigeria for two reasons. Firstly, it considers government expenditure on health, defense, agriculture, debt servicing and education as important variables that affect economic growth. Recent studies like (Michael and Cordelia 2015) did not include the variables such expenditure on defense, agriculture and public debt servicing in the growth model. Secondly, this study extends the study period to 2015.

ISSN 2055-608X(Print), ISSN 2055-6098(Online)

RESEARCH METHOD

Research Design

The research design adopted in this study is quasi experimental design which involves the use of secondary data.

Sources of Data Collection and Technique of Analysis

The secondary data used for the study are from the National Bureau of Statistics' Website and Central Bank of Nigeria (CBN). Descriptive and inferential statistics were used to analyse the data for this study. Also multiple regression and t-test statistical tools were used to test the hypothesis formulated in this study.

Model Specification

This study used the econometric technique of Ordinary Least Square (OLS) in form of Multiple Linear Regressions to the relative regression coefficients. The regression model was estimated through the use of Statistical Package for Social Sciences (SPSS).

The mathematical model for the study is as follows:

GDP = f (EDU, HLT, DFS, AGR, PDS)

Where;
GDP = Gross Domestic Product;
EDU = Government expenditure on Education;
HLT = Government expenditure on Health;
DFS = Government expenditure on Defense and Security;
AGR = Government expenditure on Agriculture;
PDS = Government expenditure on Public Debt Servicing.

Mathematical Specification

$Y_i = b_0+b_1X_1 + b_2X_2 +b_3X_3 +b_4X_4+b_5X_5 +e$

Where;

Y_i = Gross Domestic Product
X_1 = Education
X_2 = Health
X_3 = Defense and security
X_4 = Agriculture
X_5 = Public debt servicing
b_0 = The parameter which represents the intercept

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b_1, b_2, b_3, b_4, b_5 = The regression parameters used in determining the significance of the impact of each of the independent or explanatory variables x_1, x_2, x_3, x_4, x_5 on dependent variable, Y_i.

e = Random disturbance term.

RESULTS AND DISCUSSIONS

The result from SPSS below has been summarised as follows:

Summary of the Results

R	=	0.985
R^2	=	0.970
Adj.R	=	0.957
Std Error of estimate	=	6665.403
Durbin – Watson	=	1.47
F Value	=	72.121
DF	=	16-5 = 11 i.e. F-tab = 3.20 (Under 5%)
PV (Significant)	=	0.000

Table 1 shows the R^2 of 97.0% which is the rate of variability on the dependent variable (GDP) by all the independent variables (EDU, HLT, DFS, AGR, & PDS) combined. That means GDP affects the behaviour of the explanatory variables which are accounted for by the model.

Table 2 is the F-Test to determine whether the model is a good fit for the data. From the p-value, the model is a good fit since the P<0.05. That is, the F-value of 72.12 with the P-value of 0.000 shows that the model is statistically significant.

Table 3 means that Y = -11250.998+70.993EDU–70.281HLT + 87.508DFS – 5.799AGR + 33.653PDS

Test of Hypothesis

The study earlier hypothesized that: significant relationship does not exist between the GDP and government expenditures on EDU, HLT, DFS, AGR, & PDS. Therefore the study has tested sets of variables using the t-test, to see if they are significant. The results revealed the following: EDU = 1.419 < 3.20 (no impact), significance level (p = 0.184 > 0.05 i.e., not significant); HLT = -0.686 < 3.20 (negative impact), significance level (p = 0.507 > 0.05 i.e., not significant); DFS = 2.273 < 3.20 (no effect), significance level (p = 0.044 < 0.05 i.e., significant); AGR = -0.052 < 3.20 (no impact), significance level (p = 0.959 > 0.05 i.e., not significant); PDS = 2.581 < 3.20 (no effect), significance level (p = 0.026 < 0.05 i.e., significant). Based on the result from SPSS, the study has accepted the null hypotheses for EDU, HLT, & AGR and rejected the alternative which states otherwise. In the same vain, the null hypotheses for DFS and PDS have been rejected and the alternative which states otherwise accepted.

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CONCLUSION AND RECOMMENDATION

From the result above, government expenditure on education (EDU), health (HLT) and agriculture (AGR) does not have any impact on economic growth. That means the expenditure on these key economic growth indicators are not enough to positively affect the economy since their p-values are not significant. On the contrast, the government expenditure on defense and security (DFS) is significant but has no effect on economic growth. The government expenditure to curb insurgency and militancy is enormous but has not brought about economic development. The same result was seen in public debt servicing (PDS). The government spending on PDS is significant but has no impact on economic growth. This study was planned to empirically investigate the economic performance since the restoration of democracy in Nigeria, using key areas of government spending. The result has shown that the government spending is not sufficient to ensure that proper education and health care services are available for the citizenry. A well educated person bubbling in good health hardly think of disturbing other people's peace. Instead of pumping money to fight insurgency caused as a result of hunger and lack of proper education, the money should be invested in agriculture to provide more food for the poor masses and get them well informed through adequate learning processes and diverse skill acquisitions.

VARIABLES ON PUBLIC EXPENDITURE AND GDP FROM 1999 – 2015

YEAR	GDP	EDU	HLT	DFS	AGR	PDS
	N'BILLION	N'BILLION	N'BILLION	N'BILLION	N'BILLION	N'BILLION
1999	4,679.21	43.61	16.64	91.82	59.32	30.84
2000	6,713.57	57.96	15.22	68.55	6.34	131.05
2001	6,895.20	39.88	24.52	85.92	7.06	155.42
2002	7,795.76	80.53	40.62	132.37	9.99	163.81
2003	9,913.52	64.78	33.27	119.44	7.54	363.51
2004	11,411.07	76.53	34.20	174.12	11.26	382.5
2005	14,610.88	82.80	55.66	153.62	16.33	393.96
2006	18,564.59	119.02	62.25	202.11	17.92	249.33
2007	20,657.32	150.78	81.91	253.39	32.48	213.73
2008	24,296.33	163.98	98.22	292.75	65.4	381.2
2009	24,794.24	137.12	90.2	276.49	22.44	251.79
2010	54,612.26	170.80	99.1	422.91	28.22	415.66
2011	62,980.40	335.8	231.8	563.16	41.17	527.18
2012	71,713.94	348.40	197.9	659.3	33.3	679.3
2013	80,092.56	390.42	179.99	565.07	39.43	828.1
2014	89,043.62	343.75	195.98	547.67	36.7	941.7
2015	94,144.96	325.19	257.72	740.75	41.27	1,060.38
TOTAL	**602,919.43**	**2931.35**	**1715.2**	**5349.44**	**476.17**	**7169.46**

SOURCE: CBN STATISTICAL BULLETINE 2016.

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TABLE 1

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.985[a]	.970	.957	6665.40344	1.474

a. Predictors: (Constant), PDS, AGR, EDU, HLT, DFS

b. Dependent Variable: GDP

TABLE 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16020711607.695	5	3204142321.539	72.121	.000[b]
	Residual	488703632.601	11	44427602.964		
	Total	16509415240.296	16			

a. Dependent Variable: GDP

b. Predictors: (Constant), PDS, AGR, EDU, HLT, DFS

TABLE 3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-11250.998	3731.468		-3.015	.012
	EDU	70.993	50.038	.275	1.419	.184
	HLT	-70.281	102.466	-.176	-.686	.507
	DFS	87.508	38.493	.605	2.273	.044
	AGR	-5.799	110.881	-.003	-.052	.959
	PDS	33.653	13.041	.310	2.581	.026

a. Dependent Variable: GDP

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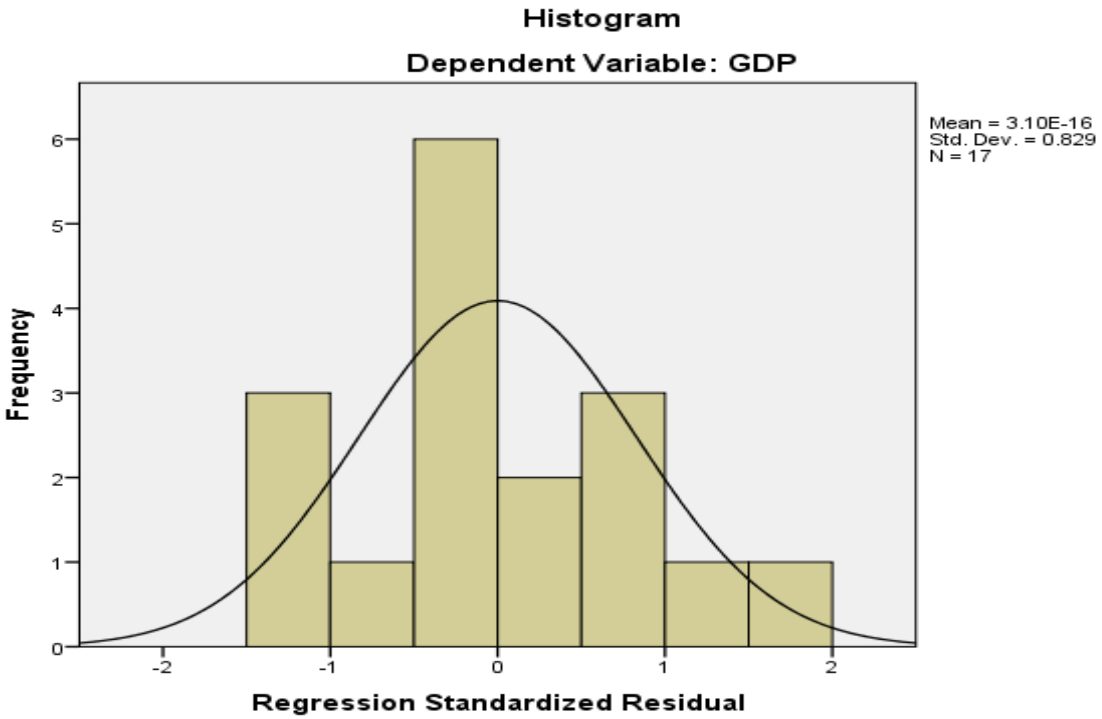
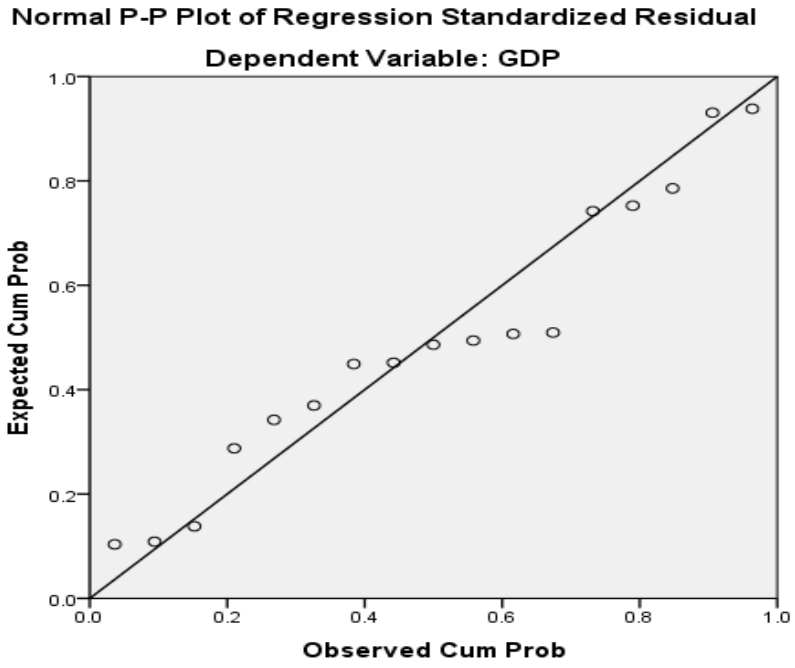
CHARTS





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