Analysis of Government Disaggregated Expenditures and Growth of Nigerian Economy

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Abstract

The study explores the relationship between government disaggregated expenditures and growth of the Nigerian economy over the period of 1970 to 2014 with a critical focus on growth analysis. Using percentage changes in government expenditures on administration, economic services, social and community services and transfers and

GDP, the study employed ex-post facto research design and the required data were sourced from CBN statistical bulletin and subjected to OLS, ECM, Granger causality and Johansen co-integration methods of estimations. Utilizing the ADF statistics, the employed variables were found to be stationary at level, while the OLS revealed a short run positive association between expenditures on administration, social and community services and transfers and gross domestic product while economic services expenditure relates negatively to GDP. The study also revealed the existence of equilibrium or long-run relationship among employed variables, while the ECM was rightly signed at 92% speed of adjustment. The granger causality revealed a demand-following unidirectional relationship between GDP and expenditures on economic services. Based on this, the paper recommends among others that Expenditures on economic services should be channelled towards diversification of the economy especially in this period of dwindling oil price.

Keywords: **Nigeria; Government Expenditures; Gross Domestic Product; Economic Growth**

INTRODUCTION

As an outcome of Keynesian economics, government expenditure has over the years become a major tool of economic stabilization especially in developing countries. With the economic growth and development aim of most countries, government spending has been one of the major tools sought by government in positioning the economy in the right path; although its necessities has generated quite a lot of argument among scholars especially in this recent times. However, even with its demonstrated efficacy during the 1930s depression era, several researchers have maintained that increase in government spending can be retarding to economic growth and as such bring about crowed-out effects on private sector. Following the Keynesian view, government could rear economic slumps by the means of deficit budgeting and then reimburse the borrowed fund to the private sector through numerous spending platforms; which would amount likely to increase in employment, profitability and investment through multiplier effects on aggregate demand. In the opinion of Vedder et al, as government disbursements grow incessantly, the law of diminishing returns begins operating and beyond some point, further upsurges in government expenditures will likely amount to economic stagnation and decay. However, the works and findings of Abu and Abullahi [1], Al-Yousif [2], Abdullah [3] and Cooray [4] revealed that increase in government spending stimulate the growth of an economy. Based on their logic, it can simply be inferred that government spending on social and community services (health and education) advances labour efficiency and growth of domestic output. Equally, Abu et al [1] opined that expenditure on infrastructural development reduces cost of production, increases private sector investment and firms' profitability, thus fostering economic growth.

In 2014 after the statistical GDP rebasing exercise in Nigeria, they emerged as Africa's largest economy, with 2013 GDP estimated at US$ 502 billion. Oil has been a dominant source of government revenues since the 1970s. It is also worthy to note that regulatory constraints and security risks have limited new investment in oil and natural gas, and Nigeria's oil production contracted in 2012 and 2013. However, the Nigerian economy has continued to grow at a rapid 6-8% per annum (pre-rebasing), this is basically driven by growth in agriculture, telecommunications, and services. Fiscal authorities also followed countercyclical policies in 2011-2013, and this meaningfully reduced the budget deficit. Moreover, monetary policy has also been receptive and also operative. Subsequent to the 2008-2009 global financial crises, the Nigerian banking industry was effectively recapitalized and regulation enhanced which also contributed to the growth in the real sectors of the economy. Regardless of all these strong fundamentals, oil-rich Nigeria has been staggered by inadequate power supply, lack of infrastructure, insecurity, and pervasive corruption. Economic diversification and strong growth have not translated into a significant decline in poverty levels - over 62% of Nigeria's 170 million people live in extreme poverty [5].

Following the postulations of Keynes theory of government expenditure, it is crystal clear that if the expenditure patterns of government is examined with all circumspection and probably harmonized with other actions or policies, it will boast the growth and development of economy. However, notwithstanding the recorded increase in the expenditures of Nigerian government over the years, the realization of its growth, full employment, price stability, favourable balance of payment objectives have remain a hallucination as observed by Okunroumu [6]. As such, it is of great importance especially at this material time of 6.08trillion naira budget proposal to look into government expenditures and growth of Nigerian economy. Although, scholars have over the years held a different view on the association amid government spending and economic progression given the dichotomy in their recent empirical findings; however, most scholars are still of the opinion that government expenditure could be used to upsurge the growth in an economy depending on the area or sector of such spending as shown in the works of Ogundipe [7] and chude et al. [8]. Therefore, in this work, we tend to look into government expenditures in sectors and growth of Nigerian economy.

LITERATURE REVIEW

This section examines relevant related literature and theoretical framework on the relationship between government expenditure and economic growth which has been extensively treated in the recent times although with dichotomy amidst the findings as with the case of earlier works. Following the positions of earlier scholars such as Wagner, and Keynes, the argument resulted to two schools of thought on the directional relationship between public expenditure and economic growth. In the opinion of Wagner, public expenditure was viewed as a consequence or function of economic activities, while on the other side, Keynes stressed that government spending is a tool adopted by the government to reverse economic slumps hence; economic growth in his opinion is a function of public spending.

Theoretical Framework

The Keynesian Theory: Of all the theories deliberated above, Keynesian theory is the most eminent bearing in mind that it was promulgated at the time classical economic theory demonstrated to be incapacitated in the running of the economy. In the theory, Keynes regards fiscal arrangements of public disbursements as an inspiring element which can be employed to stimulate economic growth. From the Keynesian thought, public spending could be used to affect the growth of an economy positively. Since, an upsurge in the level government expenditures will probably lead to an upturn in the rate of employment, cost-effectiveness and venture by means of multiplier effects on cumulative demand. As a result, government disbursement supplements the collective demand, which aggravates an increased output depending on disbursement multipliers.

Wagner's Law (Theory of Increasing State Activities): As a theory named after the promulgator Adolph Wagner (1835-1917), the theory progressed a step forward in 'law of escalating public spending' by considering the movement in the growth of government spending and in the magnitude of public segment. The law states that: (i) the enlargement of the tasks or responsibilities of the public sector particularly with the case of unindustrialized economies amounts to an upturn in public spending on management, direction of the economy and others; (ii) the pursuit of industrialization by every economy would give rise to increasing political density for social development and thereby call for improved permission for social contemplation in the operation of businesses. (iii) The increase in public spending will be more than comparative upsurge in the national revenue and as such, will yield a relative growth of the public sector. In support of Wagner's law, Musgrave and Musgrave in their opinion stressed that as progressive countries industrializes, the portion of the public segment in the domestic economy develops enormously.

Musgrave Theory of Public Expenditure: As an outcome of Musgrave's reflection on the changes in the income elasticity of demand for public goods in relation to per capita income, Musgrave theory considered changes in demand for public goods which brings about government expenditures in three magnitudes of per capital income. At the low levels of per capita income, he opined that demand for public goods tend to be very low, this he justified by stressing that at this level, such income is devoted to satisfying prime needs that would have been provided by the government and as such government spending will be relatively low, however, he stressed that when per capita income starts to increase above these levels of low income, the demand for goods and services provided by the public sector such as health, education and transport etc starts to rise, thereby convincing government to increase disbursement on them. At the high levels of per capita income, particularly of industrialized economics, the rate of public sector growth tends to fall as the more basic wants are being achieved and the economy shifting from the public sector driven to private sector driven.

On the empirical aspect of the literature, Omitogun [9] surveyed the fiscal policy contribution in the attainment of maintainable growth of economy in Nigeria. With the

use of the same OLS technique, they establish that fiscal policy has been ineffective in encouraging justifiable growth of economy in Nigeria; and as such advocated that Nigerian economic managers should put a halt to the ceaseless fruitless foreign borrowing, wasteful expenditure and unrestrained supply of money and embark on precise policies directed at realizing improved and sustainable productivity in all sectors of the economy. Oni et al. [10] explored the joint impact of total recurrent and capital expenditure on the Nigerian economic growth with the aid of ordinary least square multiple regression diagnostic method. Their discoveries indicate that total capital spending and total recurrent disbursement are significant determinants of economic growth in Nigeria. Ogundipe [7] inspected the effect of government outlay (both recurrent and capital) on growth rate in Nigeria exhausting the Johansen co-integration method of analysis. Confirmation from the analysis spanning from 1970-2009 display that the components of total government spending induced an adverse (except spending on education and health) and insignificant in explaining the trend of economic growth.; also, the study shows the prospect of long-run equilibrium convergence between the components of capital outlay and output growth, while the equilibrium convergence between the components of recurrent expenditure and growth of an economy may not be achievable.

Oni, (2014), evaluated the growth impact of health expenditure in Nigeria with the use of multiple regression technique. The study discovered that total health expenditure, gross capital formation and labour force productivity are significant determinants of economic growth in Nigeria while life expectancy impacted adversely. Engaging Error Correction Model (ECM), Chude [8] scrutinised the long and short run effects of public expenditure on output growth in Nigeria, and their fallouts indicate that government spending on Educational sector is highly and statistically significant with a positive relationship with output growth at long run. Analysing the nexus between disaggregated government spending and growth of economy in Nigeria covering the era 1970-2009, Mutiu [11] using Gregory-Hansen structural breaks co-integration technique upholds Wagner's law in two models in the long run; and exposed that economic development and growth are the major purpose of government spending, particularly in the arrears of infrastructure and human resources all of which falls under social and community services.

Olulu, et al. [12] explored the analysis of empirical relationship between government expenditure and Nigerian economic growth, engaging the ordinary least square (OLS) method of estimation, their fallouts revealed of a counter connection amid government spending on health and economic output growth in Nigeria; while government expenditure on education sector, is seen to be inadequate to cater for the expending sector in Nigeria. They also revealed that government expenditure in Nigeria could escalate foreign and local investments. Olorunfemi inspected the trend and strength of the association between public expenditure and growth of Nigerian economy covering the period 1975 to 2004, and they discovered that public spending exhibited a positive impact on the growth of Nigerian economy, and also found that there was no relationship between gross fixed capital formation and Gross Domestic Product.

Jibao et al. [13] applied linear co-integration in the test of asymmetry relationship between revenue and expenditure in South Africa i.e. making a peculiarity between the adjustment of positive (budget surplus) and adverse (fiscal deficit) deviations from equilibrium. The authors established that fiscal policies were sustainable though the authorities in South Africa were more likely to react faster when the budget was in deficit than when in surplus and that the stabilization measures by government were equitably neutral at low deficit levels, that is, at quarterly deficit levels of 4% of GDP and below. Also in this same line, Taiwo [14] scanned the relationship between current and capital spending in Nigeria using ordinary least square on series from 1970-2008 and they established a significant positive relationship between economic growth and capital and recurrent expenditure. However, Usman et al. [15] using vector error correction model in his study of the relationship between government expenditure and economic growth in Nigeria exposed the existence of long-run relationship between government expenditure and economic growth.

Knowledge gap

It is obvious that most of the previous studies basically looked at government expenditures on its aggregate nature or at most in its capital and recurrent patterns; so also is the fact that most of the studies considered gross domestic product in absolute terms as a measure of economic growth which captures more of performance and not growth. It is in the light of this gap created that this study finds more relevance and justification. As such, in order to fill the gap, this paper will subject government expenditures to its sectorial patterns and also, percentage changes in GDP will be used to capture growth rather than absolute GDP.

MATERIALS AND METHODS

This work relied on time series regression analysis and as such, will make use of expo facto research design.

The relevant annual data on Gross domestic product (GDP) and government sectorial expenditures (expenditures on Administration, Economic service, Social and community service, and transfers) were sourced from CBN statistical bulletin of 2014 publication and subjected to percentage changes in order to capture the growth. The study covers the period 1970 to 2014 (Tables 1 and 2).

Table 1: Government sectorial expenditures and GDP.

YEAR	GDP	ADMIN	SOCIAL	ECONOMIC	TRANSFER
1969	3,549.30	141.82	28.36	43.01	343.03
1970	5,281.10	205.38	44.95	41.45	612.12
1971	6,650.90	366.6	31.49	86.35	512.75
1972	7,187.50	465.97	63.07	166.01	768.54

1973	8,630.50	498.17	65.34	291.53	674.16
1974	18,823.10	579.28	411.22	507.54	1,242.56
1975	21,475.24	1,357.91	1,093.60	1,390.89	2,100.20
1976	26,655.78	1,434.82	1,301.38	2,321.15	2,799.34
1977	31,520.34	1,741.31	1,082.58	3,258.79	2,741.12
1978	34,540.10	1,673.53	1,090.46	3,105.04	2,130.98
1979	41,974.70	1,221.81	827.73	2,859.69	2,497.48
1980	49,632.32	2,096.23	2,727.15	6,089.62	4,055.60
1981	47,619.66	1,635.01	1,593.75	3,805.05	4,379.89
1982	49,069.28	1,424.77	1,303.14	2,742.05	6,453.25
1983	53,107.38	1,995.00	1,315.41	2,462.88	3,863.20
1984	59,622.53	1,362.80	591.99	867.5	7,105.35
1985	67,908.55	1,889.80	1,614.75	1,167.28	8,369.27
1986	69,146.99	1,717.70	1,123.48	1,378.85	12,003.63
1987	105,222.84	5,659.28	916.63	2,854.36	12,588.44
1988	139,085.30	7,676.40	3,840.20	3,349.90	12,883.00
1989	216,797.54	8,888.00	6,074.90	5,345.30	20,720.10
1990	267,549.99	9,460.10	5,492.00	5,099.40	40,216.70
1991	312,139.74	10,298.80	4,168.60	4,448.40	47,668.60
1992	532,613.83	13,803.01	3,468.75	5,416.81	70,108.84
1993	683,869.79	38,651.87	18,235.12	26,094.56	108,247.35
1994	899,863.22	29,320.74	15,079.82	31,012.67	85,479.97
1995	1,933,211.55	42,095.70	23,036.40	49,067.10	134,568.90
1996	2,702,719.13	61,410.88	24,645.38	122,582.06	128,779.27
1997	2,801,972.58	105,733.30	28,962.13	175,813.50	117,706.23
1998	2,708,430.86	85,949.20	44,807.03	212,436.62	143,920.57
1999	3,194,014.97	226,374.50	88,624.70	410,657.52	222,033.26
2000	4,582,127.29	197,809.60	112,750.25	140,100.53	250,390.51
2001	4,725,086.00	230,055.85	132,966.41	312,766.25	342,207.99
2002	6,912,381.25	340,087.20	184,652.68	268,284.84	225,153.41
2003	8,487,031.57	395,932.20	158,343.58	194,052.83	477,659.67
2004	11,411,066.91	444,540.00	164,420.00	226,503.53	626,433.57
2005	14,572,239.12	606,240.00	223,010.00	329,340.00	682,103.10
2006	18,564,594.73	707,420.00	272,850.00	341,900.00	620,320.41
2007	20,657,317.67	853,330.00	407,570.00	537,450.00	550,201.50
2008	24,296,329.29	1,018,120.00	485,100.00	818,040.00	756,987.00
2009	24,794,238.66	1,006,080.00	499,120.00	929,620.00	845,954.36
2010	54,204,795.12	1,377,640.00	702,670.00	974,950.00	938,018.08
2011	63,258,579.00	1,494,190.00	878,290.00	696,840.00	1,172,173.49
2012	71,186,534.89	1,349,900.00	887,460.00	551,140.00	1,411,500.00

| 2013 | 80,222,128.32 | 1,395,470.00 | 998,780.00 | 797,000.00 | 1,606,220.00 |
| 2014 | 89,043,620.00 | 1,947,810.00 | 1,230,680.00 | 363,660.00 | 1,669,240.00 |

Source: CBN Statistical Bulletin

Table 2: percentage changes in government expenditures and GDP.

YEAR	GDP	GEXPA	GEXPE	GEXPS	GEXPT
1970	48.79%	44.82%	-3.63%	58.50%	78.45%
1971	25.94%	78.50%	108.32%	-29.94%	-16.23%
1972	8.07%	27.11%	92.25%	100.29%	49.89%
1973	20.08%	6.91%	75.61%	3.60%	-12.28%
1974	118.10%	16.28%	74.10%	529.35%	84.31%
1975	14.09%	134.41%	174.05%	165.94%	69.02%
1976	24.12%	5.66%	66.88%	19.00%	33.29%
1977	18.25%	21.36%	40.40%	-16.81%	-2.08%
1978	9.58%	-3.89%	-4.72%	0.73%	-22.26%
1979	21.52%	-26.99%	-7.90%	-24.09%	17.20%
1980	18.24%	71.57%	112.95%	229.47%	62.39%
1981	-4.06%	-22.00%	-37.52%	-41.56%	8.00%
1982	3.04%	-12.86%	-27.94%	-18.23%	47.34%
1983	8.23%	40.02%	-10.18%	0.94%	-40.14%
1984	12.27%	-31.69%	-64.78%	-55.00%	83.92%
1985	13.90%	38.67%	34.56%	172.77%	17.79%
1986	1.82%	-9.11%	18.13%	-30.42%	43.43%
1987	52.17%	229.47%	107.01%	-18.41%	4.87%
1988	32.18%	35.64%	17.36%	318.95%	2.34%
1989	55.87%	15.78%	59.57%	58.19%	60.83%
1990	23.41%	6.44%	-4.60%	-9.60%	94.10%
1991	16.67%	8.87%	-12.77%	-24.10%	18.53%
1992	70.63%	34.03%	21.77%	-16.79%	47.08%
1993	28.40%	180.02%	381.73%	425.70%	54.40%
1994	31.58%	-24.14%	18.85%	-17.30%	-21.03%
1995	114.83%	43.57%	58.22%	52.76%	57.43%
1996	39.80%	45.88%	149.83%	6.98%	-4.30%
1997	3.67%	72.17%	43.43%	17.52%	-8.60%
1998	-3.34%	-18.71%	20.83%	54.71%	22.27%
1999	17.93%	163.38%	93.31%	97.79%	54.27%
2000	43.46%	-12.62%	-65.88%	27.22%	12.77%
2001	3.12%	16.30%	123.24%	17.93%	36.67%
2002	46.29%	47.83%	-14.22%	38.87%	-34.21%
2003	22.78%	16.42%	-27.67%	-14.25%	112.15%

2004	34.45%	12.28%	16.72%	3.84%	31.15%
2005	27.70%	36.37%	45.40%	35.63%	8.89%
2006	27.40%	16.69%	3.81%	22.35%	-9.06%
2007	11.27%	20.63%	57.20%	49.38%	-11.30%
2008	17.62%	19.31%	52.21%	19.02%	37.58%
2009	2.05%	-1.18%	13.64%	2.89%	11.75%
2010	118.62%	36.93%	4.88%	40.78%	10.88%
2011	16.70%	8.46%	-28.53%	24.99%	24.96%
2012	12.53%	-9.66%	-20.91%	1.04%	20.42%
2013	12.69%	3.38%	44.61%	12.54%	13.80%
2014	11.00%	39.58%	-54.37%	23.22%	3.92%

Source: Author's Computation with E-views

Model specification

Modelling economic growth (GDP) as a function of sectorial expenditures is functionally expressed thus:

GDP=F (GEXPA, GEXPE, GEXPS, GEXPT)………………… (1)

Econometrically, we represent the model thus:

GDP = GDP = β 0 + β1 GEXPA + β2 GEXPE + β3 GEXPS + β4 GEXPT + Ut …. (2)

Where:

GDP = Gross domestic product
GEXPA = government expenditure on administration
GEXPE = government expenditure on economic services
GEXPS = government expenditure on social community services
GEXPT = government expenditure on transfers
β0 = Constant.
β1- β6= Regression coefficients.
Ut = Error Term.

Aprioi expectations

Following the theoretical positions, we expect all our explanatory variables to relate positively with gross domestic product as represented mathematically below:
b1, b2, b3, b4 > 0

In order to carry out a stationarity test, we consider a variance of y that has a unit root which is postulated by Markov first-order autoregressive scheme, usually denoted as

AR(1) as follows:

$$Yt = \alpha\ Yt\text{-}1 + \mu t$$

Where:

Yt   =   Real GDP at time t.

A   =   Coefficient of one period lagged value of real GDP.

Yt-1 =   One period lagged value of real GDP.

μt   =   White noise error term assumed statistically independent and randomly distributed with zero mean, constant variance and serially not correlated.

Therefore, the model for testing the existence of unit root of a time series data is specified as follows:

$$\Delta Yt = \beta 1 + \beta 2t + \delta\ Yt\text{-}1 + \sum_{i=1}^{m} \alpha i\ \Delta Yt\text{-}i + \mu t$$

Where:

Y = variable of choice

β1 = intercept

∆ = first difference operator

β2 = constant parameter

δ   = coefficient of lagged Yt-1

μt = white noise error term

Following this, the hypothesis to be tested will be represented thus:

Ho: δ = 0, the time series data is non-stationary.

H1:   δ ≠ 0, the time series data is stationary.

Granger Causality Test

From the work of Granger [16], causality relationship could be of two types; the first which includes the lag variables arises when the coefficient of this variables are all statistically significant; while the second type could be sought if the variables are co-integrated and uses an error correction term based causality. The model for the first type could be represented thus:

$$Yt = \alpha 1 + \sum_{i=1}^{m} \alpha 2iYt\text{-}i + \sum_{i=1}^{m} \alpha 3iXt\text{-}i + \mu$$

$$Xt = \beta 1 + \sum_{i=1}^{m} \beta 2iYt\text{-}I + \sum_{i=1}^{m} \alpha 3iXt\text{-}i + \mu$$

Based on the model above, Xt is said to granger cause Yt as far as α3i is not zero; so also in the second model, Yt is said to granger cause Xt provided β2i is ≠ 0. However, if both significant occur, the variables are said to have a bidirectional relationship, whereas in a situation of only one being significant, a unidirectional relationship is said to have occurred.

DATA ANALYSIS TECHNIQUE

The analytical framework of this study consists of unit root test, ordinary least square regression method, parsimonious error correction mechanism (ECM), co-integration test (Johansen), and granger causality test.

RESULT PRESENTATION AND ANALYSIS

Results are given in Table 3.

Table 3: ADF result.

Variables	ADF-statistics	Critical value	Order of integration
GDP	-4.077261 (0.0001)	-1.948495	I(0)
GEXPA	-6.091117 (0.0000)	-1.948495	I(0)
GEXPE	-5.233944 (0.0000)	-1.948495	I(0)
GEXPS	-6.991104 (0.0000)	-2.929734	I(0)
GEXPT	-2.794480 (0.0063)	-1.948686	I(0)

Source: author's computation.

From the stationarity result obtained, all the employed variables proved to be stationary at level, this shows that the study is highly reliable as it will not in any way produce a spurious result, and as such, there is the need to ascertain the equilibrium relationship among the variables (Table 4).

Table 4: OLS result.

Dependent Variable: D(GDP);
Method: Least Squares
Date: 01/19/16   Time: 13:40
Sample (adjusted): 1971 2014
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002358	0.042719	-0.055207	0.9563
D(GEXPA)	0.167273	0.072009	2.322949	0.0256
D(GEXPE)	-0.156970	0.062734	-2.502142	0.0168

D(GEXPS)	0.100382	0.028402	3.534382	0.0011
D(GEXPT)	0.109366	0.079822	1.370132	0.1787
ECM(-1)	-0.984181	0.170711	-5.765193	0.0000
R-squared	0.596923	Mean dependent var		-0.008589
Adjusted R-squared	0.543887	S.D. dependent var		0.419208
S.E. of regression	0.283117	Akaike info criterion		0.440211
Sum squared resid	3.045900	Schwarz criterion		0.683510
Log likelihood	-3.684645	Hannan-Quinn criter.		0.530438
F-statistic	11.25497	Durbin-Watson stat		1.961942
Prob(F-statistic)	0.000001			

Source: author's computation

Government expenditure on administration: From above result, government expenditure on administration relates positively and significantly with gross domestic product with the co-efficient of 0.167273; which imply that a percentage change in GEXPA all things being equal will bring about 0.17% increase in GDP.

Expenditure on economic services: Against our expectation (Apriori), Government expenditure on economic services revealed a negative and significant relationship with gross domestic product over the years of our study. However, this deviation from the expected could be as a result of high level of corruption among the policy makers. Notwithstanding, the implication of the co-efficient is that 1% increase in government expenditure on economic services will lead to approximately 0.16% decrease in gross domestic product holding other variables constant.

Expenditure on social and community services: The 0.100382 coefficient of government expenditure on social and community services is an indication of positive relationship between GEXPS and GDP which is in line with our apriri expectation. Holding other variables constant, a percentage increase in government expenditure on social and community services will bring about 0.1% increase in gross domestic product. Also, it was found to be significant at 95% of confidence following its probability of 0.0011.

Expenditures on transfer: Government expenditures on transfer reported a coefficient of 0.109366 with a probability of 0.1787; this indicates a positive and insignificant relationship between government expenditure on transfer and gross domestic product in Nigeria for the period under study.

F-statistics: The F-statistics of 11.25497 and probability of 0.0000011 is an indication that the overall model is statistically significant.

Co-efficient of determination R2: The 0.596923 Co-efficient of Determination is an

indication that approximately 60% of the total variation in our dependent variable will be explained by our selected independent variables, while the remaining 40% is explained by other variables not expressly captured in our model but covered by the error term (Table 5).

Table 5: Johansen co-integration result.

Date: 01/26/16   Time: 17:32
Sample (adjusted): 1972 2014
Included observations: 43 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: GDP GEXPA GEXPE GEXPS GEXPT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)				Prob.**
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	
None *	0.616083	133.8405	88.80380	0.0000
At most 1 *	0.583340	92.67537	63.87610	0.0000
At most 2 *	0.432212	55.02954	42.91525	0.0020
At most 3 *	0.388818	30.69125	25.87211	0.0116
At most 4	0.198595	9.519724	12.51798	0.1507
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None*	0.616083	41.16512	38.33101	0.0230
At most 1*	0.583340	37.64583	32.11832	0.0095
At most 2	0.432212	24.33829	25.82321	0.0775
At most 3*	0.388818	21.17153	19.38704	0.0273
At most 4	0.198595	9.519724	12.51798	0.1507
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
*denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

The trace statistics from the result above indicates the existence of four co-integrating equations as can be seen from its probability of 0.0116 at 5% level; this is an indication of equilibrium relationship among the variables. However, it is not enough to prove the existence of long-run relationship since disequilibrium could arise at short run. As such, we need to ascertain the short-run and long-run dynamics using error correction model.

ECM: From the result of error correction model as depicted in table 2 above, ECM was rightly signed and statistically significant at the 92% speed of adjustment approximately. The implication of this is that over 92% disequilibrium in our dependent variable can be corrected by the selected independent variables over a year.

Granger causality

Granger causality is given Table 6.

Table 6: Granger causality.

Pairwise Granger Causality Tests
Date: 01/19/16   Time: 13:47
Sample: 1970 2014
Lags: 2.

Null Hypothesis:	Obs	F-Statistic	Prob.
GEXPA does not Granger Cause GDP	43	1.13431	0.3323
GDP does not Granger Cause GEXPA		1.30298	0.2836
GEXPE does not Granger Cause GDP	43	3.05921	0.0586
GDP does not Granger Cause GEXPE		3.51764	0.0397
GEXPS does not Granger Cause GDP	43	1.73991	0.1892
GDP does not Granger Cause GEXPS		1.74504	0.1883
GEXPT does not Granger Cause GDP	43	0.62163	0.5424
GDP does not Granger Cause GEXPT		1.38084	0.2637

Based on the above result, there is no directional relationship of any kind among our

employed variables except from GDP to Government expenditure in economic, where there is a unidirectional relationship. This unidirectional flow of relationship from GDP to GEXPE conforms the assertion of wagner's law of increasing state activities; where he opined that government expenditures increases with increase in economic activities (GDP).

CONCLUSION

The study exploits the relationship between government disaggregated expenditures and economic growth in Nigeria over the period 1970 to 2014. Subjecting all the variables to percentage changes, they were all found to be stationary at level which denotes that there will not be any spurious result in the study. From the analysis, we found out that there is an existence of equilibrium relationship among the variables and over 92% disequilibrium can be corrected over a year. From the OLS, all the variables were found to be positively related to GDP as postulated in our theories except government expenditure in economic services which relates negatively with gross domestic product. Based on the findings of this study, we recommend thereof: expenditures on economic services should be channelled towards diversification of the economy especially in this period of dwindling oil price; expenditures on social and community service should be directed mostly towards schools and hospital in order to bring to the standard that will discourage people from going outside the country to seek for the service; there is a need to grant full independent to all the anti-corruption bodies like the Economic and Financial Crime Commission (EFCC), Independent Corrupt Practices Commission (ICPC), etc. in order to strengthen their fight against corruption and finally, the government is also encouraged to fully implement the Treasury Single Account (TSA) and embarked the present government. This ensure accountability of government revenue, enhance transparency and avoid misapplication of public funds and also guarantee proper cash management by eliminating idle funds usually left with different commercial banks and in a way enhance reconciliation of revenue collection and payment.

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