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Government expenditures in Nigeria: Re-examination of Wagner's law

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Abstract. Nigerian data covering 1981 to 2018 were applied to affirm Wagner's law with respect to the five different models. The significance of this paper is to establish whether there exists a relationship between total government expenditures and the Nigerian economy. To accomplish the objective of this paper, data were sourced from the Central Bank of Nigeria statistical bulletin of various years. Several statistical and econometric tests were conducted. The results obtained revealed that there exists positive and statistical significance as well as a long-run relationship between the variables employed in the various models and that Wagner's law was held to exist in the Nigerian economy in the timeframe of the study. It is therefore, recommended that the Nigerian government should improve her sources of income in order to satisfy the increasing demand of her people now and in the future.
Keywords. Wagner's law, Total government expenditures, Real GDP.
JEL. H11, H50, C13, C22.

1. Introduction

The Nigerian population has continued to increase on yearly basis from about 122 million in 2000 to 150 million in 2008, 158 million in 2010, 190 million in 2017 and 194 million in 2018 (World Bank Development Indicators, 2019). The Nigerian Population Commission (NPC, 2018), reported that Nigeria had been ranked as the 7th most populous nation in the world with about 198 million people. The increasing growth of the Nigerian population led to the increasing government expenditures that are needed to provide the basic needs of the people. The government is required to build schools, health care centers, construct roads, provision of portable clean water, electricity, telecommunication satellites, payment of salaries/wages, payment of pensions and other social safety net etc.

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According to Weil (2009) Public expenditure has been divided into two different types such as the recurrent expenditure and capital expenditure. The recurrent type of expenditures are incurred year after year, while the capital expenditure are those expenditures on building schools, hospitals, construction of roads, buying of machinery and equipment etc.

The Central Bank of Nigeria (CBN) (2016), statistical bulletin revealed the growing trend of the Nigerian expenditure from 6.57 billion naira in 1981 to 28.34 billion in 1991, while in 2004 it became 519.50 billion and in 2015 to 818.37 billion naira for capital expenditure. The recurrent expenditure figures increased over time from 19.41 billion in 1988, to 53.03 billion in 1992, 1,223.70 billion in 2005 and 3,831.95 billion in 2015. The combination of the recurrent and capital expenditure gives the total expenditures. In 1981, the total expenditures was 11.41 billion, 60.27 billion in 1990, this figure rose to 1,822.10 billion in 2005 and while in 2015 the total expenditures became 4,988.86 billion.

As the population of a country increases the cost of old-age pensions, unemployment allowance and other transfer payments also increase in order to meet the required standard of living in the country. As shown in CBN (2015) Statistical bulletin, transfers expenditure in 2004 stood at 42.20 billion naira, which rose to 201.32 billion in 2010 and became 338.55 billion naira in 2015.

Some scholars had agreed that public expenditure also regarded as government spending is identified as a means for improving the standard of living of the people in a given country over the years. Government spending on both the capital and recurrent expenditures in terms of salaries/wages, good roads, telecommunication facilities, provision of portable clean water, generating and supply of electricity are determinants of better standard of living in a country (Morris, 1987).

According to Aigheyisi (2013), Nigeria is referred to as a resource and cash-rich country whose 70% population are living in relative poverty with a lot of infrastructural decay that are in near state of collapse. However, the huge increased in public expenditures in both capital and recurrent expenditures has not been able to reduce the rate of unemployment, poverty rate, the state of educational and health facilities which are manifested in the low standard of living in Nigeria overtime.

Therefore, the objective of this paper is to ascertain the impact of public expenditures on the Nigerian economy within a time frame of 1981 to 2018. The gaps in the literature identified in this paper is that majority of the literature are being focused on the traditional models of Wager's law, however, this paper will employ the use of five different models identified in literature that concerns the issue of Wager's law with respect to Nigeria. The rest of this paper is divided into introductory section, literature review in section two, theoretical frame and methodology in section three, section four contains the presentation of results and its analysis while section five dwell on conclusion and recommendation.

2. Review of literature and theoretical issues

Rostow (1960) stated that the rise in the government expenditures is based on the nature of economic growth and the pattern of development of the countries concerned. However, Peacock & Wiseman (1961) said that the ever increasing nature of government expenditures are due to social predicaments that varies among countries in their developmental periods. Wagner (1893) was the first person to postulate that as the economic activity of any nation grows there is a propensity for the government spending to increase in the long-run. He demonstrated this with his empirical model that had being tested and re-modified by different economists such as Peacock & Wiseman (1967), Goffman (1968), Pryor (1968), Musgrave (1969), Gupta (1967), Mann (1980) and Murthy (1994). The different modifications of the Wagner's model have proved the existence of the long-run relationship among the variables employed in the different models to establish the Wagner's law.

Landau (1985), Dickson (1996) indicated that the huge increase in government expenditure are due to expenses on education, health, provision of public pension, nationalization, new technology and science and foreign aid especially in developing countries.

Peacock & Wiseman (1961) established displacement effect, where they found out that public expenditure was observed to have increased during the period of war and in times of social crisis. They also observed that at the-end of the upheavals that public expenditure falls however, not as the original level.

Verbeck (2000) said that there is evidence that after deferred civilian public spending has taken place following the war, public outlays return to the pre-war trend level.

But Alajekwu & Obi (2011) talks about the issue of accumulation of human capital as a reason for the increase in the growth of government expenditure in less developing countries especially expenditure on education. The study of Huang (2006) tested Wagner's law for China and Taiwan for the period of 1979 to 2002. His empirical results indicated that there exists no long-run relationship between government expenditures and output and that Wagner's law does not exist for China and Taiwan within the timeframe of the study. Some studies also considered that Wagner's law does not exists based on the timeframe of their studies such as those of Abu-Bader & Abu-Qarn (2003) in Egypt, Israel and Syria, Muhlis & Hakan (2003) in Turkey, Dakurah, Davies & Sampath (2001) in Developing countries, Ram (1986) based on a broad international perspective, Burney (2002) evidence from Kuwait, Yalcin (1987) in Turkey, Ansari, Gordon & Akuamoach (1997) for three African countries, Serletis and Afxentiou (1996) in European union and Vamvoukas (2005).

However, there are several studies that affirmed the existence of Wagner's law in different countries such as Abizadeh & Gray (1985) for several countries, Ganti & Kalluri (1979) in the United states, Islam (2001) also in the United States, Nomura (1995) in Japan, Essien (1997) in Nigeria, Aregbeyen (2006) in Nigeria, Alimi (2013) in Nigeria, Babatunde (2008) in Nigeria, Park (1996) the Korean experience, Bohl (1996) international evidence, Bairam (1995), Krzyzaniak (1974) in Turkey, Sideris (2007) in Greece, Goffman & Mahar (1971) in six Caribbean countries, Murthy (1993) in Mexico, Nagaranjan & Spears (1990) in Mexico, Ziramba (2008) in South Africa, Antonis, Constantinos & Persefoni (2013) evidence from pre-WWII Greece, Ergun & Tuck (2006) for five South East Asian countries, Magazzino (2010) in Italy, Omoke (2009) in Nigeria, Ganti & Kalluri (1997) in United states, Pulta (1986) in Taiwan, Peacock & Wiseman (1967) in United Kingdom, Mann (1980) in Mexico, Akinlo (2013) in Nigeria, Bayrakdar, Demez & Yapar (2015) a case of Turkey, Kalu & James (2012) in Nigeria, Ogbonna (2012) in Nigeria & Sekantsi (2017) in Lesotho.

2.1. Trend of government expenditures in Nigeria

Figures 1-6 indicated that there have been increases in the values of the various estimates in term of total expenditures, population, per-capita income, real GDP, recurrent capital expenditure and capital expenditure respectively for Nigeria within the timeframe of 1981 to 2018. For total government expenditures between 1981 to 1990 there was a difference of 48.86, between 1990 to 2000 a difference of 640.79, while in the period between 2000 to 2005 a difference of 1121.04, in 2010 to 2015 a difference of 794.28 and between 2015 to 2018 a difference of 47,332.44 billion were observed as the changes of the magnitude of the difference that occurred in the total government expenditures in Nigeria within the timeframe of the study.

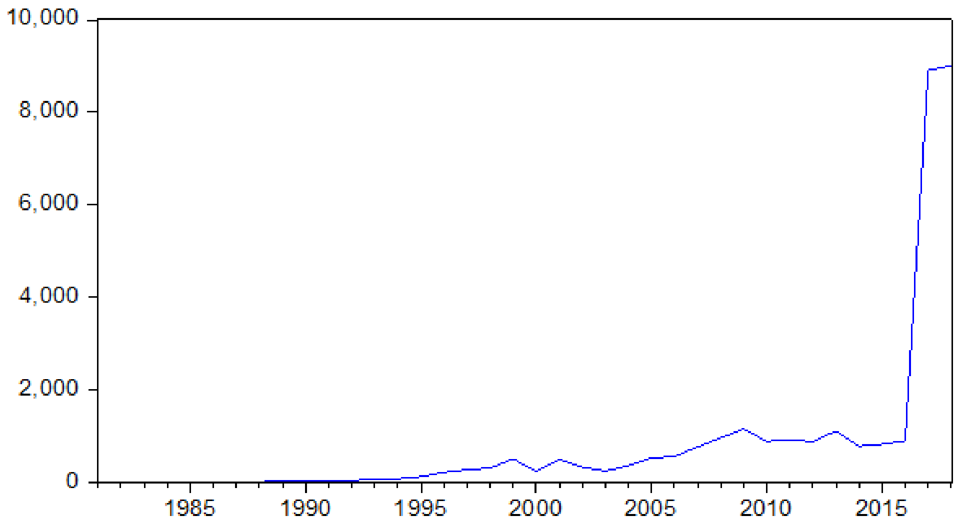

Figure 1. *Government recurrent capital expenditure, 1981-2018*

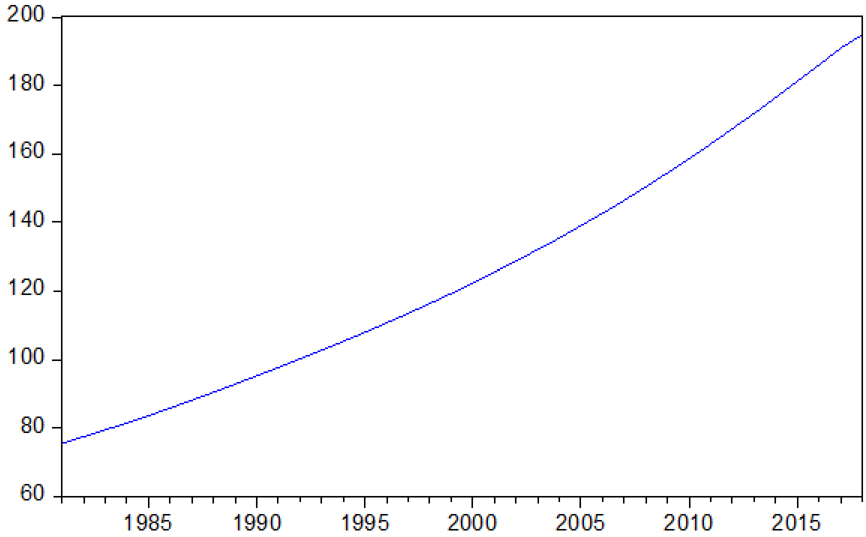

Figure 2. *Govenment capital expenditure, 1981-2018.*

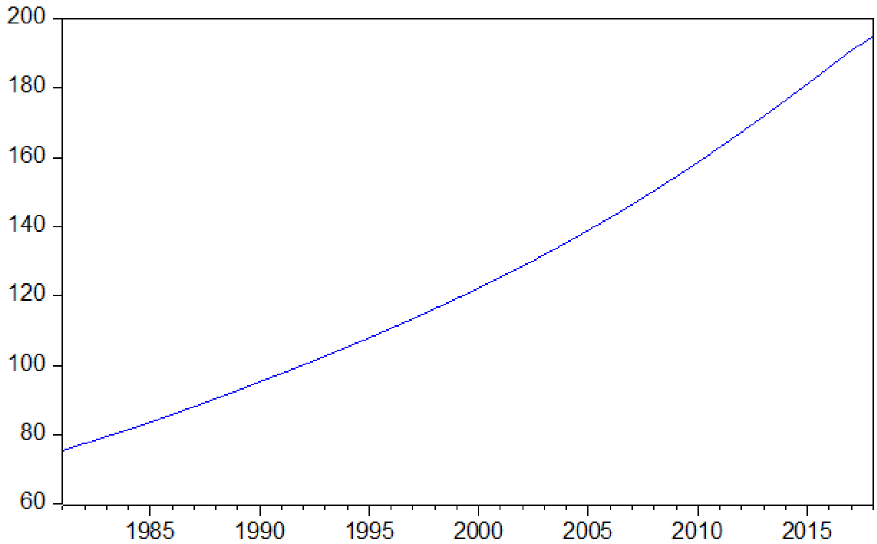

Figure 3. *Population estimates, 1981-2018.*

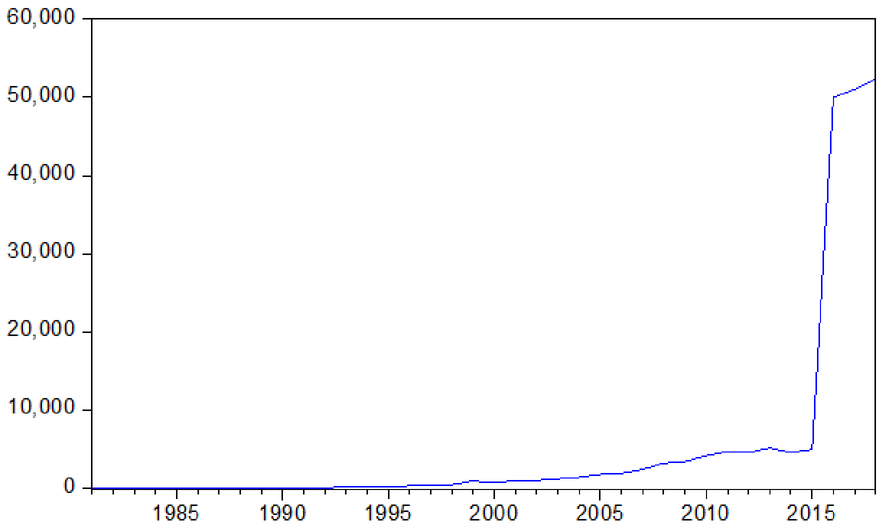

Figure 4. *Total government expenditures, 1981-2018.*

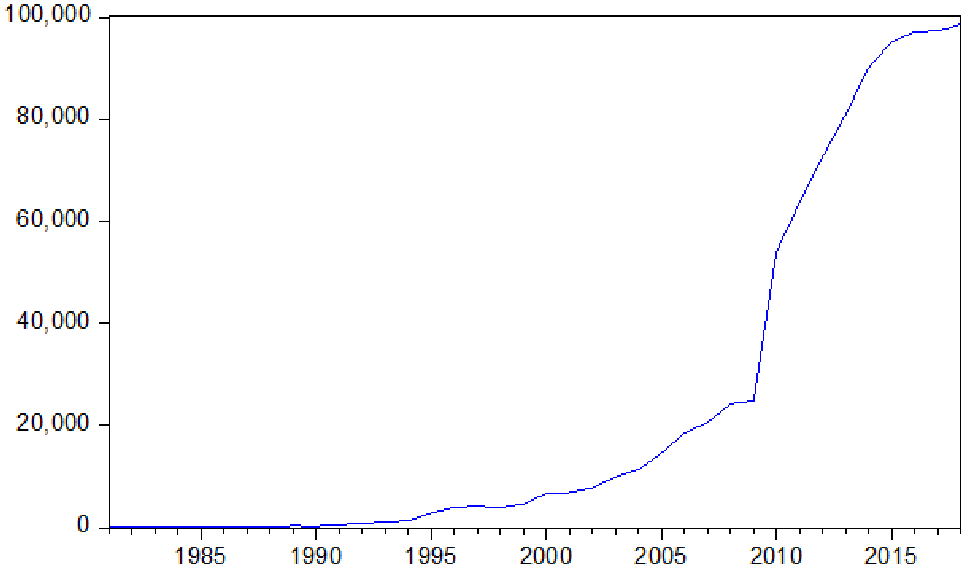

Figure 5. *TReal GDP, 1981-2018.*

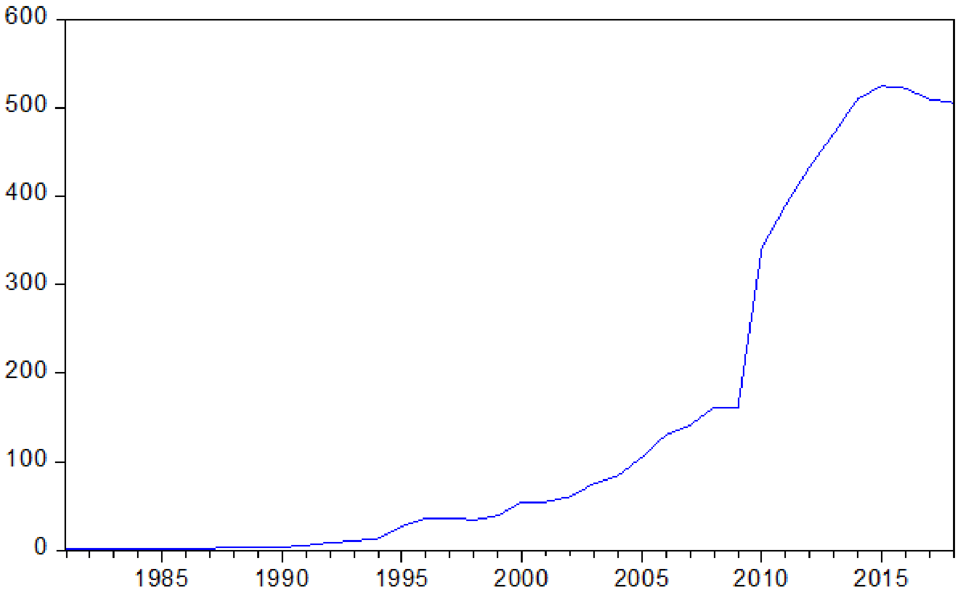

Figure 6. *Per-capita income, 1981-2018.*

The population figures also had a great magnitude of increase in 1981 to 1990 with a difference of 20.36 million, in 1990 to 2000 with a difference of 24.74 million, while in the period of 2000 to 2010 a difference of 38.57 million and in 2010 to 2018 a difference of 36.31 million indicating that the Nigerian population have continued to increase during the timeframe of the study and also resulted in an increase of the expenditures of the government as its relate to the per-capita income.

3. Methodology applied

In this study, annual data series was employed for the timeframe covering 1981 to 2018 with a total of 38 observations for each individual variable with respect to the Nigerian economy. The data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins of various years. A quasi-experiment research design was employed to determine the variation in dependent variable due to change in the independent variable. The study is to verify whether the five different models of testing Wagner's law exist in the Nigerian economy within the timeframe of the study.

Several statistical and empirical analysis were conducted to ascertain whether Wagner's law is applicable in the Nigerian economy, such as descriptive statistics, unit root test, co-integration, Granger causality and ordinary least squares (OLS) analysis were performed.

3.1. Unit toot test

Unit root analysis by Dickey & Fuller (1979) were carried out to establish whether there exist unit root problem that will lead to spurious results. A variable is believed to have a unit root, when at first difference the ADF critical value is higher than the time value (critical values at either at (1%, 5% or more). The equation for the test is denoted as:

$$\Delta TEXP_t = \beta_0 + \beta_1 \Delta TEXP_{t-1} + U_t \quad (1)$$

Where: TEXP = total government expenditures
t = a linear time trend
Δ = the first difference operator
β_0 = refers to the constant
$t-1$= the time lags and U_t refers to the error term

The second variable used in the unit root test is represented as:

$$\Delta RGDP_t = \kappa_0 + \kappa_1 \Delta RGDP_{t-1} + \upsilon_t \quad (2)$$

Where: RGDP = Real Gross Domestic Product
t = a linear time trend
Δ = the first difference operator
κ_0 = refers to the constant
$t-1$= the time lags and υ_t refers to the error term

The third variable used in the unit root test is represented as:

$$\Delta\left(\frac{RGDP}{POP}\right)_t = \alpha_0 + \alpha_1 \Delta\left(\frac{RGDP}{POP}\right)_{t-1} + \varphi_t \quad (3)$$

Where: RGDP = Real GDP, POP = Population figure, $\left(\frac{RGDP}{POP}\right)$ = Per-capita income
t = a linear time trend

Δ = the first difference operator

α_0 = refers to the constant

$t-1$ = the time lags and φ_t refers to the error term

The fourth variable used in the unit root test is represented as:

$$\Delta\left(\frac{TEXP}{RGDP}\right)_t = \partial_0 + \partial_1 \Delta\left(\frac{TEXP}{RGDP}\right)_{t-1} + \ell_t \quad (4)$$

Where: RGDP = Real GDP, TEXP = total government expenditure, $\left(\frac{TEXP}{RGDP}\right)$ = ratio of total government expenditures to RGDP

t = a linear time trend

Δ = the first difference operator

∂_0 = refers to the constant

$t-1$ = the time lags and ℓ_t refers to the error term

The fifth variable used in the unit root test is represented as:

$$\Delta\left(\frac{TEXP}{POP}\right)_t = \delta_0 + \delta_1 \Delta\left(\frac{TEXP}{POP}\right)_{t-1} + \theta_t \quad (5)$$

Where: RGDP = Real GDP, TEXP = total government expenditure, $\left(\frac{TEXP}{POP}\right)$ = ratio of total government expenditures to Population figure

t = a linear time trend

Δ = the first difference operator

δ_0 = refers to the constant

$t-1$ = the time lags and θ_t refers to the error term

3.2. Co-integration test

Co-integration test is to find out whether the variables employed in the analysis have long-run relationship (Granger, 1981; Johansen, 1988 and Johansen & Juselius, 1990). The co-integration equation is represented as:

$$Y_t = \Delta_1 Y_{t-1} + \Delta_2 Y_{r-2} + \ldots\ldots + \Delta Y_{t-k} + \phi_t \quad (6)$$

Where: Y_t is an $n \times 1$ vector of variables that are integrated of order indicated 1(0), 1(1) or 1(2) etc. ϕ_t is an $n \times 1$ vector innovations. The above equation (6) can be re-specified as:

$$\Delta Y_t = \gamma + \lambda Y_{t-1} + \sum Q_i \Delta Y_{t-1} + \phi_t \quad (7)$$

3.3. Granger causality test

The direction of effect between two variables is ascertained by Granger causality test. The result obtained from the tests could be bidirectional, unidirectional and independence causality. In this study the test was done for total expenditure, Real GDP, Per-capita income, total government per-capita and the ratio of total government expenditure to real GDP. The equations for Granger causality are estimated as follows:

$$TEXP_t = \sum_{t-1}^{n} \chi_1 RGDP_{t-1} + \sum_{t-1}^{n} \varpi_1 + \ell_t \tag{8}$$

$$TEXP_t = \sum_{t-1}^{n} \omega_1 \left(\frac{RGDP}{POP}\right)_{t-1} + \sum_{t-1}^{n} \eta_1 + \mu_t \tag{9}$$

$$\left(\frac{TEXP}{POP}\right)_t = \sum_{t-1}^{n} \varphi_1 \left(\frac{RGDP}{POP}\right)_{t-1} + \sum_{t-1}^{n} \theta_1 + \varepsilon_t \tag{10}$$

$$\left(\frac{TEXP}{RGDP}\right)_t = \sum_{t-1}^{n} \beta_1 \left(\frac{RGDP}{POP}\right)_{t-1} + \sum_{t-1}^{n} \nu_1 + \upsilon_t \tag{11}$$

$$\left(\frac{TEXP}{RGDP}\right)_T = \sum_{t-1}^{n} \partial_1 RGDP_{t-1} + \sum_{t-1}^{n} \pi_1 + \zeta_t \tag{12}$$

3.4. Models specification

The study adopted the various models of the traditional Peacock and Wiseman (1967) for equation 13, Goffman (1968) for equation 14, Gopta (1967) and Michas (1975) for equation 15 and Musgrave (1969) for equation 16 and the modified form of Peacock and Wiseman by Mann (1980) for equation 17. The various equations for this paper are represented in the logarithmic form as follows:

$$\log TEXP = \alpha_0 + \alpha_1 \log RGDP + e_t \tag{13}$$

$$\log TEXP = \beta_0 + \beta_1 \log\left(\frac{RGDP}{POP}\right) + e_t \tag{14}$$

$$\log\left(\frac{TEXP}{POP}\right) = \rho_0 + \rho_1 \log\left(\frac{RGDP}{POP}\right) + e_t \tag{15}$$

$$\log\left(\frac{TEXP}{RGDP}\right) = \delta_0 + \delta_1 \log\left(\frac{RGDP}{POP}\right) + e_t \tag{16}$$

$$\log\left(\frac{TEXP}{RGDP}\right) = \gamma_0 + \gamma_1 \log RGDP + e_t \tag{17}$$

$\alpha_0, \beta_0, \rho_0, \delta_0, and \gamma_0$ = are the intercepts while $\alpha_1, \beta_1, \rho_1, \delta_1, and \gamma_1$ indicates the various slope of the equations. Log = Logarithm e_t = stochastic error terms.

4. Analyses of results

4.1. Descriptive Statistics

The results in table 1 shows the descriptive statistics for Nigerian data within the period of 1981 to 2018 that indicated that the average total government expenditures stood at 5345.20 billion naira, the real GDP average was 24244.01 billion naira and the average per-capita income was 144.03 billion naira. All the variables used were observed to be positively skewed and were also statistically significant as indicated by the probability values.

Table 1. *Descriptive statistics*

	TEXP	RGDP	RGDP/POP	TEXP/POP	TEXP/RGDP
Mean	5345.20	24244.01	144.08	29.71	0.10
Median	824.38	5696.39	47.04	6.82	0.12
Maximum	52321.30	98666.70	525.32	268.95	0.53
Minimum	9.64	94.33	1.25	0.12	0.05
Standard Deviation	13689.95	384872.14	190.79	71.48	0.12
Skewness	3.04	1.27	1.15	3.02	2.72
Kurtosis	10.45	2.94	2.62	10.34	9.22
Jarque-Beta	146.49	10.21	8.53	143.00	108.15
Probability	0.000	0.006	0.001	0.000	0.000
Number of Observations	38	38	38	38	38

4.2. Unit Root Test Result

Table 2 above shows the different result obtained for the ADF unit root test for the variables employed in the study within the timeframe of 1981 to 2018 in the Nigerian economy. As shown in the table, none of the variables passed the unit test at level. A further test at first difference revealed that only two of the variables (RGDP and RGDP/POP) were observed to be statistically significant at the 5% level based on the Mackinnon critical value.

Table 2. *Augmented Dickey Fuller (ADF) Unit root test result*

Method (At levels)/Variable	ADF test- statistic	Test critical value (0.05)	Prob. value
TEXP	5.67	-2.96	1.000
RGDP	2.01	-2.94	0.990
RGDP/POP	1.12	-2.94	0.997
TEXP/RGDP	-1.01	-2.94	0.739
TEXP/POP	5.08	-2.96	1.000
Method (At first difference)	ADF test- statistic	Test critical value (0.05)	Prob. value
Δ TEXP	4.59	-2.97	1.000
Δ RGDP	-4.01*	-2.95	0.004
Δ RGDP/POP	-4.49*	-2.95	0.001
Δ TEXP/RGDP	4.59	-2.97	1.000
Δ TEXP/POP	2.91	-2.97	1.000
Method (At second difference)	ADF test- statistic	Test critical value (0.05)	Prob. value
$\Delta\Delta$ TEXP	-3.49*	-2.96	0.015
$\Delta\Delta$ TEXP/RGDP	-7.68*	-2.95	0.000
$\Delta\Delta$ TEXP/POP	-3-33*	-2.96	0.002

Notes: Author's Estimation Result (2019). * represents significance at 5% (Mackinnon critical value). Δ =First difference; $\Delta\Delta$=Second difference

However, at the second difference, the remaining variables were found to be statistically significant at 5% level, hence, there is no unit root problem and that the variables are stationary and free from the issues of spuriousity and that variables could be used for further statistical and empirical analysis and the result obtained could be reliable and relevant for forecasting since the ADF statistic values were negative and greater than the Mackinnon critical value.

4.3. Co-integration Test Result

Table 3 revealed that at both 5% and 10% probability levels, there exists co-integration among the time series variables used and there also exist a long-run relationship between variables of the different models employed in the study.

Table 3. *Johansen Co-integration test tesult*

No deterministic Trend for TEXP, RGDP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.451	21.79*	12.32	0.001
Linear deterministic Trend for TEXP, RGDP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.411	19.08*	15.50	0.014
No deterministic Trend for TEXP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.414	19.30*	12.32	0.003
Linear deterministic Trend for TEXP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.358	15.93**	15.50	0.043
No deterministic Trend for TEXP /POP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.408	19.03*	12.32	0.003
Linear deterministic Trend for TEXP/POP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.354	15.73**	15.50	0.046
No deterministic Trend for TEXP/RGDP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.408	19.03	12.32	0.003
Linear deterministic Trend for TEX[/RGDP, RGDP/POP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.354	15.73	15.50	0.046
No deterministic Trend for TEXP/RGDP, RGDP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.349	17.12*	12.32	0.007
Linear deterministic Trend for TEXP/RGDP, RGDP			
Eigen value	Trace statistic	Critical value (0.05)	Prob.
0.416	19.41*	15.50	0.012

Notes: Author's Estimation Result (2019). ***&**** significant at 5% and 10% level.

The variables had long-run equilibrium relationships and are co-integrated, the assumption of no deterministic trend was also rejected, the variables have deterministic trend and could be employed for further prediction analysis.

4.4. Granger causality test result

Table 4 shows the various results for the Granger causality test that revealed the direction of the effect between the different variables used in the paper.

Table 4. *Pair wise Granger causality test result*

Variables	Null Hypothesis	Observation	F-statistic	Prob.
TEXP,RGDP	TEXP does not Granger cause	36	7.65*	0.002
	RGDP		0.78	0.464
TEXP,RGDP/POP	TEXP does not Granger cause	36	6.41*	0.005
	RGDP/POP		0.78	0.468
TEXP/POP,	TEXP/POP does not Granger	36	6.52*	0.004
RGDP/POP	cause RGDP/POP		0.71	0.501
TEXP/RGDP,	TEXP/RGDP does not Granger	36	5.15**	0.012
RGDP/POP	cause RGDP/POP		0.45	0.645
TEXP/RGDP, RGDP	TEXP/RGDP does not Granger	36	6.03**	0.006
	cause RGDP		0.49	0.619

Notes: Author's Estimation Result (2019). * **&** ** significant at 5% AND 10% level**.**

The pair wise Granger causality test was verified at the 5% and 10% levels of significance. Based on the result in table 4, there exits unidirectional causality between the variables used at both the 5% and 10% level of significance and also Granger causality runs only in one direction.

Table 5. *Ordinary Least Squares (OLS) estimation result*

Dependent variables	Independent variable	Coefficient	Std. error	t-statistic	Prob.Value
TEXP	RGDP	0.280	0.046	6.087*	0.000
TEXP	RGDP/POP	47.816	8.917	5.362*	0.000
TEXP/POP	RGDP/POP	0.253	0.046	5.500*	0.000
TEXP/RGDP	RGDP/POP	0.0003	0.0001	3.000**	0.009
TEXP/RGDP	TEXP/POP	1.57E-06	4.95E-07	3.171**	0.003

Notes: Author's Estimation Results (2019). */** represents significance at 5% and 10% levels.

Table 5 above indicates the OLS estimation results of the various specified models to verify whether Wagner's law exists in the Nigerian economy within the period of 1981 to 2018. The empirical results indicated that all the models estimation results revealed that there is positive relationship between the dependent and the explanatory variables and they were also observed to be statistically significant at the 5% and 10% levels. The results revealed that Wagner's law does exist in the Nigerian economy within the period under focus. Wagner's law concerns the long-run linkage between government expenditures and economic growth; however, in this paper the issue was re-verified based on the different theoretical indices of government expenditures and real GDP, Population figures and the various ratios as shown in this paper previously. The different versions of Peacock & Wiseman (1968), Goffman (1968), Gupta (1967), Michas (1975), Musgrave (1969), and the Modified version of Peacock & Wiseman by Mann (1980) were subjected to several empirical tests which indicated that wagner's law exists in the Nigerian economy within the timeframe of the study. Hence, the legitimacy of Wager's law was affirmed for Nigeria based on the verification of the different models by different economists models to ascertain the importance of the law as it relates to the relationship between government expenditures and the economy as revealed by the positive as well as the statistical significance of the various variables employed in the study.

5. Conclusion

The paper examined the government expenditures in Nigeria: Re-examination of Wagner's law. The timeframe was from 1981 to 2018 based on annual time series of total government expenditures, population figures, real GDP, ratio of total government expenditures to real GDP, total government expenditures per capita and per capita income respectively. The objective of the paper was to verify whether Wagner's law exists in Nigeria.

To realize the set objectives, several statistical and empirical tests were conducted, such as descriptive statistics, unit root test, co-integration test, Granger causality test and Ordinary Least Squares. The results indicated that there exists a long-run relationship between the variables used and that Wagner's law held in Nigeria within the timeframe of the study.

The paper therefore, concluded that there is a long-run relationship between the dependent and independent variables applied in the five set of models tested empirically in terms of Wagner's law.

Based on the statistical and empirical findings of this paper, it is therefore recommended that the Nigerian government should improve her sources of income in order to satisfy the increasing demand of her people now and in the future.

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