Theoretical and Empirical Analysis of Savings Behaviour: The Nigerian Experience

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Abstract
In recent times, the economy of Nigeria was affected by low GDP growth rates, high unemployment and inflation rates and debilitating debt over-hang. Perhaps these negative economic tendencies might have contributed to the low levels of gross domestic savings in the economy. Hence, there was a need to examine the proximate causes of changes in the level of the savings rates. To achieve the stated objectives of the study, Gross Domestic Savings Model was formulated on the basis of functional linear relationships with the identified predictor variables. The fitted multiple regression linear model adopted the ordinary least squares (OLS) techniques of data analysis, and the mix stationarity of the time series data sets of the Savings Model informed the decision to apply the autoregressive distributed lags (ARDL) methods of data analysis. The study relied on secondary sources of time series data obtained mainly from the Central Bank of Nigeria and National Bureau of Statistics for the formulated multiple regressions Savings Model. The outcome of the empirical investigations evinced that there were direct positive relationships between Gross Domestic Savings and the regressors namely real GDP per capita, deposit interest rates and population growth rates. But the results established an inverse relationship between gross domestic savings levels and the inflation rates. Also, the bound tests indicated the existence of a long-run relationship between the savings rates and the predictor variables. The study provided a better understanding of the determinants of gross domestic savings and proffered that government should apply policy mix of monetary and fiscal regulatory frameworks to ensure the stability of inflation and interest rates in the economy that provided considerable impulse to changes in the savings rates during the observed period. Also, favourable changes in the income tax policies of the government will go a long way in improving the real GDP per capita and invariably the gross domestic savings levels in the economy.

Keywords: Gross Domestic Savings; Real GDP Per Capita; Deposit Interest Rate; Inflation Rate; Population Growth Rate.

Introduction

Classical models of economic growth view increase in savings growth rates as pivotal to the realization of growth objectives of nations. And that domestic savings mobilization provides opportunities for more capital formation and ultimately the achievement of economic growth through increased in investment and the production of goods and services. This therefore informed the decision by many empiricists and economists alike to examine the proximate causes of rising savings growth rate in a country.

Many factors influence the gross domestic savings level based on both theoretical and empirical expositions. There was a general belief during the period of classical economics that saving was interest rate elastic which was later refuted by Keynes (1936) who contended that saving was an increasing function of absolute income. None the less, how much a country saves depends on many determinate variables and particularly it is also a function of the level of economic growth in a country. This suggests that the determinants of savings in an economy are myriad and in fact include among others factors such as the real per capita gross domestic product, financial and demographic considerations in a nation. But it is a trite knowledge and according to the Keynesian theoretical postulations, that the marginal propensity to save is higher among developed countries or rich individuals than the scenario in poor countries. And the fact that poverty levels and income inequality are higher among poor nations than in developed nations provided a cogent explanation for the low level of savings in those countries.

An Overview of the Theories of Savings

The classical economists' theory of savings started with a premise that as people earn income, they spend part of it on goods and services and save some of the income as part of their future plan. However, how much income is saved according to the classical economists is dependent on changes in the prevailing rate of interest in the economy. Hence the classical economists believe that saving is interest elastic such that it increases as the level of interest rate rises, and falls whenever the interest rates decline in any given period of time. Therefore, the classical proposition on the rate of interest and saving is in sharp contrast to the Keynesian view point which posited that saving is not responsive to the rate of interest, but rather saving according to Keynes is an increasing function of the level of absolute income.

Keynes (1936) also postulated in his Absolute Income Hypothesis the precautionary motive of demand for money in order to explicate the savings behaviour of individuals in the society. He contends that an individual saves money in

order to safeguard against emergencies and other unforeseen circumstances requiring extemporaneous financial expenditure. He posits that persons save money so as to fulfil urgent expenditure needs occasioned by sudden illness, accident and other misfortunes. He opines that saving is an increasing function of an individual's level of absolute income. He argues that the rich save more proportion of their income than the poor.

On the other hand, Friedman (1957) propounded the Permanent Income Hypothesis and argued that savings in any given period depend on the level of an individual's permanent income. Permanent income according to him is the average income which an individual expects to earn that could last long into the future. Therefore, the Permanent Income Hypothesis posits that an individual saves only when his present income is over and above his expected permanent income. Hence an individual's saving is proportionally a function of his lifetime resources. Friedman posits that transitory deviations from permanent income explain the existence of positive correlation between savings and income. A person saves according to Friedman in order to smooth individual consumption expenditures and avert wide oscillations in consumption patterns occasioned by unprecedented fluctuations in the individual's current level of income. Friedman also posits that the savings behaviour of individuals in the society is a function of transitory income. In other words, Savings according to him rises with an increase in the level of transitory income; the higher the level of transitory income, the higher is the level of an individual's savings (Epaphra, 2014).

Furthermore, Ando and Modigliani (1963) propounded the Life-Cycle-Hypothesis to provide insight into the savings behaviour of individuals in the society. The Life-Cycle-Hypothesis started with a premise that savings are inter-temporal and dependent on a person's age in life. The model was anchored on the savings and consumption decisions of rational economic units who make such futuristic decisions on the basis of inter-temporal and utility maximization expectations. At an early phase of an individual's working life, the theory posits that consumption level is high and a person at this stage of his life saves only a paltry part of his income. At this stage in life, individuals spend a large portion of their income and save less in order to go for mundane possessions such as a house, car, electronics, estates and other requirements of life. But as the individual moves to the middle of his working life, he earns more and saves much of his income for the rainy day. However, a person consumes from his past savings to maintain a stable consumption pattern during retirement period. Therefore, Life Cycle Hypothesis states that income varies systematically over people's lives and that savings allow individuals to move income from those times in life when income is high to those times when it is low.

Besides, in contrast to the Keynesian postulates, Duesenberry (1949) argues that the aggregate savings rate is independent of aggregate income based on empirical evidence from time series data and he also posits that, on the basis of cross-sectional data, the propensity of an individual to save is an increasing function of his percentile position in the income distribution in relation to others in the society. He explains that 'for any given relative income distribution, the percentage of income saved by a family will tend to be unique, invariant, and an increasing function of its position in the income distribution'. He therefore paraphrases that 'the percentage saved will be independent of the absolute level of income. It follows that the aggregate saving ratio will be independent of the absolute level of income'. Duesenberry's Consumption Hypothesis explains what he calls the ratchet effect. This is a situation where a family's consumption expenditure does not fall much even when its income falls. The family tries to maintain its previous living standard. Hence in a bid to maintain the previous higher consumption level, a household reduces its savings level. Therefore, the savings level of a family according to the ratchet effect is also affected by the demonstration effect of a peer group. In a nutshell, Duesenberry argues that individual saving rate tends to increase with increase in relative income and is not therefore a function of a change in the absolute level of income.

Empirical Review of the Determinants of Savings

Savings play a significant role towards the sustainable economic growth of a nation. This informed the decision of nations the world over in fostering domestic savings mobilization through the enhancement of the performance of financial intermediation functions of banks especially in developing economies. Gross domestic savings are mainly dependent on variables such as income per head, capital inflows, inflation rate, interest rate and the demographic composition of the population as well as the level of financial intermediation in the economy among others. In line with this belief, Eze and Okpala (2014) employed the ordinary least square (OLS) regression estimation technique and the

Johansen co-integration model to estimate the proximate determinants of domestic savings in Nigeria. The variables studied in relation to domestic savings were gross domestic product, money supply, interest rate and inflation rate. The result of the empirical investigation revealed the existence of a 'long-run relationship among all the variables'. The results also indicated a highly significant joint influence of the explanatory variables on private domestic savings. Hence the regressors were positively and significantly related to private domestic savings. The implication of the findings is that any shocks or drastic change in the explanatory variables could exert an appreciable influence on private domestic savings lasting well 'into future periods'.

Furthermore, Bamidele *et al.* (2015) investigated the determinants of gross domestic savings spanning a period of 53 years from 1960 using long-run static and short-run dynamic error correction models. The models examined gross domestic savings and its determinants such as per capita income, age-dependency ratio, inflation rate, financial intermediation ratio and interest rate among others. The results provided evidence showing that these variables 'had significant impact on gross domestic savings in Nigeria'. Specifically, the findings indicated that there was a positive correlation between savings and variables such as per capita income, age-dependency ratio, and terms of trade as well as financial intermediation ratio and foreign savings. But foreign savings and interest rates were positively and insignificantly correlated with gross domestic savings. However, inflation rates varied inversely with gross domestic savings during the period of the study. Similarly, Adelakun (2015) also investigated the determinants of savings such as interest rate and inflation in Nigeria using regression and error correction models. His empirical study revealed the existence of linear relationship between savings and the specified explanatory variables, namely inflation and interest rates. The results produced positive and highly significant correlation between saving and interest rates while inflation rates varied inversely with the rates of savings.

Also, Adesoye and Maku (2015) reported the variability of monetary policy and its implications on financial savings in Nigeria between 1980 and 2008 using dynamic long run econometric model and evidence from Engle Granger Co-integration Test. The variables of the model included real GDP per capita, broad money supply (M2), debt service ratio, real interest rate, interest rate spread and inflation rate and how these variables affected financial savings in the economy of Nigeria. The estimated results established a positive influence of real interest rate (RIR), interest rate spread and domestic inflation rate on financial savings in the long run. Also, it was reported that per capita GDP growth, broad money supply and debt service ratio were inversely related to financial savings during the period of the study. The study concluded that economic reforms acted as stimulus to the economic growth of the country but relative growth of financial savings to the GDP was not encouraging especially with the advent of deregulation of the economy. Therefore, the study recommended improvement in per capita income through the provision of more employment opportunities in the country to accelerate growth through savings.

Besides, Kudaisi (2013) studied the determinants of savings in West Africa during the period of 1980 to 2006 following the theoretical framework of the Hall Hypothesis of consumption. The model had savings as a function of dependency ratio, interest rate, GDP, inflation, government surplus and terms of trade. The estimated results produced statistically insignificant value for dependency ratio which showed that it was not an important determinant of savings in West Africa. But for the terms of trade, the estimated results indicated a positive and insignificant relationship with savings. The findings suggested that 'private agents increased savings when faced with higher future real incomes as a result of terms of trade deterioration'. Also the inflation rate had positive and statistically significant result indicating that 'increased macroeconomic uncertainty induces people to save a large proportion of their income' and low inflation raised economic growth in West Africa thereby increasing the level of savings in the region, however the estimated result for real per capita income was negative and statistically insignificant which suggested that increase in income had negative effects on savings during the period of the study. Hence, it was concluded that the variability of saving rates in relation to its determinants could be explained by a country's level of income.

On the other hand, Ndanshau and Kilindo (2016) investigated the determinants of financial savings in Tanzania by applying the Ordinary Least Squares (OLS) method and dynamic error correction models for the period between 1967 and 2010. The financial savings model nested real interest rate and lagged variable, real per capita income, inflation rate, financial deepening or private sector credits as explanatory variables. The estimated results of the regression model

evinced that real interest rate exerted statistically significant and positive short-run and long-run effect on financial savings in the country. Also, the results indicated that the impact of real per capita income on financial savings was both positive and significant but inflation in the model yielded a negative and statistically significant result. However, the measure of financial deepening (banks credit to the private sector) though provided the expected positive relationship with financial savings but it was statistically insignificant according to the estimated results.

Moreover, Sahin (2016) investigated the empirical determinants of gross domestic savings in Turkey between 1975 and 2014 using the Auto-Regressive Distributed Lag (ARDL) approach. He focussed on variables such as deposit interest rates, inflation rate, urban population growth and GDP per capita and examined their impact on Turkey's gross domestic savings during the period of the study. The findings of the study established that the aforementioned explanatory variables had influenced gross domestic savings in the country. Specifically, in the long-run the estimated results showed that the deposit interest rate, urban population growth, and GDP per capita had positive relationship with gross domestic savings but only the deposit interest rates were significant. However, inflation rates were negatively and insignificantly related to gross domestic savings in the long-run. And the estimated short-run results for the study indicated that deposit interest rates, urban population growth and inflation rates had positive and significant relationship to gross domestic savings but GDP per capita was positively and insignificantly related to gross domestic savings in the short-run.

In a similar vein Matur, Sabuncu and Bahceci (2012) examined how private savings varied with variables such as public savings rate, per capita real income, private credit/GDP ratio, interest rates, inflation rates and old dependency ratio in the economy of Turkey. The study which was conducted between the period of 1980 and 2008 revealed that the public savings rates, growth of per capita real income, rise in banking credit to the private sector and old dependency ratio varied inversely with private savings while per capita real income, inflation rate and interest rate had positive and significant impact on private savings in Turkey. The study also established that the variables were co-integrated and had long run stable relationship. It was concluded that increasing public savings could create some room for increasing national savings in the country even though fiscal policy did not seem to have considerable influence on private savings.

Furthermore, in their study of household savings determinants, Samantaraya and Patra (2014) analysed Indian experience using the Auto-Regressive Distributed Lag (ARDL) approach because of its suitability for variables mix with both stationary and non-stationary properties, and also its ability to solve both endogeneity and serial correlation problems. The study established that factors such as real GDP, age dependency ratio, interest rate and inflation rate were statistically significant determinants of household savings in India and that these variables were co-integrated with household savings and had both long run and short run relationships. Specifically, the study established a positive long run relationship between household savings and real GDP and age dependency ratio whereas inflation rate had negative long run relationship with household savings. The estimated results also revealed that income, age dependency, interest rate and inflation rate were also statistically significant determinants of household savings in the short run in the country.

Also, in India, Gedela (2012) reported that household savings had been strongly and significantly determined by the dependency ratio especially among the rural households in the country. The study found out that dependency ratio had 'a strong negative influence on household savings in the total area of the study'. It was established that when the number of household dependent members increased, household savings drastically declined in the study area.

In a similar vein, Mirach and Hailu (2014) relied on primary data and the Tobit Model to empirically investigate the determinants of savings behaviour in the Amhara Regional State of Ethiopia. The study identified demographic and socio-economic factors as major determinants of saving behaviour of households in the regional state. The study revealed that household savings varied positively with increase in the age of respondents. Also, the estimated results of the study indicated that house hold savings varied significantly and positively with household income however respondents' level of educational attainment contributed positively and only insignificantly to household savings. Other socio-economic factors that influenced household savings in the Regional State included sex, marital status, institutional factors and frequency of getting money. However, factors such as low income, cultural background of respondents, unemployment and inflation negatively affected household savings in the study area.

Model Specification and Methodology

Model Specification

$$\Delta lnGDS_{t=}\alpha_0 + \emptyset_1 lnGDS_{t-1} + \emptyset_2 lnINT_{t-1} + \emptyset_3 lnINF_{t-1} + \emptyset_4 lnPGR_{t-1} + \emptyset_5 lnPKY_{t-1} + \sum_{i=1}^{k1} \sigma_{1i}\Delta ln\, GDS_{t-1} + \sum_{i=0}^{k2} \gamma_{2i}\Delta ln\, INT_{1t-i} \sum_{i=0}^{k3} \varepsilon_{3i}\Delta ln\, INF_{2t-i} + \sum_{i=0}^{k4} \emptyset\Delta lnPGR_{3t-i} + \sum_{i=0}^{k5} \vartheta_5\Delta ln\, PKY_{4t-i} + \mu_t.$$

Where: GDS = Gross Domestic Savings
INT = Deposit Interest Rate
INF = Inflation Rate
PGR= Population Growth Rate
PKY = Real GDP Per Capita
μ_t = Error Term.

The parameters estimated for the study were $\alpha_0, \emptyset_1, \emptyset_2, \emptyset_3, \emptyset_4, \emptyset_5$. α_0 is the intercept of the regression line which measures the value of the dependent variable when the explanatory variables were zero, whereas $\emptyset_1, \emptyset_2, \emptyset_3, \emptyset_4, \emptyset_5$, measure the slope or rate of change of the dependent variable due to changes in the independent variables. μ_t is the random error term which expresses the influence of errors in the measurement of the dependent variable and omitted independent variables. The a priori assumption of the multiple regression model postulated that all the parameters were greater than zero. Also, a positive sign was expected for all the the parameters of the Saving Model except the inflation rate which was expected to produce a negative sign. The study used empirical data obtained from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS) for the period of 35 years from 1981-2015. The study employed the multiple regression and ARDL modelling techniques to estimate the short-run and long-run coefficients of the fitted Savings Model. The ARDL Model was deemed suitable for our purpose in the present study because of its relevance in variables with mix stationary of I (0) and I (1) i.e. integrated of order zero and one respectively. Also, in the words of Pesaran and Shin (1999) 'appropriate modification of the order of the Autoregressive Distributed Lag (ARDL) Model is sufficient to simultaneously correct the residual serial correlation and problem of endogenous regressors'

Empirical Data Presentation and Analysis

Table 1: Summary of ADF Unit Root Results Test on Savings model in Nigeria

Variables	ADF at	Critical	ADF at First	Critical	Remarks	Prob.	Prob.
	level 1(0)	Value (5%)	diff. 1(1)	Value (5%)		ADF 1(0)	ADF (1)
GDS	-3.7841	-4.2529			1(0)	0.0299**	
INT	-2.3290	-4.2529	-5.8925	-4.2627	1(1)	0.4048	0.0002*
INF	-3.6623	-4.2627			1(0)	0.0396**	
PGR	-1.2092	-4.2529	-4.7652	-4.2627	1(1)	0.8926	0.0029*
PKY	-2.2661	-4.2627	-3.6625	-4.2627	1(1)	0.4397	0.0396**
Source: Author's Computation Using E-view 2018.							
*And** represent 1% and 5% level of significant respectively.							

The results of unit root test for the Savings Model were contained in Table 1. The results of Augmented Dickey-Fuller (ADF) revealed that all the variables of the model were stationary at most 5 per cent as indicated by their probability values of 0.0299, 0.0002, 0.0396, 0.0029, and 0.0396. The result further indicated that gross domestic savings (GDS) and inflation rate (INF) were stationary at level I (0) while interest rate (INT), population growth rate (PGR) and real GDP per capita (PKY) became stationary at first difference 1(1). The Augmented Dickey-Fuller (ADF) statistics for all

the variables are less than the critical values in negative direction and the mix stationarity at level and first difference leads to the estimation of the data using Autoregressive Distributed Lag (ARDL) method.

Table 2: ARDL Bounds Test for Co-integration

Test Statistic	Value	k
F-statistic	4.862523	4
Critical Value Bounds		
Significance	Lower Bound	Upper Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Author's computation using e-view 9 (2018)

The results of estimated long run relationship of gross domestic savings function using the ARDL Bound Test were contained in Table 2. With the F-Statistic Value of 4.8625 which falls outside the lower and the upper bound but greater than the upper bound indicates that long run relationship exists between gross domestic savings (GDS), deposit interest rate (INT), inflation rate (INF), population growth rate (PGR) and real GDP per capita in Nigeria. Hence the results reveal the existence of co-integration among the variables. The results make it expedient to estimate the long-run coefficients of the savings model as shown in Table 3.

Table 3: Long-run Coefficients Estimated for Gross Domestic Savings Model Using ARDL Method

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INT	0.088307	0.049712	1.776386	0.0878
INF	-0.049453	0.015128	-3.269008	0.0031
PGR	2.021728	0.542963	3.723514	0.0010
PKY	1.518357	1.954469	0.776864	0.4445
@TREND	0.042284	0.071225	0.593661	0.5581

Cointeq = GDS - (0.0883*INT -0.0495*INF + 2.0217*PGR + 1.5184*PKY + 0.0423*@TREND

The estimated coefficients indicate the rate of change of the dependent variable due to changes in the explanatory variables in the long-run. The value of the coefficients reveals that population growth rate and inflation rate had positive and negative statistically significant effects respectively on gross domestic savings in the long-run while the results indicated statistically significant positive effects of deposit interest rates on gross domestic savings at the 10% level of significance in the long-run. But real GDP per capita had positive and statistically insignificant effects on gross domestic savings in the long-run. However, in order to arrive at the speed of adjustment and the short-run effects of the variables on gross domestic savings, the selected ARDL (1 0 1 1 0) was employed to get the error term of the ECM based on the automatic AIC and SIC selection criteria. The following is the formulated error correction model (ECM) for gross domestic savings.

$$\Delta \boldsymbol{lnGDS_{t=}\alpha_0} + \boldsymbol{\sigma_{1i}}\Delta \boldsymbol{lnGDS_{t-1}} + \boldsymbol{\gamma_{2i}}\Delta \boldsymbol{lnINT_{1t-i}} + \varepsilon_{3i}\Delta lnINF_{2t-i} + \emptyset\Delta lnPGR_{3t-i} + \vartheta_5\Delta lnPKY_{4t-i} + \sigma \mathrm{ECM}(t-1)$$

Table 4: Error Correction Model for the Selected Short-run ARDL (Dependent Variable: GDS, Selected Model: ARDL (1 0 1 1 0))

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ΔlnINT	0.066267	0.050550	1.310934	0.2018
ΔlnINF	-0.022814	0.007312	-3.120179	0.0045
ΔlnPGR	0.945570	0.466782	2.025720	0.0536
ΔlnPKY	4.005252	2.443861	1.638904	0.1138
C	-8.872831	1.467328	-6.046929	0.0000
ECM (-1)	-1.104820	0.178674	-6.183452	0.0000

Source: Author's Computation Using E-View 9 (2018)

Table 4 contains the short-run coefficients of gross domestic savings (GDS), deposit interest rate (INT), and inflation rate (INF), population growth rate (PGR) and real GDP per capita (PKY) in Nigeria. The coefficient of error correction term was found to be negative and significant at 1 per cent significance level indicating that short-run run relationship existed between gross domestic savings (GDS), deposit interest rate (INT), inflation rate (INF), population growth rate (PGR) and real GDP per capita (PKY) in Nigeria. The value of the coefficients shows that inflation rate and population growth rate had negative and positive statistically significant effects at 5% and 10% significance levels respectively on gross domestic savings in the short-run. On the other hand, deposit interest rate and real GDP per capita had positive statistically insignificant effects on gross domestic savings in the short-run. The value of the ECM term of -1.104820 implies that the gross domestic savings levels in the economy will adjust back to equilibrium by 110 per cent annually. The coefficients also confirm the ARDL result in the sense that inflation rate (INF) impacted negatively on gross domestic savings in Nigeria while deposit interest rate (INT), population growth rate (PGR) and real GDP per capita (PKY) impacted positively on gross domestic savings in Nigeria.

Table 5: Multiple ARDL Regression Results of Savings model (Autoregressive Distributed Lag Estimates, Selected Model: ARDL (1, 0, 1, 1, 0). Dependent variable is gross domestic savings (GDS))

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDS(-1)	-0.010732	0.209716	-0.051175	0.9596
INT	0.089255	0.043993	2.028853	0.0533
INF	-0.025684	0.010778	-2.383083	0.0251
INF(-1)	-0.024300	0.012182	-1.994818	0.0571
PGR	0.906808	0.549797	1.649350	0.1116
PGR(-1)	1.136618	0.774400	1.467740	0.1546
PKY	1.534653	1.960282	0.782874	0.4411
C	-8.104793	15.84174	-0.511610	0.6134
@TREND	0.042737	0.073751	0.579486	0.5674

R-squared	0.911987	Mean dependent var	10.01469
Adjusted R-squared	0.883823	S.D. dependent var	1.763773
S.E. of regression	0.601178	Akaike info criterion	2.042077
Sum squared resid	9.035384	Schwarz criterion	2.446113
Log likelihood	-25.71530	Hannan-Quinn criter.	2.179865
F-statistic	32.38107	Durbin-Watson stat	2.326384
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.
Source: Author's Computation Using E-View 9 (2018)

The estimated Gross Domestic Savings function coefficients derived from Table 5 are given as follows: GDS=-8.1048+1.5347PKY+0.0893INT-0.0257INF+0.9068PGR Adjusted R^2 =0.8838 (88.4%). The coefficient of inflation rate (INF) was found statistically significant at five per cent as indicated by its probability value of 0.0251 while the coefficient of deposit interest rate (INT) was found to be significant at ten per cent as indicated by its probability value of 0.0533. The coefficients of population growth rate (PGR), per capita income (PKY), constant and the trend were found statistically insignificant as indicated by their probability values of 0.1116, 0.4411, 0.6134 and 0.5674. The coefficients of interest rate (INT), inflation rate (INF), population growth rate (PGR) and real GDP per capita (PKY) were obtained as 0.0893, -0.0257, 0.9068 and 1.5347 respectively. This result implied that as interest rate (INT), population growth rate (PGR) and real GDP per capita (PKY) increase by one per cent, gross domestic savings (GDS) will increased by 0.0893, 0.9068 and 1.5347 per cent respectively. The coefficients of interest rate (INT), population growth rate (PGR) and real GDP per capita (PKY) are consistent with theoretical expectation. On the other hand, an increase in inflation rate (INF) will reduce gross domestic savings (GDS) by -0.0257 per cent which is also consistent with the theoretical expectation of this study. The F-statistics value of 32.3811 of the parameter estimates was found to be statistically significant.

This implies that all the variables of the model were jointly and significantly determining gross domestic savings in Nigeria. The R^2 value of 0.9120 (91.20%) implied that 91.20 per cent total variation in gross domestic savings (GDS) in Nigeria was explained by interest rate (INT), inflation rate (INF), population growth rate (PGR) and real GDP per capita (PKY). This further confirmed that gross domestic savings was significantly explained by interest rate (INT), inflation rate (INF), population growth rate (PGR) and real GDP per capita (PKY) in Nigeria. This result therefore, suggested that the major determinants of gross domestic saving in Nigeria were inflation and interest rate. The Durbin-Watson statistic 2.3264 was found to be higher than R^2 0.9120 indicating that the model is non-spurious (meaningful). The Durbin-Watson statistics of 2.3264 which is greater than 2 signifies the absence of autocorrelation in the series. Put another way, the tabulated Durbin Watson statistic lower and upper values for 35 observations at 5% level of significance are 1.40 and 1.52 respectively. Since the calculated Durbin Watson statistic of 2.3264 is greater than the upper critical value of 1.52, it is concluded that ‘’ no significant autocorrelation present in the data’’. Therefore, the projections and hypothesis tests of the regression model are valid and acceptable (Honert, 1999).

Conclusions

The study delved on the determinants of Gross Domestic Savings in Nigeria and came up with findings showing that the identified predictor variables jointly and significantly contributed to the determination of the dependent variable in the country. Therefore, from all indications the four predictor variables namely real GDP per capita, population growth, inflation rate and interest rate jointly exert an appreciable influence on gross domestic savings levels in Nigeria. The results indicate that the explanatory variables accounted for about 88.4% variation in the dependent variable during the specified period. And it appears that deposit interest rate and inflation rates are the major determinants of gross domestic savings in the country, however, both population growth rate and real GDP per capita play positive but insignificant role in the determination of the dependent variable. Nonetheless, it is noted that the low levels of gross domestic savings might not be unconnected to the high poverty and low-income levels in Nigeria.

Recommendations

The operations of the banking sector especially in the rural areas should be facilitated to ensure the mobilization and accessibility of savings for the development of the Nigerian economy. In order to achieve this objective, the operations of the banking sector especially in the semi-urban areas should be made less cumbersome by easing the banking sector regulatory frame-work so as to encourage the process of financial intermediation. Hence the government is advised to strengthen the money market to enhance the process of savings mobilization and the channelling of investible funds to aid the development of the economy. Government is also advised to use policy mix of monetary and fiscal regulatory frameworks to ensure the stability of inflation and interest rates in the economy that provided considerable impulse to changes in the savings rates during the observed period. Also, favourable changes in the income tax policies of the government will go a long way in improving the real GDP per capita and invariably the gross domestic savings levels in the economy.

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