Financial Liberalization, Institutions and Savings in Nigeria

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ABSTRACT: *The rate of savings in Nigeria has been low over the years. Despite efforts to stimulate savings through the adoption and implementation of financial liberalization policies, the rate of savings in the country has remained low in absolute and comparative terms. Previous studies on the determinants of savings in the country focused mainly on the association between savings and financial liberalization [(Gross Domestic Product (GDP), Broad Money Supply (BMS) and Deposit interest Rate (DPR)], paying scant attention to institutions [(Rule of Law (RUL), Control of Corruption (COC), Political Stability and absence of violence/terrorism (POS), Regulatory Quality (RGQ), Voice and Accountability (VAC) and Government Effectiveness (GEF)]. This study therefore examined the effect of financial liberalization and institutions on Gross Domestic Savings (GDS) in Nigeria. The study adopted ex-post facto design. Annual data from 1996 to 2020 on Nigeria was sourced from World Development Indicators (WDI, 2020) and World Governance Indicators (WDI, 2020). Data was analyzed using Ordinary Least Squares (OLS) estimation technique. The study adopted the 5% level of significance. Findings of the study revealed that GDP, DPR and BMS had positive and insignificant effect on GDS in Nigeria. The findings also showed that institutions was correlated with GDS in Nigeria. The study concluded that the effect of financial liberalization on savings in Nigeria improved when it was moderated with institutions. The study recommended that the country should strengthen its institutions by controlling corruption and ensuring political stability and regulatory quality to boost its savings.*

KEY WORDS*: Gross Domestic Product, gross domestic savings, financial liberalization, institutions, Nigeria

INTRODUCTION

Savings is a major contributor to economic growth. This has been established in the economic literature (Harrod, 1939; Domar, 1946; Solow, 1956; Bacha, 1990; Ottani & Villanueva, 1990; DeGregorio, 1992; Singh, 2009). The primacy of savings in the growth process stems from its positive impact on investment, which is a key driver of growth. The rate of savings in Nigeria has been very low, and this has resulted in its slow growth over the years. According to World

Development Indicators (2018), savings rate in Nigeria over a period of 60 years (1960-2018) was 23 per cent with a corresponding per capita GDP growth of 0.97 per cent. The low savings rate in Nigeria has persisted despite the country's adoption and implementation of financial liberalization which had been theoretically and empirically established to be positively correlated with savings because it leads to increase in interest rate, which is an incentive to save. Financial liberalization entailed giving greater role and more freedom to markets (Goya, 2012). Previous studies on determinants of savings in Nigeria focused on the effect of some financial liberalization variables such as Gross Domestic Product, Broad Money Supply, Deposit interest Rate, Inflation Rate, and demographic variables such as Age Dependency Ratio and Age Structure, on savings. The studies paid scant attention to the role of institutions which has been defined by Nkoa and Song (2019) as the World Bank's six governance variables (Rule of Law, Control of Corruption, Political Stability and absence of violence/terrorism, Regulatory Quality, Voice and Accountability and Government Effectiveness) in the stimulation of Gross Domestic Savings (GDS) in Nigeria. This study, therefore, investigated the effect of financial liberalization and institutions on savings in Nigeria with a view to making some findings that will help in steering the country out of the savings doldrums.

The study is divided into five sections: introduction, literature review and theoretical framework, methodology, estimation and analysis of results, and summary, conclusion and recommendation.

LITERATURE REVIEW

We start with Kolasa and Liberda (2015) who examined the determinants of savings in the Organisation for Economic Cooperation and Development (OECD) countries and Poland using panel data analysis for the OECD countries and time series data (Polish quarterly data from the national accounts) for Poland. The study found government saving rate and productivity growth to be the main determinants of changes in private saving in the OECD countries, while real interest rate, government saving, and corporate saving, together with cyclical factors are the key drivers of household saving. The study, however, found that demographicchanges such as old dependency ratio have insignificant effect on savings in the OECD countries.

For Poland, the study found that the growth of real private income and financial deepening (expressed as broad money supply-to-income ratio) were the major drivers of private savings in the country. According to the results of the study, growth of real private income affected savings positively in Poland while financial deepening had a negative effect on private savings. The study also found growth of consumer prices and interest rate to be significant drivers of private savings in Poland.

Blanc, Porpiglia, Teppa, Zhu and Ziegelmeyer (2016) studied savings motives and household savings behaviour in 15 Euro-area countries using first wave of the Household Finance and

Consumption Survey. The survey collected detailed information on wealth holdings, consumption, and income in the 15 Euro-area countries for the period 2008–2011. The study found that most people in the Euro-area countries saved for precautionary reasons. This finding is in line with the Buffer-Stock Savings theory. It also found saving for old age as another motive that governed the saving behaviour of many people in the area, and this is in conformity with the Life-Cycle Hypothesis.

Aizenman et al (2017) analyzed the determinants of savings using data from 135 countries (23 developed and 113 developing) for the period 1995-2014. The study which employed system generalized method of moments (GMM) estimation method in its analysis found that real interest rate has significant and positive effect on savings. However, the study found that the effect of interest rate on savings depends on the economic environment or condition. According to the study, output volatility, a well-developed financial market, and aging population can make the relationship between savings and interest rate to be negative.

China's savings rate has been rising steadily over the years. According to the World Bank (2021), China's savings rate reached 45.20 per cent in 2020, making it about the highest savings rate in the world. Zhao (2014) attributes China's high savings rate to various socio-economic and institutional factors. Using a panel data analysis to examine the determinants of savings in 91 countries for the period 1980-2010, Zhao (2014) found GDP growth rate, GDP per capita, gender imbalance, borrowing constraints and social safety nets to be the major socio-economic factors responsible for China's high savings rate. The study which broke China's national savings into household, enterprise and government also found that institutions has been playing a major role in stimulating savings in China. According to the study, some indicators of institutions such as political stability, regulatory quality and control of corruption exert positive and significant impact on savings in China.

Zwane and Grelin (2016) deployed three panel data estimation techniques - fixed effect, random effect and Two-Stage Least Squares (TSLS) models - to examine the determinants of household savings in South Africa for the period 2008 - 2012. The study has savings as the dependent variable and socio-economic factors (such as age structure, education achievement, household size, and employment status) as independent variables. The study found income parameter to be positive, indicating that income has positive effect on household savings in South Africa. This affirms the Keynesian theory of income elasticity of savings. The study also found age structure, education achievement, household size and employment status to have strong influence on savings in South Africa. However, the parameter of household size in the model was negative, suggesting that the larger the household size, the lesser it is able to save.

Employing panel data analysis, Tekin (2016) examined the causes of the high savings rate in six East Asian countries of China, Thailand, Indonesia, Malaysia, the Philippines, and South Korea.

The model for the study which was specified on the basis of the Life-Cycle hypothesis has real interest rate, GDP growth rate and age dependency rate as explanatory variables. The results of the study showed that growth in per capita income, past savings, life expectancy, terms of trade, and working age population were responsible for the high savings rate in East Asia because they were found to have a significant and positive impact on private savings in the region. On the contrary, the study found that public savings, real interest rate, age dependency ratio, inflation rate, unemployment rate and health expenditure were negatively correlated with private savings in the region. The study also found that credit to the private sector (an indicator for financial development), women labour participation rate (55 per cent), and population growth had insignificant effect on private savings in the region.

The effect of demographic factors on savings as demonstrated by Doker, Turkmena and Emsen (2016) and Tekin (2016) is supported by Ganic and Mamuti (2020). According to Ganic and Mamuti (2020) age structure, especially, has been established as a factor affecting savings behaviour in 18 European transition and post-transition economies. Examining the dependence of savings behaviour on demographic changes in the context of Life-Cycle Hypothesis, they found that many employees work longer hours, increase their income in the process and save more, but reduce their savings after their retirement. The study arrived at these results by estimating heterogeneous panel data models using three different heterogeneous coefficient estimators: mean group (MG) estimator, common correlated effects mean group (CCEMG) estimator, and augmented mean group (AMG) estimator. The study also found that a decline in age dependency ratios leads to a rise in savings, while an increase in age dependency ratios results in a drop in savings. This is in tandem with the findings of Tekin (2016), which showed that age dependency ratio was negatively correlated with private savings in the East Asian countries of China, Thailand, Indonesia, Malaysia, the Philippines, and South Korea which have maintained high savings rate averaging about 30 per cent since 1970s.

Udude (2015) investigated the impact of interest rate and income on savings in Nigeria from 1981-2013 using Vector Auto Regressive (VAR) technique. The result of the study showed that changes in savings deposit rate and income (proxied by Gross Domestic Product) influenced savings in Nigeria. Specifically, the result of the study showed that 99.7 per cent of the variations in national savings in Nigeria were explained by changes in interest rate on savings deposit and income. The results, therefore, support both the Keynesian and Neoclassical theories of savings: positive relationship between savings and income, and positive relationship between savings and interest rate, respectively.

Ewetan, Ike and Urhie (2015) employed Auto Regressive Distributed Lag (ARDL) to examine the long-run relationship between financial development and savings in Nigeria for the period 1980-2012. The study which measured financial development by ratio of deposit money bank assets to GDP, ratio of liquid liabilities to GDP, and ratio of private credit by deposit money banks and other financial institutions to GDP, found a long-run relationship between financial sector development and domestic savings in Nigeria. The results of the study also showed that both the

constructed composite index of financial development and each of the components of the index had a positive and significant impact on domestic savings in Nigeria.

Otiwu, Okere and Uzowuru (2015) evaluated the relationship between savings (as dependent variable) and Per Capita Income, Inflation, Bank Deposit Rate, Financial Deepening (proxied by ratio of broad money supply to GDP) and Financial Inclusion, in Nigeria from 1981-2015, and tested the hypotheses using Vector Error Correction Model (VECM). The result of the study showed the goodness of fit to be high with an F-statistic of 14.38027, while R^2 is 0.782376 or 78.23 per cent. This implies that about 78.23 per cent of the total variations in private domestic saving in Nigeria during the period under study were explained by changes in Per Capita Income, Inflation, Bank Deposit Rate, Financial Deepening and Financial Inclusion.

The parameters of the explanatory variable of the model showed that financial inclusion and per capita income were positively correlated with savings in Nigeria, and a 1.0 per cent increase in per capita income results in 38 per cent increase in savings, while 1.0 per cent increase in financial inclusion caused 143 per cent increase in savings in Nigeria. The study however found that deposit rate, financial deepening and inflation rate did not significantly affect private domestic savings in Nigeria.

Boadi, Li and Lartey (2015) examined the effect of interest rate liberalization on bank deposits in Ghana. The study specified savings deposit function model with savings deposit as dependent variable, and real savings rate, real treasury bill rate, real exchange rate and gross domestic product as explanatory variables. It used Ordinary Least Squares (OLS) to estimate the specified model which covered seasonally adjusted data sourced from Bank of Ghana and Ghana Statistical Office. The results of the study showed that interest rate liberalization and GDP jointly explained 78 per cent of the variation in bank deposits in Ghana. This suggests that the liberalization of interest rates made it attractive for people with idle funds to save with the banks in the country. However, the results of the study showed a negative relationship between savings and real treasury bill rate, especially in a period of high inflation.

Abu (2015) examined the impact of corruption and political instability on savings in the Economic Community of West African States (ECOWAS) using two different estimation techniques, Panel Corrected Standard Error (PCSE) and Two Stage Least Squares (TSLS) instrumental variables. The study which covered the period 1996 to 2012 found that less corruption and political stability exert positive and significant impact on savings in ECOWAS countries. The study also found that income growth, real interest rate, and inflation rate had positive and significant effect on savings in the sub-region. The result of the study, however, showed that the percentage share of agriculture in GDP is negatively correlated with savings in ECOWAS countries.

For the period 1980-2015, Ozioma, Idenyi and Udude (2016) investigated the factors that influence private domestic savings in Nigeria using co-integration test, vector error correction model, and granger causality test. The study specified a model with domestic private savings as a function of GDP per capita, household consumption, nominal interest rate, and domestic lending to the private sector. The following results were found: interest rate had a positive and significant relationship with domestic private savings in the long-run in Nigeria, but insignificant impact on domestic private savings in the short-run; income had a negative and significant effect on domestic private savings in the short-run, but had an insignificant effect on savings in the long-run; domestic private sector lending had significant positive impact on domestic private savings in Nigeria; a unidirectional correlation between GDP per capita, domestic credit to the private sector as a percentage of GDP, and domestic private savings; a bidirectional causation between household consumption and domestic private savings.

Using multiple regression model, Mojekwu and Ogbolu (2017) investigated the determinants of savings in Nigeria for the period 1981-2015. The model of the study had national savings as the dependent variable while gross domestic product, savings deposit rate, inflation rate, budget deficit financing, age dependency ratio and financial deepening were the independent variables. The study found financial deepening to be the only variable that had positive and significant effect on savings in Nigeria. According to the study, gross domestic product, savings deposit rate, inflation rate budget deficit financing and age dependency ratio exerted insignificant influence on savings in Nigeria for the period 1981-2015.

Ahmad and Premaratna (2019) examined the effect of financial liberalization on savings in Nigeria using Two-Stage Least Squares (2SLS) instrumental variable technique. The result of the study showed financial liberalization which was a part of the Structural Adjustment Programme (SAP) had a positive effect on financial sector development because it led to the deepening of the banking industry. Though the study established that financial liberalization resulted in higher interest rate in Nigeria, it found that the interest rate did not have positive and significant effect on savings in the country. This finding is contrary to the McKinnon and Shaw financial repression hypothesis which posited that financial liberalization leads to higher interest rate, which, in turn, results in an increase in the level of savings.

Ihedioha, Kalu and Ogbonnaya (2021) investigated the effect of monetary sector financial liberalization on savings in five ECOWAS countries of Nigeria, Liberia, Ghana, Cote d'Ivoire and Benin Republic for the period 1981-2019 using panel vector auto regression (VAR) estimation technique. The study which is anchored on the Life-cycle and the financial liberalization hypotheses had household saving as dependent variable and, domestic credit provided by the financial sector, growth of GDP, interest rate spread, broad money supply and financial liberalization dummy, and gross fixed investment as independent and control variables. The result of the study shows that domestic credit has a significant positive effect on domestic saving while

gross fixed capital formation has a negative effect on domestic saving. The study also found that labour force and money supply are negatively related to household savings in the ECOWAS countries during the period 1981-2019.

Abu (2021) investigated the effect of corruption on savings in Nigeria for the period 1996-2019. The study which employed Autoregressive Distributed Lag (ARDL) model to analyze quarterly data during this period established a long-term relationship between domestic savings and corruption in the country. The study also found that income level, interest rate, oil price, inflation rate, and unemployment rate have long-term significant effect on domestic savings in Nigeria. The implication of the findings of the study is that low level of corruption stimulates savings in Nigeria over the long term. Conversely, high level of corruption leads to capital flight and results in reduction of domestic savings in the country.

Theoretical Framework and Model Specification
The study is anchored on the McKinnon (1973) and Shaw (1973) financial repression hypothesis. According to the model, when nominal interest rates are administratively-determined, they are held below their equilibrium level, and this is financially repressing. The theory focuses on demand for real money and investment response to different rates of return. Since the model assumes these two as the only forms of asset held by private sector, then can it be summarized as follows:

$$M/P = l(y, d - \pi^e, I_p/Y) \qquad\qquad 1$$
$$I_P/Y = l(y, d - \pi^e, I_g/Y) \qquad\qquad 2$$

Equation 1 represents the long-run real money balances demand function where real income y is the scale variable. The opportunity cost variable represented by $d - \pi^e$ is real interest rate, while private sector investment to gross domestic product (GDP) ratio represented by I_P/Y is the argument. Equation 2 on the other hand is a private sector investment function which depends on real interest rate, real income and public sector investment to GDP ratio (I_g/Y). Theory postulated under equilibrium condition that the ratio of actual investment to income (I/Y) must correspond to existing savings in the economy, thus:
$$I_P/Y = S/Y = f(d - \pi^e, I_g/Y) \qquad\qquad 3$$
where S/Y is the actual savings to income ratio.

Since real deposit rate is below equilibrium under a financially repressed financial system, there is therefore a positive relationship between savings and the real deposit rate $(d - \pi^e)$. This is because a rise in interest rate towards equilibrium induces economic agents to shift from other assets to savings. In order therefore to get the relationship between savings and growth in the demand for real money balances equations 1 and 3 are differentiated with respect to arguments and then dividing their differentials:

$$\frac{d[M/P]}{d[S/Y]} = \frac{d[M/P]/d(.)}{d[S/Y]/d(.)} \qquad 4$$

Equation 4 states that there is a positive relationship between savings rate and the demand for real money balances. The complementarity hypothesis holds true on the assumption that investment opportunity are plentiful and that the binding constraint is the supply of savings and not the demand for investable funds (Nyagetera, 1997). Thus savings rate can be incorporated as one of the determinants of demand for real money balances:

$$M/P = l(y, S/Y, d - \pi^e, I_p/Y) \qquad 5$$

Equation 4 and equation 5 exhibit a case where there is disequilibrium in the money market; that is supply of loanable funds is exceeded by its demand. Thus in the model a rise in real interest rates leads to an increase in savings and also growth in the demand for real money, leading to an increase in savings. Since complementarity hypothesis works both ways in that the conditions of money supply have first order impact on decision to save and invest, a savings function that can be determined simultaneously with demand for real money is specified as follows:

$$S/Y = f(y, d - \pi^e, M/P, v) \qquad 6$$

where S/Y is ratio of savings to income, y is real income, $d - \pi^e$ is real deposit rate, M/P is money supply, and v is a vector representing further explanatory variables. Equation 6 is the functional form for empirical estimation of this study. Substituting the variables of financial liberalisation yields the functional relationship:

$$GDS_{it} = f(GDP_{it}, DPR_{it}, BMS_{it}) \qquad 7$$

where GDS is gross domestic product, DPR is deposit rate, BMS is broad money supply, i = 1, 2, 3……………, N; t = 1, 2, 3.

Consequently, the model to be estimated is specified thus:

$$GDS_{it} = \alpha_0 + \alpha_1 GDP_{it} + \alpha_2 DPR_{it} + \alpha_3 BMS_{it} + \mu_{it} \qquad 8$$

where i = 1, 2, 3……………, N; t = 1, 2, 3. . . … T; GDS is gross domestic savings, GDP is gross domestic product, DPR is deposit rate, BMS is broad money supply, $\alpha_1 … \alpha_3$ are parameters to be estimated, and μ is the error term. However, to determine the effect of institutions on savings in Nigeria, we adopted the moderating variable approach. This involved moderating each variable of financial liberalization in equation 8 (baseline model) with each variable of institutions. Comparing the values of the parameters of the variables of financial liberalization before and after moderation indicates the effect of the variables of institutions and institutions itself on gross domestic savings in Nigeria.

METHODOLOGY

We employed Ordinary Least Squares (OLS) estimation technique to analyze the effect of financial liberalization variables (gross domestic product, deposit rate and broad money supply) and

indicators of institutions (rule of law, control of corruption, political stability and absence of violence/terrorism, regulatory quality, voice and accountability and government effectiveness) on Gross Domestic Savings (GDS) in Nigeria. The specification of the savings-financial liberalization model (the baseline model) followed the McKinnon-Shaw financial repression hypothesis, while the other models were a moderation of the baseline model by the six variables of institutions. In all, seven models were specified and estimated in order to establish the effect of financial liberalization and institutions on gross domestic savings in Nigeria. The study adopted the 5% level of significance.

Estimation Results and Analysis

The estimation results and analysis of the effect of financial liberalization and institutions are presented below.

Model 1: Effect of Financial liberalization on savings in Nigeria
Table 4.11: Ordinary Least Squares (OLS) Results

Variables	coefficient	SE	t-Stat	Prob
C	-57.3464	9.1285	-6.2822	0.0000
GDP_t	0.0264	0.0201	1.3136	0.2031
BMS_t	0.6801	0.4911	1.3849	0.1806
DPR_t	0.7294	0.6128	1.1902	0.2473

Diagnosis tests

$$R^2 = 0.5717 \quad \bar{R}^2 = 0.5105 \quad DW = 1.6848$$

$$X^2_{LM} = 1.2107[0.5459] \quad X^2_{BGP} = 1.3018[0.7287] \quad X^2_{JB} = 3.5275[0.1714] \, X^2_{RS} = 0.1147[0.7384]$$

$$F-statistic = 9.3449[0.0004] \quad STABILITY=CUSUM$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X^2_{LM}, X^2_{BGP}, X^2_{RS}, X^2_{JB}$ *represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.*

Estimated Model I

$GDS_t = -57.35 + 0.03GDP_t + 0.68BMS_t + 0.73DPR_t + \mathcal{E}_t$ 　　　　　4.1

The estimated model 4.1 revealed that *ceteris paribus*, a one per cent increase in GDP brought about 0.03 per cent increase in gross domestic savings (GDS) in Nigeria. However, this effect was not statistically significant as the *p*-value of 0.20 is greater than the 0.05 statistical threshold for this study. A one per cent increase in broad money supply (BMS) brought about 0.68 per cent increase in Nigeria's GDS, and this effect is also not statistically significant as the p-value of is greater than 0.05. It was also established that as the deposit rate in Nigeria increased by 1 per cent it brought about a 0.734 per cent increase in the country's GDS, and this impact is also not statistically significant as the probability value of 0.25 is greater than 0.05. Meanwhile, the *p*-value of 0.000 of the F-statistic is statistically significant at 5%. Therefore, it is established that individually, none of the financial liberalization variables exerts statistically significant effect individually on GDS, but jointly they did exert statistically significant effect on GDS in Nigeria over the period of this study.

The results in table 4.11 established the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.5105$), which means that the independent variables (GDP, BMS and DPR) explained 51.05 per cent variation in the dependent variable [gross domestic savings (GDS)].

Some diagnostics tests confirmed that the model is free from such problems as multicollinearity, autocorrelation and heteroskedasticity. Autocorrelation and heteroskedasticity were confirmed to be absent from this analysis with Durbin Watson's (DW) values, X^2_{LM} and X^2_{BGP} at 1.6848 $1.2107[0.5459]$ and $1.3018[0.7287]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity are all confirmed absent from the estimated model with the values of X^2_{JB} and X^2_{RS} at $3.5275[0.1714]$ and $0.1147[0.7384]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model II: The extent to which rule of law moderates the effect of financial liberalization on savings in Nigeria

Table 4.12: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob.
C	68.4474	18.7748	3.6457	0.0020
GDP_t	0.1264	0.1454	0.8697	0.3966
BMS_t	-5.2051	3.5015	-1.4865	0.1555
DPR_t	2.7106	2.3567	1.1502	0.2660
RUL_t	8.2000	18.4209	0.4452	0.6618
$GDP*RUL_t$	0.1387	0.1370	1.0121	0.3257
$BMS*RUL_t$	-4.0286	3.1791	-1.2672	0.2222
$DPR*RUL_t$	3.0676	2.1377	1.4350	0.1694

Diagnosis tests

$$R^2 = 0.6456 \quad \bar{R}^2 = 0.4997 \quad DW = 1.9416$$

$$X_{LM}^2 = 0.5112[0.7745] \quad X_{BGP}^2 = 7.6274[0.3666] \quad X_{JB}^2 = 2.5380[0.2811] X_{RS}^2 = 0.1930[0.6663]$$

$$F - statistic = 4.4243[0.0058] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X_{LM}^2, X_{BGP}^2, X_{RS}^2, X_{JB}^2$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.

Estimated Model II

$$GDS_t = 68.13 + 0.13GDP_t - 5.21BMS_t + 2.71DPR_t + 8.20RUL_t + 0.14GDP*RUL_t$$
$$- 4.03BMS*RUL_t + 3.07DPR*RUL_t + \varepsilon_t$$

4.2

Estimated model 4.2 showed that a one per cent increase in GDP led to about 0.13 per cent increase in gross domestic savings (GDS) in Nigeria. However, this effect is not statistically significant at 5% significant level as the *p*-value of 0.39 is greater than the 0.05 significant level for this study. Furthermore, a one per cent increase in broad money supply (BMS) in Nigeria brought about 5.21 per cent decrease in the country's GDS, and this effect is insignificant as the *p*-value is greater than 0.05 or 0.10 significant level. Again, as the deposit rate (DPR) in Nigeria increased by 1 per cent, it led to an increase in GDS in the country by 2.71. This effect is not statistically significant at 5% as the *p*-value of 0.26 is more than 0.05.

The results also showed that without moderation by RUL, GDP accounted for 0.13% increase in savings and when moderated, it accounted for 0.14%, but this is not significant at 5%. Likewise, without moderation, DPR exerted 2.71% effect on GDS, and when moderated with rule of law, the effect rose to

3.07%, but this was still not significant at 5%. Without moderation by RUL, BMS exerted negative effect of 5.21% on savings, and after moderation the negative effect reduced to 4.03%

The OLS results in table 4.12 confirmed the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.4997$), which suggests that the independent variables (GDP, BMS, DPR, RUL, GDP*RUL, BMS*RUL and DPR*RUL) explained 49.976 per cent variation in gross domestic savings (GDS)]. Some diagnostics tests were performed to ascertain that the model is free from problems such as multicollinearity, autocorrelation, and heteroskedasticity. Autocorrelation, serial correlation, and heteroskedasticity are confirmed absent from this analysis with Durbin Watson's (DW) values, X^2_{LM} and X^2_{BGP} at 1.9416 $0.5112[0.7745]$ and $7.6274[0.3666]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity are all confirmed absent from the estimated model with the values of X^2_{JB} and X^2_{RS} at $2.5380[0.2811]$ and $0.1930[0.6663]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model III: The extent to which control of corruption moderates the effect of financial liberalization on savings in Nigeria

Table 4.13: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob.
C	79.3585	21.7185	3.6540	0.0020
GDP_t	0.2867	0.1875	1.5285	0.1448
BMS_t	-10.3392	5.1243	-2.0177	0.0597
DPR_t	6.4590	3.4422	1.8764	0.0779
COC_t	24.9320	24.3774	1.0227	0.3208
$GDP*COC_t$	0.2726	0.1607	1.6962	0.1081
$BMS*COC_t$	-8.5597	4.5961	-1.8624	0.0799
$DPR*COC_t$	5.8148	2.7438	2.1192	0.0491

Diagnosis tests

$$R^2 = 0.6746 \quad \bar{R}^2 = 0.5406 \quad DW = 2.4178$$

$$X^2_{LM} = 2.1577[0.3400] \quad X^2_{BGP} = 7.8166[0.3490] \quad X^2_{JB} = 2.1615[0.3393] \quad X^2_{RS} = 0.1583[0.6960]$$

$$F-statistic = 3.5463[0.016] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X_{LM}^2, X_{BGP}^2, X_{RS}^2, X_{JB}^2$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.

Estimated Model III

$$GDS_t = 79.36 + 0.29GDP_t - 10.34BMS_t + 6.46DPR_t + 24.93COC_t + 0.27GDP*COC_t$$
$$- 8.56BMS*COC_t + 5.81DPR*COC_t + \varepsilon_t$$

4.3

The estimated model 4.3 revealed that a one per cent increase in GDP led to about 0.29 per cent increase in gross domestic savings (GDS) in Nigeria. However, this effect was not statistically significant at either 5% or 10 % significant level as the *p*-value of 0.145 is more than the 0.05 and 0.10. Also, a one per cent increase in broad money supply (BMS) in the country brought about 10.34 per cent decrease in the country's GDS, and this effect is significant, as the *p*-value is less than 0.10 significant level. And, as the deposit rate (DPR) in Nigeria increased by 1 per cent, it resulted in an increase in GDS in the country by 6.46%. However, this is statistically insignificant at 10% as the *p*-value of 0.07 is less than 0.10 level of significance.

The moderating variable, control of corruption, exerted a positive but not statistically significant influence on GDS, suggesting that if there is an increase in control of corruption in Nigeria, there will be an increase in gross domestic savings. After moderating with COC, the relationship and statistical significance between individual financial liberalization variables were maintained, except BMS and DPR. GDP increased savings by a significant 0.29% before moderation with COC and when moderated, the rate reduced to 0.27% but not significant at 5% and 10%. Before moderation, BMS exerted a negative significant 10.34% effect on GDS in Nigeria, but when moderated with COC, the relationship became negative significance of 8.56% impact on GDS at 5% and 10% significant level. Before moderation, DPR exerted a significant 6.45% effect on GDS in Nigeria, but when moderated with COC, it reduced to a significant 5.14% impact on GDS at 5% and 10% significant level. It can be concluded that the interaction of BMS and COC (BMS*COC) enhanced the impact of broad money supply on savings in Nigeria.

The OLS results in table 4.13 confirmed the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.5406$), which means that the independent variables (GDP, BMS, DPR, COC, GDP*COC, BMS*COC and DPR*COC) explained 54.062 per cent variation in gross domestic savings (GDS). Some diagnostics tests performed to ascertain that the model is free from econometrics problems such as multicollinearity, autocorrelation and serial correlation, and heteroskedasticity all confirmed the absence of these problems in the model. Autocorrelation, serial correlation, and heteroskedasticity are confirmed absent from this analysis with Durbin Watson's (DW) values, X_{LM}^2 and X_{BGP}^2 at 2.4178 2.1577$[0.3400]$ and 7.8166$[0.3490]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and linearity are all confirmed absent from the estimated model with the

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values of X_{JB}^2 and X_{RS}^2 at $2.1615[0.3393]$ and $0.1583[0.6960]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model IV: The extent to which political stability and absence of violence/terrorism moderates the effect of financial liberalization on savings in Nigeria
Table 4.14: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob
C	35.28061	17.95657	1.96477	0.06600
GDP_t	-0.22968	0.16553	-1.38757	0.18319
BMS_t	4.48990	3.40854	1.31725	0.20523
DPR_t	-3.28786	2.41511	-1.36137	0.19117
POS_t	-16.01675	12.16256	-1.31689	0.20535
$GDP*POS_t$	-0.10193	0.08066	-1.26372	0.22339
$BMS*POS_t$	2.77915	1.79328	1.54976	0.13961
$DPR*POS_t$	-1.19599	1.34285	-0.89064	0.38556

Diagnosis tests

$$R^2 = 0.6337 \quad \bar{R}^2 = 0.4828 \quad DW = 1.8526$$

$$X_{LM}^2 = 1.9313[0.3807] \quad X_{BGP}^2 = 2.6248[0.9174] \quad X_{JB}^2 = 2.4718[0.2906] \quad X_{RS}^2 = 1.7440[0.2052]$$

$$F - statistic = 4.2068[0.007] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X_{LM}^2, X_{BGP}^2, X_{RS}^2, X_{JB}^2$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.

Estimated Model IV

$$GDS_t = 35.28 - 0.23GDP_t + 4.49BMS_t - 3.29DPR_t - 16.02POS_t - 0.10GDP*POS_t$$
$$+ 2.78BMS*POS_t - 1.20DPR*POS_t + \varepsilon_t \qquad 4.4$$

Equation 4.4 shows that as the country's gross domestic product (GDP) increased by 1 per cent, it brought about a 0.23 per cent decrease in Nigeria's gross domestic savings. However, the negative association between GDP and GDS was not statistically significant as the probability value of 0.1832 is greater than the 0.05 significant threshold for this study. Also shown in equation 4.4 is

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the positive effect of broad money supply on savings, indicating that as the supply of money increases, it encourages savings, making it to increase by 4.49 per cent. However, the effect of BMS on GDS was not statistically significant at 5% as the *p*-value of 0.2052 is greater than the level of significance benchmarked for this study. Furthermore, DPR also had insignificant negative effect on gross domestic savings. This implies that as the deposit rate increased by 1 percent, savings decreased by 3.29 per cent. However, negative association between GDS and DPR was not statistically significant at 5% level as its *p*-value of 0.1912 is greater than 0.05. In the same vein, the moderating variable, political stability and absence violence/terrorism (POS) had a negative and statistically insignificant impact on domestic savings, suggesting that an improvement in political stability and absence of violence/terrorism in Nigeria brought about a 16.02% decrease in gross domestic savings, although not significant at 5%. Moderation by POS enhanced the effect of GDP from -0.23% to 0.10%. In the same vein, moderation by POS enhanced the effect of DPR from -3.29% to 1.20%. On the other hand, the effect of BMS on GDS reduced to 2.78% from 4.49% after moderation by POS.

Results in table 4.14 confirmed the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.4828$), which suggests that the independent variables (GDP, BMS, DPR, POS, GDP*POS, BMS* POS and DPR* POS) explained 48.28 per cent variation in the dependent variable [gross domestic savings (GDS)].

Some diagnostics tests performed to ascertain that the model is free from such problems as multicollinearity, autocorrelation and serial correlation, and heteroskedasticity all confirmed absence of these problems. Autocorrelation, serial correlation, and heteroskedasticity were confirmed absent from this analysis with Durbin Watson's (DW) values, X^2_{LM} and X^2_{BGP} at 1.8526 $1.9313[0.3807]$ and $2.6248[0.9174]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity were all confirmed absent from the estimated model with the values of X^2_{JB} and X^2_{RS} at $2.4718[0.2906]$ and $1.7440[0.2052]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model V: The extent to which regulatory quality moderates the effect of financial liberalization on savings in Nigeria

Table 4.15: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob
C	53.7090	18.4050	2.9182	0.0096
GDP_t	0.0552	0.1212	0.4555	0.6545
BMS_t	-2.4815	3.2018	-0.7750	0.4490
DPR_t	1.4085	2.2038	0.6391	0.5313
RGQ_t	-5.0253	26.1138	-0.1924	0.8497
$GDP*RGQ_t$	0.0859	0.1445	0.5945	0.5600
$BMS*RGQ_t$	-1.7811	3.6911	-0.4825	0.6356
$DPR*RGQ_t$	2.2166	2.2379	0.9905	0.3358

Diagnosis tests

$$R^2 = 0.6425 \quad \bar{R}^2 = 0.4953 \quad DW = 2.2579$$

$$X_{LM}^2 = 0.7429\,[0.6897] \quad X_{BGP}^2 = 3.5837\,[0.8263] \quad X_{JB}^2 = 4.7023\,[0.0953] \quad X_{RS}^2 = 0.8523\,[0.3694]$$

$$F - statistic = 4.3647\,[0.0062] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X_{LM}^2, X_{BGP}^2, X_{RS}^2, X_{JB}^2$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test

Estimated Model V

GDSt = 53.71 + 0.06GDP$_t$ – 2.48BMS$_t$ + 1.41DPR$_t$ – 5.03RGQ$_t$ + 0.09GDP*RGQ$_t$ – 1.78BMS*RGQ$_t$ + 2.22DPR*RGQ$_t$ + $\mathcal{E}_t$ 4.5

Equation 4.5 shows that as Nigeria's gross domestic product (GDP) increased by 1 per cent, it brought about a 0.06 per cent increase in the country's savings rate, but the positive association between GDP and GDS is not statistically significant as the probability value of 0.6545 is greater than the 0.05 significant threshold for this study. Also shown in equation 4.5 is the negative effect of broad money supply on savings in Nigeria, indicating that as the supply of money increased, it discouraged savings, leading to 2.48 per cent decrease in savings. However, the effect of BMS on GDS was not statistically significant at 5% as the *p*-value of 0.45 is greater than the level of significance benchmarked for this study. DPR also had an insignificant positive effect on gross domestic savings (GDS) in Nigeria. This implies that as the deposit rate increased by 1 percent,

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savings increased by 1.41 per cent. The positive association between GDS and DPR was not statistically significant at 5% significant level as its *p*-value of 0.53 is greater than 0.05 significant level.

The moderating variable, regulatory quality (RGQ), had a negative but insignificant impact on domestic savings, suggesting that as regulatory quality improved, it brought about a 5.03 decrease in gross domestic savings, although this was not significant at 5%. The moderation of GDP, DPR and BMS by RGQ changed their impact on GDS. Without moderation, the effect of GDP on GDS was 0.06% but this improved to 0.09% after moderation. The effect of BMS on GDS also improved from -2.48% to -1.78% after moderation, while the effect of DPR on GDS improved from 1.41% to 2.22% after moderation.

Results in table 4.15 confirm the goodness of fit of the model with adjusted R^2 ($\bar{R}^2 = 0.4953$), which is the evidence of dependent variable [gross domestic savings' (GDS)] variations explained by the independent variables (GDP, BMS, DPR, RGQ, GDP* RGQ, BMS* RGQ and DPR* RGQ) to the tune of 49.53 per cent.

Some diagnostics tests performed to ascertain that the model is free from econometrics problems such as multicollinearity, autocorrelation and serial correlation, and heteroskedasticity all confirmed absence of these problems. Autocorrelation, serial correlation, and heteroskedasticity are confirmed absent from this analysis with Durbin Watson's (DW) values, $X^2_{LM} \ and \ X^2_{BGP}$ at 2.2580 $0.7429[0.6897]$ and $3.5837[0.8263]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity are all confirmed absent from the estimated model with the values of $X^2_{JB} \ and \ X^2_{RS}$ at $4.7023[0.0953]$ and $0.8523[0.3694]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model VI: The extent to which voice and accountability moderates the effect of financial liberalization on savings in Nigeria

Table 4.16: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob
C	57.8687	15.7707	3.6694	0.0019
GDP_t	-0.0738	0.0626	-1.1792	0.2545
BMS_t	-0.3417	1.4649	-0.2332	0.8184
DPR_t	-0.6309	1.2673	-0.4978	0.6250
VAC_t	3.4608	24.2787	0.1425	0.8883
$GDP*VAC_t$	-0.0950	0.1091	-0.8709	0.3959
$BMS*VAC_t$	0.7793	2.2880	0.3406	0.7376
$DPR*VAC_t$	-0.0508	2.1485	-0.0236	0.9814

Diagnosis tests

$$R^2 = 0.6486 \quad \bar{R}^2 = 0.5039 \quad DW = 2.0501$$

$$X^2_{LM} = 1.1530[0.5620] \quad X^2_{BGP} = 3.5608[0.8287] \quad X^2_{JB} = 4.2245[0.1210] \quad X^2_{RS} = 0.3061[0.5877]$$

$$F-statistic = 5.3216[0.002] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X^2_{LM}, X^2_{BGP}, X^2_{RS}, X^2_{JB}$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.

Estimated Model VI

$$GDS_t = 57.87 - 0.07GDP_t - 0.34BMS_t - 0.63DPR_t + 3.46VAC_t - 0.10GDP*VAC_t$$
$$+ 0.88BMS*VAC_t - 0.05DPR*VAC_t + \varepsilon_t$$

4.6

Estimated model 4.6 showed that GDP had a negative and non-significant effect on GDS in Nigeria. This shows that if GDP increases by 1 per cent it brings about a 0.07 per cent decrease in savings rate. However, the association was not statistically significant as the probability value of 0.2545 is greater than the 0.05 threshold for this study. Also shown in the equation is the negative effect of broad money supply on savings in Nigeria, indicating that as the supply of money increases, it discourages savings, leading to 0.34 per cent decrease in savings, but this was not statistically significant at 5% as the *p*-value of 0.82 is greater than the level of significant benchmarked for this study. Furthermore, DPR also showed a non-significant negative relationship with gross domestic savings (GDS) in Nigeria. This implies that as the deposit rate

increases by 1 percent, gross domestic savings decreases by 1.41 per cent. The negative association between GDS and DPR did not indicate an individual statistically significant effect on GDS at 5% significant level as its *p*-value of 0.63 is greater than 0.05 significant level.

The moderating variable, voice and accountability (VAC), had a positive but insignificant impact of voice and accountability on domestic savings. This suggests that as voice and accountability increased in Nigeria, it brought about a 3.46% increase in gross domestic savings, although not significant at 5%.

The interaction of GDP and VAC (GDP* VAC) increased the negative effect of GDP on saving in Nigeria, while the interaction of BMS and VAC (BMS* VAC) enhanced the positive impact of broad money supply on savings in Nigeria. On the other hand, the negative effect of DPR on GDS improved from -0.63% to -0.05% after moderation by VAC.

Results in table 4.6 confirmed the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.5039$), which is the evidence that the independent variables (GDP, BMS, DPR, VAC, GDP* VAC, BMS* VAC and DPR* VAC) explained the variations in gross domestic savings (GDS) by 50.39 per cent.

Some diagnostics tests performed to ascertain that the model is free from such problems as multicollinearity, autocorrelation and heteroskedasticity all confirmed absence of these problems. Autocorrelation, serial correlation, and heteroskedasticity were confirmed absent from this analysis with Durbin Watson's (DW) values, X^2_{LM} and X^2_{BGP} at 2.0501 $1.1530[0.5620]$ and $3.5608[0.8287]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity were all confirmed absent from the estimated model with the values of X^2_{JB} and X^2_{RS} at $4.2245[0.1210]$ and $0.3061[0.5877]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

Model VII: The extent to which government effectiveness moderates the effect of financial liberalization on savings in Nigeria

Table 4.17: Ordinary Least Squares (OLS) Results

Variables	Coefficient	SE	t-Stat	Prob
C	53.7315	22.5847	2.3791	0.0293
GDP_t	-0.0135	0.1811	-0.0745	0.9415
BMS_t	-0.5814	5.1932	-0.1120	0.9122
DPR_t	-0.3877	3.6541	-0.1061	0.9167
GEF_t	3.1685	25.3572	0.1250	0.9020
$GDP*GEF_t$	0.0071	0.1703	0.0417	0.9672
$BMS*GEF_t$	0.1536	4.9932	0.0308	0.9758
$DPR*GEF_t$	0.3778	3.5544	0.1063	0.9166

Diagnosis tests

$$R^2 = 0.5891 \quad \bar{R}^2 = 0.4199 \; DW = 1.8088$$

$$X_{LM}^2 = 0.4964[0.7802] \quad X_{BGP}^2 = 3.8605[0.7957] \quad X_{JB}^2 = 4.6164[0.0994] \; X_{RS}^2 = 0.0030[0.9574]$$

$$F - statistic = 3.4818[0.0168] \quad \text{STABILITY=CUSUM}$$

Source: Author's computation (2023) from E-Views 13

Notes: SE: standard error, DW: Durbin Watson statistic. $X_{LM}^2, X_{BGP}^2, X_{RS}^2, X_{JB}^2$ represent LM test for serial correlation, Breusch-Pagan Godfrey test for heteroskedasticity, Ramsey reset test for model specification and Jarque-Bera normality test.

Estimated Model VI1

$$GDS_t = 53.73 - 0.01009GDP_t - 0.58BMS_t - 0.39DPR_t + 3.17GEF_t + 0.01GDP*GEF_t$$
$$+ 0.15BMS*GEF_t + 0.38DPR*GEF_t + \varepsilon_t \qquad 4.7$$

The estimated model 4.7 showed that GDP had a negative and non-significant relationship with GDS. From equation 4.7, as the country's gross domestic product (GDP) increased by 1 per cent, it brought about a 0.01 per cent decrease in Nigeria's savings rate. The negative association between GDP and GDS is statistically not significant as the probability value of 0.9415 is greater than the 0.05 significant threshold for this study. Also shown in equation 4.7 is the negative effect of broad money supply on savings in Nigeria, indicating that as the supply of money increased, it discouraged savings, leading to 0.58 per cent decrease in savings. This effect was however not statistically significant at 5% as the *p*-value of 0.912 is greater than the level of significance

benchmarked for this study. DPR also showed a non-significant negative relationship with gross domestic savings (GDS) in Nigeria. This implies that as the deposit rate increased by 1 per cent, gross domestic savings decreases by 0.39 per cent. The negative association between GDS and DPR was not statistically significant at 5% significant level as its *p*-value of 0.92 is greater than 0.05 significant level.

The moderating variable, government effectiveness (GEF), had a positive but insignificant impact of government effectiveness on domestic savings. As government effectiveness increased in Nigeria it brought about a 3.46 increase in gross domestic savings, although this was not significant at 5%.

The interaction of GDP and GEF (GDP* GEF) increased the positive effect of GDP on savings in Nigeria, and the interaction of BMS and government effectiveness (BMS* GEF) enhanced the impact of broad money supply on savings in the country. Finally, the positive interaction of DPR and GEF (DPR*GEF) showed that deposit rate and government effectiveness impact Nigeria's gross domestic savings positively but the impact is not statistically significant at 5%.

Further results in table 4.7 confirmed the goodness of fit of the model with the adjusted R^2 ($\bar{R}^2 = 0.4199$), which is the evidence that the dependent variable [gross domestic savings' (GDS)] variations is explained by the independent variables (GDP, BMS, DPR, GEF, GDP* GEF, BMS* GEF and DPR* GEF) to the tune of 41.99 per cent.

Some diagnostics tests performed to ascertain that the model is free from econometrics problems such as multicollinearity, autocorrelation and serial correlation, and heteroskedasticity all confirmed absence of these problems. Autocorrelation and heteroskedasticity were confirmed absent with Durbin Watson's (DW) values, X_{LM}^2 and X_{BGP}^2 at 1.8088 $0.4964[0.7802]$ and $3.8605[0.7957]$, respectively. Furthermore, the normality and linearity of the residuals were diagnosed with the Jarque-Bera test and Ramsey Reset test. Non-normality and non-linearity were all confirmed absent from the estimated model with the values of X_{JB}^2 and X_{RS}^2 at $4.6164[0.0994]$ and $0.0030[0.9574]$, respectively. The stability of the parameters was established using the cumulative sum (CUSUM).

SUMMARY OF FINDINGS

The study found that financial liberalization and institutions influenced savings in Nigeria. This is because variables of financial liberalization in the study (gross domestic product, deposit rate and broad money supply) and the variables of institutions (rule of law, control of corruption, political stability and absence of violence/terrorism, regulatory quality, voice and accountability and

government effectiveness) were correlated with gross domestic savings (GDS) in the country in the period of the study.

Gross domestic product (GDP), deposit rate (DPR) and broad money supply (BMS) had positive effect on gross domestic savings in Nigeria. This means that as GDP, DPR and BMS increase, savings rate also increased in Nigeria. However, their effect on GDS was not significant at the 5% level of significance.

The effect of institutions on savings was established by moderating each of the variables of financial liberalization by each indicator of institutions. The study found that the variables of institutions had heterogeneous effect on gross domestic savings in Nigeria. In most of the cases, however, moderation by the indicators of institutions enhanced the effect of the indicators of financial liberalization on gross domestic savings (GDS) in Nigeria. For instance, without moderation by rule of law, GDP accounted for 0.13% increase in GDS in Nigeria but when moderated by rule of law, its effect on GDS increased to 0.14%, though this was not significant at 5%. Likewise, without moderation, deposit rate had 2.71% effect on GDS, and when moderated with rule of law, the effect increased to 3.07%, but this was also not significant at 5%. Without moderation by rule of law, broad money supply exerted negative effect of 5.21% on GDS, and after moderation the negative effect reduced to 4.03%.

Therefore, institutions enhanced the effect of financial liberalization on domestic savings in Nigeria during the period 1996-2020 covered by this study. In other words, financial liberalization adopted and implemented complementarily with strong institutions stand a better chance of expanding the savings frontier than when it is implemented in an atmosphere of political instability, pervasive corruption and non-adherence to rule of law. This finding is in tandem with those of previous studies that examined the relationship between savings and institutions (Abu, Karim & Aziz, 2013; Zhao, 2014; Abu, 2015; Boateng, 2020; Abu, 2021).

CONCLUSION

Based on the findings of the study, the following conclusions can be reached:
Financial liberalization is major determinant of savings in Nigeria. This is because its variables (gross domestic product, deposit rate and broad money supply) had positive effect on gross domestic savings in the country.

Institutions is also a key determinant of savings in Nigeria because moderation by its indicators (rule of law, control of corruption, political stability and absence of violence/terrorism, regulatory quality, voice and accountability and government effectiveness) enhanced the effect of the variables of financial liberalization on gross domestic savings in the country.

Recommendations

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

1.   Policy makers in Nigeria should adopt and implement policies, programmes and projects that can contribute to rapid economic growth of the economy since fast-paced GDP growth has been found to be positively with gross domestic savings.

2.   Given the positive effect of broad money supply on savings, Nigeria's monetary authorities should always ensure that the money in circulation is adequate to support the activities of economic agents since unbridled monetary expansion can affect savings negatively.

3.   The monetary authorities in Nigeria need to ensure that the real deposit rate is positive at all times because households and firms in Nigeria are likely to save more when the real deposit rate is high and positive. This recommendation is informed by the findings of this study and the McKinnon-Shaw financial repression hypothesis which established that high and positive real interest rate has positive and significant effect on savings.

4.   Given that institutions have the capacity to strengthen financial liberalization and make it more effective in stimulating domestic savings, there is need for the Nigerian government to embark on reforms that can strengthen its institutions, especially the judiciary, the police and the regulatory institutions, to ensure adherence to rule of law, control of corruption, and the attainment of good regulatory quality in the country with a view to stimulating savings in the country. Such reforms should include granting financial autonomy to the judiciary and the police to make them effective in the adjudication of justice and maintaining law and order. The reforms should also involve granting autonomy to the monetary authorities to enable them to adopt and implement policies that will help in repositioning the financial markets and make them potent tool for boosting domestic savings. Since voice and accountability is also critical in the raising savings rate in these countries, their electoral system should be reformed with a view to ensuring that citizens have the power to freely elect their leaders.

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