



**An Empirical Investigation of the Link between Financial Depth and
Savings Mobilisation in Nigeria****Oyebola Fatima Etudaiye - Muhtar^a & Agboola Ifeoluwa^b***^aDepartment of Finance, University of Ilorin
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An efficient and well-developed financial sector is important for mobilising domestic savings to deepen the financial sector, enhance economic growth as well as reduce poverty in any economy. To examine the extent to which deepening of the financial sector is important for savings mobilisation in Nigeria, this study used the Autoregressive Distributed Lag bounds testing technique for co-integration on a set of time series data for the period 1987 to 2017. In addition, the Toda and Yamamoto Granger non-causality test was used in determining the causality direction. The study found the existence of a long-run relationship between financial depth and savings mobilisation and a uni-directional causality from financial depth to savings mobilisation. These findings imply that financial sector deepening is important in order to increase domestic savings. Therefore, it was recommended that financial sector intermediaries (banks in particular) should increase the depth of the financial sector through efficient credit monitoring to the private sector, for increased productivity and investments which would in turn, encourage greater savings. In addition, the gap between savings and lending rate should be reduced to encourage more savings.

Keywords: Domestic savings, Financial deepening, Autoregressive distributed lag, Cointegration

INTRODUCTION

A critical factor in the process of nation-building is the need to mobilise savings. In order for savings mobilisation to be effective, the financial system must be robust enough (deepen) to offer the much needed domestic savings to finance investment activities that will accelerate the rate of economic growth (Ewetan, Ike & Urhie, 2015). The financial sector, particularly banking institutions have a tremendous role to play in the process of mobilising domestic savings which is necessary for promoting economic growth. This is more pronounced in developed financial

systems with reliable and substitutable financial instruments tailored to meet individual requirements (Kelly & Mavrotas, 2008; Schmidt-Hebbel & Serven, 2002). Similarly, a developed and efficient financial system facilitates the mobilization of domestic savings which is an important factor in enhancing growth and reducing poverty (Inoue & Hamori, 2011; Quartey, 2005). Thus, it is expected that a developed financial system enhances savings by improving the efficiency level of financial intermediation. However, this has been a major challenge for most developing African countries.

Another policy issue for developing countries in the area of sustainable and pro-poor growth is determining ways of enhancing savings through mobilisation of domestic resources (Ang, 2011; Sahoo & Dash, 2013). Most developing economies in Africa often do not have financial systems that can mobilise sufficient domestic savings while also acting as an efficient intermediary that can transform the savings into credits (Twerefou & Ayimadu, 2018). Many of them have overlooked the mobilisation of domestic savings through the deepening of the financial system as a viable source of financing productive investments. However, Balamoune-Lutz (2006) argues that the mobilisation of savings is what significantly influence the depth of financial institutions, but the volume of their intermediation does not necessarily have a direct impact on savings mobilisation. Thus, an increase in domestic savings mobilisation is equally important to further deepen the local financial sector.

Furthermore, the percentage of gross domestic savings to gross domestic product in Nigeria has not been impressive. For instance, available statistics from the World Bank show that the percentage in 1986 was 18.62%, dropping to an all-time low of 5.60% in 2008 and 16.35% in 2017. Accordingly, the desired level of growth stimulated by private investment cum domestic savings is yet to be achieved. Savings according to Pagano (1993) is viewed as one of the ways through which financial system development enhances economic growth. However, this cannot be achieved without a deepening of the system. Thus, this study investigates the link between financial deepening (referring to depth measure) and savings mobilisation.

A survey of extant literature presents an impressive number of scholarly studies on the link between financial sector development and economic growth in various economies at different stages of growth (see for instance Durusu-Ciftci, Ispir, & Yetkiner, 2017; Samargandi, Fidrmuc, & Ghosh, 2015; Zhang, Wang, & Wang, 2012). Some studies also examined the inter-linkages between savings, financial development, and economic growth in single country studies (for instance Adenutsi, 2011; Husien, 2007; Ndukwe-Ani, Madueme & Nwodo, 2018; Odhiambo, 2008; Rehman, Ali & Nasir, 2015; Rezaei, Tafarjono, Zare, Akbarzadeh & Zare, 2014). Other single-country studies that centered on inter-relationships between savings mobilisation, financial development and poverty reduction include Quartey (2005), Shahbaz, Afza and Shabbir (2013) as well as cross-country studies that addressed inter-links between financial development, savings and investment (Adeniyi & Egwaikhede, 2013; Raheem & Oyinlola, 2017). Another

strand in the literature is cross-country studies that investigated the inter-relationships between savings, financial development, and economic growth (Sahoo & Dash, 2013). However, studies on the plausible relation between financial depth and savings mobilization is relatively scanty. The exceptions to this are Kapingura and Alagidede (2016), Kelly and Mavrotas (2008) and Tsauroi (2017) who all focused on countries in the Southern part of Africa.

This study is motivated by the inconclusive results presented in the few empirical literatures on the causal link between savings and financial deepening in other developing countries. In addition, a study of the link between savings and financial depth using time-series data is unexplored in Nigeria revealing a gap in literature. Most of the empirical studies on the subject matter from sub-Saharan Africa (SSA) have focused on a monotonic (one-dimensional) relationship between these variables (Bayar, 2014; Ewetanet al., 2015; Kelly & Mavrotas, 2008; Quartey, 2008; Weeresinghe, 2017). From the foregoing, there are relatively few numbers of single-country studies providing evidence on the direction of feedback between savings and financial depth, the exceptions are the studies of Tsauroi (2017), Gungor, Ciftcioglu, and Balcilar (2014), Kapingura and Alagidede (2016). Therefore, this study seeks to investigate the link between financial depth and savings mobilisation in Nigeria. Specifically, it seeks to determine the long-run relationship and the causal relationship between financial depth and savings mobilisation in Nigeria.

LITERATURE REVIEW

Conceptual Issues: Financial Depth and Savings Mobilisation

Financial depth refers to the efficiency of the financial system in providing funding for entrepreneurial activities and the extent to which the sector has made financial services available for investment purposes, especially in terms of loan able funds. It is one of the dimensions used to measure financial development. It is measured as the size of the formal financial sector relative to the size of the economy (Beck, Demirguc-Kunt & Levine, 2000). Iyke (2013) echoes that financial depth has three distinct phases: (a) the development of financial institutions, (b) the development of varied and complex financial instruments and services and (c) sound regulatory and supervisory frameworks to prevent the financial institutions and intermediaries from indulging in malpractices which may put the economy at risk.

Savings mobilisation refers to the savings generated domestically by households, domestic firms, and governments (Culpeper & Bhushan, 2008). The ability to generate adequate, reliable, and predictable savings domestically is important in order to finance priority projects and programmes in an economy. It has two sides, which are: (a) the private domestic savings which exist with the financial sector (private banks channel these savings towards investments) and (b) are public savings, which represents the excess of public revenues on current government expenditures (Ayimadu, 2016).

Theoretical and Empirical Review

The McKinnon-Shaw hypothesis of McKinnon (1973) and Shaw (1973) posit that interest rate liberalisation would deepen the financial system as well as put a stop to financial repression. This happens when higher interest rates promote savings and there is an increase in financial intermediaries' efficiency. According to McKinnon's model, the assumption is that the ability to trigger investment will be undermined unless sufficient savings are efficiently mobilised in the form of increased deposit liabilities of the banking system. They specifically argue that a deepened financial sector increases the rate of domestic savings, leading to reduced borrowing costs and investment stimulation. Thus, for developing countries to stimulate savings and investment to grow the economy, there is need to have a liberalised financial sector. The existence, distribution (or proximity) of financial institutions, as well as the range (or diversity) and availability of financial assets to suit different savers with different needs are important institutional factors that determine the willingness to save. This represents the root of the financial development-led savings hypothesis which exists in the literature. The life-cycle model proposed by Modigliani (1986) may also be used as the theoretical underpinning of this study. The model views savings as not been static but often changes over time. According to the assumptions of the life-cycle theory, savings rates are expected to be pro-cyclical with individuals saving more when income increases. The higher savings in a way smoothen consumption in bad times. However, Mavrotas and Kelly (1999) note that the protection of private property rights can be effective only when appropriate institutions and measures are in place, the absence of which would discourage individuals from saving in a boom period (at least in a formal fashion). The development of the financial system has made individuals have greater access to financial intermediation which does not exist in a repressed financial system. This makes it possible to use financial markets to smoothen consumption over time (Green, Kirkpatrick & Murinde, 2005). Also, the presence of competition in the financial system which exists as a result of financial deepening helps to fizzle out the challenge of running into debts, hence individuals can borrow even at a younger age and pay later (Twerefou & Ayimadu, 2018). Against the preceding theoretical discussions, we hypothesise the existence of a casual and positive relationship between domestic savings and financial depth.

Quite a number of empirical studies (single and cross-country) have established the existence (or absence) of a long-run relationship between domestic savings mobilisation and the depth of the financial sector. For instance, Odhiambo (2008) found a long-run relationship between savings and financial depth with a uni-directional causality running from savings to financial depth in the Kenyan financial sector. This implies that savings is an important factor to be considered in deepening the Kenyan financial system. Ang (2011) in a similar study for Malaysia observed that deepening of the financial sector had a positive effect on savings although there was no causality finding. Wang, Xu and Xu (2012) found that there was an initial rise in savings rate with financial development. However, following further development, a decline in the rate was observed for a panel of East Asian and Organisation for Economic Corporation and

Development. This implies that there is a threshold beyond which further development in the financial system would lead to lower saving rates and could be harmful to the economy. Gungor, Ciftcioglu, and Balcilar (2014) on the other hand showed that a long-run causality relationship from running from financial development to savings in Turkey. This suggests that financial development encourage savings in Turkey unlike what was obtained in Odhiambo (2008) for Kenya. Twerefou and Ayimadu (2018) recently investigated a panel of 42 African countries and came to the conclusion that financial deepening did not stimulate domestic savings in the sample countries. Other literature including countries of study that established a relationship between these two concepts include Shahbaz et al. (2013) for Pakistan, Rezaei et al. (2014) for Iran, Tsauroi (2017) for Zimbabwe, Weeresinghe (2017) for Sri-Lanka etc.

In the Nigerian context, Okere and Ndugbu (2015) using the ordinary least squares (OLS) technique, examined the effect of macroeconomic factors on domestic savings and found that financial deepening as a macroeconomic variable had significant positive effect on savings. However, the use of the OLS estimator is considered inappropriate as the results may be spurious because time-series data properties were not taken into consideration. Consequently, our study addresses the issue identified in Okere and Ndugbu (2015) by using a method that accounts for time-series properties. Specifically, it uses the autoregressive distributed lag (ARDL) technique to cointegration to investigate the long-run relationship and the Toda and Yamamoto Granger non-causality test in determining the savings mobilisation and financial depth causality direction. Furthermore, a country-specific (Nigeria) study will provide an insight into the relationship between these variables considering that the depth of the financial sector varies widely across countries. More importantly, existing studies have demonstrated results that are somewhat inconsistent across different regions/countries using different methodologies and varying quantitative proxies for savings; for this reason, the discussion has not ceased to be debatable.

DATA, MODEL SPECIFICATION AND METHOD

Data

This study utilises time-series yearly data for the period 1987-2017 and were obtained from the World Bank's World Development Indicator (WDI) database and the Central Bank of Nigeria Statistical Bulletin. The starting period of 1987 is due to the liberalisation of the Nigerian financial system following the implementation of the structural adjustment programme in 1986. The period after the implementation showed improved savings mobilisation enhanced by the ability of deposit-taking financial institutions to provide Nigerians with greater access to finance. The end period (2017) was based on the latest data observation available from the WDI database. Variables selected for use in this study are taken from theoretical and previous empirical studies that identified them as important for any study investigating the link between savings mobilisation and financial depth. Table 1 presents the definition and measurement of variables for this study.

Table 1: Definition of Variables

Variable and Acronym	Definition	Source	Supporting Literature
Domestic Savings (DSV)	Gross domestic savings as a percentage of GDP is used as a measure for savings mobilisation	WDI database	Quartey (2005); Ndukwe-Ani <i>et al.</i> (2018)
Income Growth rate (GY)	The rate of growth of per capita income measures the income level	WDI database	Sahoo and Dash (2013)
Age Dependency Ratio (AD)	Age dependency ratio is used as a measure for the population group between above 15 and below 65 as a percentage of population below 15 and above 64	WDI database	Ang (2011); Kapingura and Alagidede (2016)
Domestic Credit to the Private Sector (CPS)	Bank credit to the domestic sectors as a percentage of GDP is used as a measure for financial depth	WDI database	Ndukwe-Ani <i>et al.</i> (2018); Tsaurai (2017)
Fiscal Deficit (FD)	Fiscal balance measures the surplus or deficit of the federation as a percentage of GDP	CBN bulletin	Nwachukwu and Odigie (2011)
Real Interest Rate (RIR)	Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator	WDI database	Ndukwe-Ani <i>et al.</i> (2018); Bayar (2014)

Source: Author's compilation from the literature review

Model Specification

This study used the augmented model specified in the study by Kapingura and Alagidede (2016). Considering Nigeria's fiscal position and the nature of its economy, the modification to their model was done by substituting public savings as a percentage of GDP for fiscal balance as a percentage of GDP to capture the effects of government activities. For instance, the government fiscal deficit may add to inflation by increasing the money supply and can consequently cause a fall in the real interest rate which discourages further savings. On the other hand, financing deficit through the sale of treasury bills will make financial institutions to mobilise more savings. Nwachukwu and Odigie (2011) have used fiscal deficit (balance) to test the workability of the Ricardian equivalence hypothesis in Nigeria.

The functional equation for this study is:

$$DSV = f(GY, AD, CPS, FD, RIR) \quad \dots (1)$$

where DSV is domestic savings as a percentage of GDP, GY is the growth rate of income, AD

refers to age dependency ratio, CPS represents domestic credit to private sectors as a percentage of GDP, FD is fiscal deficit as a percentage of GDP, and RIR is the real interest rate.

The estimated equation for this study is stated as follows:

$$DSV_t = \beta_0 + \beta_1 GY_t + \beta_2 AD_t + \beta_3 CPS_t + \beta_4 FD_t + \beta_5 RIR_t + \mu_t \quad \dots (2)$$

where β_0 is the constant parameter, β_1 - β_5 are the regression parameters to be estimated, t represents time properties, and μ is the disturbance term.

Method

The data in this study were first subjected to unit roots test to determine the stationarity or otherwise of the time series using the augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) unit root tests. The ARDL bounds test which does not require that the variables have the same order of integration is then used to investigate the co-integration. i.e. the series could either be $I(0)$ or $I(1)$ or fractionally co-integrated, i.e. $I(0)/I(1)$. Furthermore, it is a method that is suitable for small sample analysis. The causality direction between financial depth and savings mobilisation is investigated using the vector autoregressive (VAR) causality technique of Toda and Yamamoto (1995).

RESULTS AND DISCUSSIONS

Descriptive Statistics

Table 2 presents the descriptive statistics of variables described in Equation 2 and shows that domestic savings mobilisation (DSV), growth rate of income (GY), age dependency (AD), domestic credit to private sector (CPS), fiscal deficit (FD), and real interest rate (RIR) have average values of 17.91%, 2.15%, 88.71%, 14.61%, -2.22%, and 0.30% respectively. The mean value of fiscal deficit is negative and this is not surprising since the government runs a deficit budget for most of the periods under investigation.

Table 2: Descriptive Statistics

Statistics	DSV (%)	GY (%)	AD (%)	CPS (%)	FD (%)	RIR (%)
Mean	17.91472	2.149514	88.71368	14.61371	-2.216452	0.302067
Maximum	38.93262	30.35658	92.74294	38.34855	0.850000	25.28227
Minimum	5.604418	-13.06454	86.59807	8.692986	-6.000000	-43.57266
Std. Dev.	9.286201	6.669388	1.928205	6.435385	1.737597	17.84125
No. of Observations	31	31	31	31	31	31

Source: Author's computation from data described in Section 3.1

The maximum value for the raw data collected on DSV, GY, AD, CPS, FD, and RIR is 38.93%, 30.36%, 92.74%, 38.35%, 0.85%, and 25.28% respectively, while their minimum value is 5.60%, -13.06%, 86.6%, 8.69%, -6.00%, and 43.57% respectively. The minimum and maximum values show that the spread of the data used is satisfactory, hence there is no problem of outlier. DSV, GY, AD, CPS, FD, and RIR show standard deviations of 9.29%, 6.67%, 1.93%, 6.44%, 1.74%, and 17.84% respectively. It is important to note that the standard deviation of GY, FB, and RIR that showed values higher than their average implies that the variables fluctuates rapidly for the period under review.

Stationarity Tests

This study performs the ADF and PP tests of stationarity to establish the presence or otherwise of unit roots in each of the variables and their order of integration-I(d) with the null hypothesis of having unit root. The lags for the ADF and PP tests were selected automatically by Schwarz Information Criterion and Newey-West Bandwidth respectively. Also, an optimum VAR lag order of 3 was chosen based on three out of the five information criteria before proceeding to test for co-integration.

Table 3: ADF and PP Unit Root Tests

3A: ADF Unit Root Test					
	Level		First Difference		I(d)
	Test statistic	p-value	Test statistic	p-value	
DSV	-3.709813 ^b	0.0091***	—	—	I(0)
GY	-4.529051 ^a	0.0001***	—	—	I(0)
AD	-20.76311 ^c	0.0000***	—	—	I(0)
CPS	-3.309002 ^c	0.0847*	—	—	I(0)
FD	-2.748093 ^b	0.0784*	—	—	I(0)
RIR	-5.721842 ^b	0.0000***	—	—	I(0)

3B: PP Unit Root Test					
	Level		First Difference		I(d)
	Test statistic	p-value	Test statistic	p-value	
DSV	-3.749003 ^b	0.0083***	—	—	I(0)
GY	-4.625410 ^a	0.0000***	—	—	I(0)
AD	-1.483337 ^a	0.1266	-1.741539 ^a	0.0774*	I(1)
CPS	-2.242686 ^b	0.1963	-7.857020 ^b	0.0000***	I(1)
FD	-2.570013 ^b	0.1102	-6.347898 ^b	0.0000***	I(1)
RIR	-5.721842 ^b	0.0000***	—	—	I(0)

Notes: ^a, ^b and ^c refers to test equation with no intercept and trend, intercept only, and intercept and trend respectively. *and *** indicate the rejection of the null hypothesis at 10% and 1% significance level respectively.

Source: Author's computation from data described in Section 3.1

Results in Panel 3A in Table 3 for ADF show stationarity of all the variables at level because ADF statistics were significant and below a threshold level of 10% while the PP unit root test

results in Panel 3B indicate that age dependency ratio (AD), credit to private sector (CPS) and fiscal deficit (FD) are non-stationary series until first differencing. Based on the PP results of a mixture of $I(0)$ and $I(1)$ variables, this study employed the use of ARDL estimation technique to establish the existence of a long-run relationship between the variables.

ARDL Bound Test Approach to Co-integration

The ARDL bounds testing approach to co integration is employed to determine the long-run co-movement among the variables for this study. The optimal lag order of 3 is selected for the ARDL specification based on the Akaike information criterion (AIC).

Table 4: ARDL Bound Test for Co-integration
ARDL Selected Model: ARDL (3, 2, 0, 3, 2, 3)
Dependent Variable: DSV

4A: F-statistics				
F-statistics value			Decision	
Significance	4.912711			
	Lower	Upper	Reject the null hypothesis of no co-integration	
	Level	Bound I(0)	Bound I(1)	
	1%	3.41	4.68	
	5%	2.62	3.79	
10%	2.26	3.35	Calculated F-stat. >I(1) at all levels	
4B: ARDL Model Long-Run Coefficients				
Independent Variables	Coefficient	Standard Error	T-statistics	p-value
GY	0.310876	0.359218	0.865425	0.4093
AD	3.856699	1.255394	3.072102	0.0133**
CPS	0.513847	0.208932	1.776018	0.0195**
FD	1.590866	0.157932	1.373885	0.0227**
RIR	0.541854	0.238128	2.275475	0.0489**
C	-328.494029	109.505078	-2.999806	0.0150**
Statistical Properties and Diagnostic Tests				
Statistical Properties				
F-statistics	2.83(0.06)*			
R ²	0.85			
Adj. R ²	0.55			
Durbin -Watson stat	2.69			
Diagnostic Tests			F-statistics	p-value
Jarque-Bera (J-B) Normality Test			1.268448	0.5303
Breusch-Godfrey Serial Correlation LM Test			2.348112	0.1658
Breusch-Pagan-Godfrey (BPG) Heteroscedasticity Test			1.232539	0.3874
Ramsey RESET Test			0.003363	0.9552

Notes: ** implies the rejection of the null hypothesis of non-significance of variables at 5% level, while * implies the overall significance of the model at 10% level.

Source: Author's computation from data described in Section 3.1

At all levels of significance in Table 4, Panel 4A, the calculated value of F-statistics is greater than the upper bound critical value, thus we reject the null hypothesis of no long-run relationship between the variables.

The ARDL long-run coefficients showed that all the independent variables are positively signed. The positive coefficient (0.310876) of GY suggests that income growth rate increases savings mobilisation in the long-run, consistent with the expectation of the Life-cycle hypothesis. However, such influence is in no way significant. Also, the prediction of this theory on the negative effect for the age dependency ratio on private saving could not be upheld since this study found a positive coefficient (3.856699) for age dependency ratio (AD). The positively signed coefficient of CPS (0.513847) implies that the depth of the financial sector is important in mobilising private savings. The coefficient of FD is positively signed (1.590866) supporting the Ricardian Equivalence hypothesis in Nigeria. This result shows that fiscal balance and private savings are not full substitutes, hence the government uses her savings to complement private sector savings. The positive coefficient of real interest rate (0.541854) showed support for the McKinnon-Shaw proposition, which assumes that an increase in interest rate in a financially liberalised system leads to higher savings and investments.

The statistical properties of the model showed that of a good fit and the absence of first-order serial correlation in the model as revealed by the R-squared value of 0.85 and Durbin Watson value of 2.69 respectively. The p-values attached to the F-statistics of the post-estimation tests are higher than 5%, therefore the study fails to reject the null hypothesis of no higher-order serial correlation, no specification error, no normal distribution of errors, and no heteroskedasticity, implying that the model is free of higher-order autocorrelation, specification error, abnormal distribution of errors, and heteroskedasticity problems.

Toda and Yamamoto (T-Y) Granger non-Causality Test

The T-Y Granger non-causality test often indicates the direction of causality between two variables. Simply put, the test reveals the existing link between two possible causal combinations of variables in an empirical model. The null hypothesis of Granger non-causality is that a variable does not Granger cause another variable. Relying on results from the Akaike Information Criterion, we first estimate a VAR model with a lag interval of 1 and 3. The autocorrelation LM test indicated that the absence of autocorrelation in the model. Table 5 presents the results of the T-Y Granger non-causality test.

Table 5: Toda-Yamamoto Granger non-Causality Test

	Dependent Variables					
	DSV	GY	AD	CPS	FD	RIR
DSV	—	{2.329280}	{2.871775}	{3.280393}	{6.041023}	{0.672176}
GY	{3.445757}	(0.5069) —	(0.4118) {4.933542}	(0.3504) {2.364801}	(0.1096) {2.585957}	(0.8797) {4.164117}
AD	(0.3279) {7.450021}	{3.799009}	(0.1767) —	(0.5002) {1.967975}	(0.4600) {2.888756}	(0.2443) {2.865163}
CPS	(0.0589)* {8.453551}	(0.2840) {1.715548}	{1.231037}	(0.5791) —	(0.4091) {5.887751}	(0.4129) {18.57757}
FD	(0.0375)** {6.544609}	(0.6335) {4.887738}	(0.7456) {0.550011}	{2.608303}	(0.1172) —	(0.0003)*** {2.315171}
RIR	(0.0879)* {9.820343}	(0.1962) {1.630428}	(0.9078) {1.314101}	(0.4560) {5.396276}	{3.204251}	(0.5096) —
	(0.0202)**	(0.6525)	(0.7258)	(0.1450)	(0.3612)	

Notes: The modified Wald statistic are reported in { } and the *p*-values for the modified Wald statistic are reported in (). Also, *, **, and *** implies the rejection of null hypothesis at 10%, 5%, and 1% significance level respectively. Source: Author's computation from data described in section 3.1

Recalling that the main objective of this paper is to investigate the link between financial depth and savings mobilisation in Nigeria, Table 5 shows that financial depth (CPS) has a statistically significant effect on savings mobilisation (measured as gross domestic savings). The *p*-value for the modified Wald statistic of the measure of financial depth is statistically significant at a 5% level of significance suggesting a rejection of the null hypothesis of no causal relationship between financial depth and savings mobilization. The causality direction is observed to be unidirectional running from financial depth (CPS) to savings mobilisation (DSV).

Based on the interest of this study, the discussion of results centers on the variables (most importantly, CPS) that Granger causes domestic savings. The causality test results suggest that financial depth significantly affects savings mobilisation, thus resulting in the rejection of the hypothesis that financial depth does not Granger cause savings mobilisation. Furthermore, the causal direction moves from financial depth to savings mobilisation. The implication of this finding is that the development and liberalisation of the financial system in Nigeria which is predominantly bank-based plays an important part in stimulating the mobilisation of domestic resources (particularly, savings) from the growing but scattered private savers. This implication / finding is consistent with the position of Adeniyi and Egwaikhide (2013); Adenutsi (2011); Ang (2011); Bayar (2014); Gungoret al. (2014); Kapingura and Alagidede (2016); Raheem and Oyinola (2016); Sahoo and Dash (2013); Shahbazet al. (2013). However, there is no causal direction moving from savings mobilisation to financial depth, whereas Odhiambo (2008) showed a uni-directional causality running from savings mobilisation to financial depth. This

result also varies slightly from the studies of Rezaei et al. (2014); Tsaurai (2017) of a bi-directional causality between savings mobilisation and financial development. Nonetheless, Quartey (2005) showed that these two variables do not predict each other.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study investigated the links between financial depth and savings mobilisation in Nigeria over the period 1987-2017. Specifically, it investigated the long-run and causal relationship financial depth and savings mobilisation. The long-run relationship was confirmed by applying the ARDL bounds testing approach to cointegration while the Toda-Yamamoto Granger non-causality test revealed a one-way causality running from financial depth to domestic savings mobilisation. This study concludes that financial depth is important in order to ensure better savings mobilisation. Drawing from the four distinct hypotheses that emerged from the literature which was mentioned earlier as noted by Tsaurai (2017), this study lends credence to the financial development-led savings hypothesis. This study provided also evidence which supports the Ricardian Equivalence hypothesis, McKinnon-Shaw proposition, and partly the Life-cycle hypothesis through the results of the ARDL modelling technique. We suggest a few recommendations to financial institutions, policy makers and regulators in the financial sector based on findings from this study. First, since findings revealed that the depth of the financial sector plays a significant role in ensuring adequate mobilisation of savings, financial intermediaries in the financial sector (banks in particular) should consolidate on monitoring their credits to the private sector, considering its multiplier effect for increased productivity and investments, thereby encouraging greater savings. Second, a high positive real interest rate suggest the need for the Nigerian government through regulatory authorities in the financial sector to close the gap existing between savings and lending rates in addition to increasing per capita income because it would encourage investors to save part of their disposable income. Third, regulatory authorities should put in more effort to achieve continuous and well-articulated fiscal and monetary policies, such as the removal of interest-rate subsidy which banks accord to some preferred borrowers. This action would help to curtail unnecessary run on banks' deposits as a means to utilise the savings been mobilised for growth-enhancing investments. Finally, fiscal balance showed a favourable effect on savings mobilisation, therefore, government borrowing by way of treasury bills should be encouraged because it would encourage more savings through financial institutions.

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