

## FINANCIAL DEEPENING AND ECONOMIC GROWTH IN NIGERIA

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### ABSTRACT

This study examined the relationship between financial deepening and economic growth in Nigeria for the period 1981 to 2023. Specifically, the study examined financial deepening depth indicators such as; money supply ratio, credit intermediation ratio, savings intermediation ratio and market capitalization ratio to test their effects on gross domestic product of the Nigerian economy using data from Central Bank of Nigeria Statistical Bulletin. Descriptive Statistics, Augmented Dickey Fuller unit root test, cointegration test and error correction techniques were used to analyze the data. The cointegration test indicates the presence of a long run relationship among variables. The short run dynamics test reveals that, credit intermediation ratio exhibits strong positive impact on gross domestic product at lag 1 to lag 3, market capitalization ratio exhibits strong negative impact on gross domestic product at lag 2. Savings intermediation ratio shows positive but weak impact on gross domestic product while money supply ratio exhibits negative weak impact on gross domestic product at lag 2 but exhibits weak positive impact at lag 1 and 3, showing some level of system instability. Based on the study results, we concluded that, credit intermediation ratio is the most significant predictor of economic growth in Nigeria for the period. The study therefore, recommends that Private sector investment should be encouraged by reducing lending charges on loan facilitates to investors, as these can create an expansionary impact on investment as well as increasing the nation's output. Also, commercial banks should make deliberate efforts to expand their savings mobilization by creating banking awareness to the people living in rural communities, increased real interest rate on fixed deposits with a view to encourage savings, as these can increase investment as well as the nation's output.

**Keywords: Economic Growth, Financial Deepening, Cointegration, Nigeria**

**JEL Classification Code: Q12, Q16**

## **1. INTRODUCTION**

Economic growth is an important objective desired by developing countries of the world. Ewane (2023) noted that one macroeconomic objectives of any nation especially that of developing nations, is to achieve sustainable economic growth and development using physical, financial and fiscal strategies. All sectors of the economy are expected to execute effective methods that can determine speedy growth and development of a nation. Financial deepening which is a form of financial sector development can significantly contribute to growth and development of any nation. The Central Bank of Nigeria (CBN) through its monetary policy formulation and implementations, the financial institutions and markets-through their intermediation functions and the provision of other innovative financial services can contributes significantly to growth and development of a nation like Nigeria (Nwosu et al., 2021).

Osuji et al. (2023) emphasized that financial deepening indicator like the credit to private sector as a ratio of gross domestic product and other form of depth indicators are highly instrumental to economic performances. The Nigerian financial sector has implemented several reforms aimed at increasing its depth and efficiency; including banking sector consolidation, the promotion of financial inclusion etc. These reforms are expected to facilitate better intermediation processes, leading to more investments and high economic growth and development levels. Nigeria, as one of the largest economies in Africa, has significant potentials for economic growth and development. However, it faces numerous challenges that hindered growth and development. Among these challenges are the depth and efficiency of the Nigerian financial sector. Despite efforts to reform and develop the sector, the Nigeria's financial system remains relatively shallow compared to global standards. The basic questions this study is set out to answer are: whether or not the depth of the Nigerian financial system could trigger improvement in the nation's economic growth. If the answer to the above question is yes, then to what extent does financial deepening stimulate economic growth in the Nigerian economy? Providing answer to these questions constitute the objective of this study. Most studies on financial deepening and economic growth nexus reported that financial deepening has positive effect on growth of the Nigeria economy (Ajudua & Odishica, 2022; Nwosu et al 2021; Anachedo &Osakwe, 2023; Akintola et al., 2020). Others reported that growth has causal effect on financial deepening in Nigerian (Omoke, 2010; Samuel-Hope et al., 2020). The seeming lack of consensus on the effect of financial deepening on economic growth constitutes a

gap in the literature worthy of further investigation. Therefore, this research work re-examined the effects of financial deepening on economic growth in Nigeria with a focused on basic financial deepening depth indicators (savings intermediation ratio, credit intermediation ratio, money supply ratio and market capitalization ratio) to test their effects on gross domestic product, proxy for economic growth in Nigeria. The combination of these basic depth indicators in a model serves as a contribution to knowledge and distinguished this very study from other studies examined in the literature. The study period for this research work is extended to a period of forty ( 42) years from 1981 to 2023 so as to have a better understanding of the long run effects of financial deepening on economic growth in Nigeria using econometric techniques.

## **2. REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Review**

#### **Economic Growth Concept**

Economic Growth is an important objective of macroeconomic policy described as a process where the real per capital income of a country increases over a long period of time. (Jhingan, 2013). Sanusi (2011) viewed economic growth as the increase in goods and services of a nation which occur as a result of economic activities that take place over a period of time. The economy is said to be growing if there is a persistent increase in the monetary value of goods and services produced by the country over time. A prolong increase in a nation's gross domestic products (GPD) contributes significantly to speedy growth and development of any nation of the world, including the Nigeria economy. As the nation's gross domestic products increases, national income is bound to increase but where a nation's gross domestic products diminish or fluctuate over time, such an economy will find it difficult to grow and developed. One major impact of long term growth of a country is that it has positive impact on national income and the level of employment which increases the standard of living of citizens. As a country's gross domestic products increases, its leads to more people getting job and as employment rate increases, income also increases and has a multiplier effect on citizens. Increase in output, increases national income and economic wealth. Higher economic growth leads to extra tax income for government spending, increasing investment by investors leads to more profit which is capable of increasing tax revenue for economic development purposes. Okonkwo et al (2023) explain that economic growth should be expected to follow a pattern consistent with government capital expenditures on administration, social and community service, transfers and government deficits. He further explained that long term character of capital investment which result in the formation of assets, enables the

economy to generate income for many years by expanding and upgrading manufacturing facilities and increasing operational effectiveness.

### **Financial Deepening**

Financial deepening which is a form of financial sector development, characterized by the expansion of financial services and increased availability of financial instruments, is often posited to enhance economic growth by improving resource allocation, mobilizing savings, and facilitating investments (King & Levine, 1993).

Samuel-Hope et al (2020) defined financial deepening as the method of developing and expanding financial institutions such as commercial banks, development finance institutions, stock market etc and further described financial deepening as an improvement in delivery of financial services and product at every societal phase with a wider selection. The depth and efficiency of the financial sector is considered to be the principal and important component for increasing growth of an economy through increase in savings mobilization and channeling of saved funds to productive sector. In Nigeria, the financial sector has undergone several reforms aimed at increasing its depth and efficiency, which includes; banking sector consolidation, promotion of financial inclusion etc.(Sanusi, 2012). These reforms are expected to facilitate better intermediation processes, leading to more investments and high economic growth levels. According to Okafor and Ude (2022), the quest for ways of ameliorating the standard of living of citizens has opened the corridors for alternative view points on paradigms of economic growth and development and financial deepening is seen as one of those strategies whose implementation can fastening the speed of growth and development of any economy of the world. The concern about financial deepening and economic growth finds its justification in the policy implications that a positive impact of financial deepening on the growth of a nation can bring about better living standards for citizens of a country as well as increasing economic growth and development rates which are the basic goals of the government of most developing countries. Inclusively, recent research findings have noted that countries with better developed financial systems, taking into considerations its depth and efficiency, tend to have a faster rate of economic growth and development (Nwosu et al. 2021).

### **2.2 Theoretical Review**

The study is anchored on the supply-leading and demand following hypotheses. Supply leading hypothesis suggests that financial deepening drives economic growth. This hypothesis assumes that the existence and development of financial institutions and markets leads to economic growth through increased in savings mobilization and

channeling of available financial resources to productive sector of the economy by providing access to credit and capital. Effective and efficient financial institutions and markets contribute to growth and development by facilitating investment through savings mobilizations and allocation of needed funds to productive sector. while the demand following hypothesis assumes that economic growth stimulates demands for financial products, that as the economy grows, demands for financial services expands which leads to financial development, that a deliberate effort to deepen the financial market at early stage might result to a waste of financial resources which could be allocated for more financial services. (Ohwofasa & Aiyedogbon.,2013).

### **2.3 Empirical Review**

Ajudua and Odishika (2022) investigated financial deepening and economic growth in Nigeria for the period 1986 to 2020 using times series data sourced from Central Bank of Nigeria statistical bulletin. The study employed unit root test, auto-regressive distributive Lag and error correction mechanism estimation to analyze the data. Money supply, market capitalization, liquid liabilities, credit to private sector and lending rate were examined as the explanatory variables while gross domestic product was used to proxy economic growth as the explained variable. Findings of the study revealed that money supply, market capitalization and liquid liabilities have significant effects on economic growth in Nigeria while credit to private sector and lending rate have no significant effect on economic growth in Nigeria.

Samuel-Hope et al (2020) studied the impact of financial deepening on economic growth in Nigeria for the period 1981 to 2018. Time/savings deposit liabilities of commercial banks, money supply and credit to private sector were identified as the explanatory variables to examine their effects on gross domestic product growth rate used as proxy for economic growth in Nigeria. Auto- Regressive Distributed Lag models were used to analyze the data for the study. Findings of the study found that there is a long run associated among the employed variables. However, none of the explanatory variables were found to have significant relationship with gross domestic growth rate in Nigeria. Credit to private sector as a percentage of gross domestic products was inversely related to gross domestic product growth rate. Money supply as a percentage of gross domestic product had positive relationship on an insignificant level with gross domestic growth rate, time and savings deposit of commercial bank has negative effects on gross domestic growth rate in Nigeria for the period. The study thus, concluded that financial deepening has no significant effect on growth of the Nigeria economy.

Nkamnebe et al (2023) studied the influence of financial development on economic growth in Nigeria for the period 1985 to 2022. The variables used for the studies were real gross domestic product, as the explained variables while Credit to Private Sector as proxy for financial deepening, all Share Index, nominal exchange rate, gross savings, remittances and Financial Technology were used as Indicators of financial development as the explanatory variables. Auto- Regressive Distributed lag and pair wise granger causality test were used to analyze the data. The study revealed that all share index, exchange rate, and financial technology have positive and significant relationship with economic growth while credit to private sector and gross savings were positive but insignificant.

Ewane (2023) examined financial development and Economic growth in Cameroon for the 1980 to 2020, the study applied auto-regressive distributive lag (ARDL) bound test and multivariate Granger causality test framework to analyze the data. The study-utilized autoregressive distributed lag bound test and multivariate granger causality test. Financial development index and liquid liabilities were examined as the explanatory variables to test their effect on economic growth. Results of the study revealed that financial development index and liquid liabilities have short and long run positive significant effects on economic growth in Cameroon.

Osuji et al (2023) studied financial depth index (FIDI) effect on economic stability of 44 Sub-Sahara African Countries (SSAC). The financial depth indicators examined in the study were; private sector credit to GDP, Broad money supply, Insurance market penetration and stock market capitalization to proxy financial depth index (FIDI) as explanatory variables while Government effectiveness was used to proxy economic stability as the explained variable. The study adopted the generalized linear model to analyze the data. Results of the study revealed that, credit to private sector as a percentage of gross domestic product, promotes greater economic stability in Sub-Sahara African countries. The study further discovered that broad money supply increases the stability of sub-Sahara African economy but on insignificant levels. Insurance penetration reduced the stability of Sub-Sahara African Countries while Stock Market Capitalization increases growth stability of Sub- Sahara African Countries for the period of study. Based on the findings, the study concluded that private sector credit as a percentage of gross domestic products is highly instrumental to economic performance of Sub-Sahara African countries.

Akintola et al (2020) examined financial sector development and economic growth in Nigeria for the period 2000 to 2019. Quarterly data on stated variables were sourced from

Central Bank of Nigeria Statistical Bulletin for the period of study. Financial deepening, banking system liquidity, all share index and exchange rate were examined as the explanatory variables to verify their effects on real gross domestic product proxy for economic growth. The study utilized econometric models to analyze the data. The results of the study revealed that financial deepening, banking system liquidity and all share index had positive and significant effect on real output growth rate in the long run while exchange rate spread was consistent with falling levels of real output growth.

Medee and Krama (2015) studied financial deepening and gross domestic product in Nigeria for the period 1970 to 2014 using ratio of broad money supply to gross domestic product, ratio of credit to private sector to gross domestic product, exchange rate and interest rate as explanatory variables while gross domestic product value for the period was used as the explained variable. Data for the study were analyzed using descriptive statistics, ordinary least square and granger causality methods. The result of the study revealed that financial deepening has significant impact on gross domestic product in the Nigerian economy for the period.

Osuji (2015) studied financial development and economic growth in Nigeria for the period 1960 to 2014. Using co-integration analysis, granger causality test and error correction model to analyze the data for the study. The result of the study provides that there is a stable positive long run relationship between financial development and economic growth. The results of the study further discovered that in Nigeria, the direction of causality between financial development and economic growth is sensitive to the choice of proxy used for financial development and that financial development caused economic growth when private sector credit and bank deposit liabilities were used as proxies but when money to income ratio and domestic credit ratios were alternatively used, economic growth was found to granger caused financial development.

Osuji and Chigbu (2012) examined the impact of financial development variables on economic growth in Nigeria for period,1960 to2008. Augmented Dickey Fuller (ADF) test, granger causality test, co-integration test and error correction method (ECM) were employed to analyze the data. The results of the study revealed that money supply and credit to private sector were co- integrated with gross domestic product while the granger causality test also revealed that money supply and credit to private sector granger caused gross domestic product for the period of study. The study therefore, concluded that, financial development leads to economic growth in Nigeria that the government should ensure a robust supervision of the financial sector to enable financial institutions provide the needed funds for growth and development of the Nigerian economy.

Omoke (2010) examined the causal relationship among financial development, trade openness and economic growth in Nigeria for the period, 1970 to 2005. Domestic credit, credits to private sector and money supply were used to proxy financial development. Co-integration and granger causality methods of analysis were used to analyze the data. The results of the study showed that there was no co-integrating relation between economic growth in Nigeria and the explanatory variables tested. The study further reported that growth has causal effect on financial development and concluded that, domestic credit, credit to private sector and broad money supply as a percentage of gross domestic product have no causal impact on economic growth in Nigeria, that economic growth promotes credit by banks and the supply of money in the Nigerian economy.

Soukhakian (2007) studied the causal relationship between financial development, trade openness and economic growth in Japan for the period of 1960 to 2003, using econometric approaches. The empirical results of the study discovered that a long run equilibrium relationship exists between financial development indicators and economic growth except domestic credit that indicated absence of equilibrium relations. The granger causality test further discovered that broad money supply as a percentage of gross domestic product proxy for financial development granger caused economic growth in Japan giving support to the supply leading growth hypothesis.

### **3. METHODOLOGY**

This study employs the ex post facto research design as the event had already taken place. This research design is extended over time which allows the researcher to examine the changes in the dependent variable in relation to the impact of the independent variables. Indicators of financial deepening which are stated as money supply ratio (MSR), credit intermediation ratio (CIR), savings intermediation ratio (SIR) and market capitalization ratio (MIR) were regressed on gross domestic product (GDP) for the period 1981 to 2023. The study population centers on the macroeconomic-financial environment of Nigeria which include all the financial deepening activities for the period 1981 to 2023. Therefore, all the variables employed for this study can be traced to this population with finite time length. The researcher employed the convenient sampling technique as further effort made to expand the scope of the observations so that additional variables to the four (4) variables chosen could be admitted was stunted because of unavailability of data. The study utilized considered historical data which further justifies the choice of ex post facto research design.

**Model Specifications**

$$GDP = f(MSR, CIR, SIR, MCR) \dots\dots\dots(1).$$

$$GDP_t = a_0 + a_1MSR_t + a_2 CIR_t + a_3SIR_t + a_4MCR_t + \mu \dots\dots\dots(2).$$

To satisfy the linearity assumption of classical regression analysis, the study transformed the variables using natural logarithms as shown in Equation 3 below.

$$\text{Log GDP} = a_0 + a_1\text{logMSR}_t + a_2\text{logCIR}_t + a_3\text{logSIR}_t + a_4\text{logMCR}_t + \mu \quad (3).$$

Where:

**GDP** Gross Domestic Product = Gross domestic product is operationally measured as the total monetary value of all goods and services produced in the economy over the period, 1981 to 2023.

**MSR** Money Supply Ratio . MSR is operationally measured as the total amount of money in circulation per year divided by the value of gross domestic product per year for the entire period of time (1981 to 2023)

**CIR** Credit Intermediation Ratio. CIR is measured as the total amount of money channeled by banks to the private sector of the economy per year divided by the monetary value of goods and services produced by the country per year, for the entire period of time (1981 to 2023).

**SIR** Savings Intermediation Ratio. SIR is operationally measured as the total amount of money received from depositors by deposit money banks per year divided by the total monetary value of goods and services produced by the country per year for the entire period of time (1981 to 2023)

**MCR** Market Capitalization Ratio. MCR is operationally measured as the total amount of outstanding shares of quoted companies per year divided by gross domestic product per year for the entire period of study (1981 to 2023).

Log = Natural logarithm

a<sub>0</sub> = constant term

a<sub>1</sub>- a<sub>4</sub> = coefficient of predictors

μ , ε = Error terms

A priori expectations: a<sub>1</sub>- a<sub>4</sub>>0

### Methods of Data Analysis

Descriptive Statistics, Unit Root, Cointegration Test and Error Correction Model (ECM) were employed to analyze the data for the study. It has been proven that the regression of a non-stationary time series on another non-stationary time series may lead to a spurious regression. The important contribution of the concept of unit root and co-integration is to find out if regression residuals are stationary. Thus, a test for co-integration enables us to avoid spurious regression situation Johansen (1988) pointed out that a linear combination of two or more non stationary time series may be stationary, if such a stationary linear combination of two or more non- stationary time series exists, the non-stationary time series are said to be co-integrated and may be interpreted as long-run relationship among the variables.

## 4. RESULTS AND DISCUSSION OF FINDINGS

**Table 4.1: Descriptive Statistic Results**

	MCR	MSR	CIR	GDP	SIR
Mean	0.116	10.2	0.165	4.11E+13	0.400946
Median	0.752	10.57	0.167	9.87E+12	0.374317
Maximum	0.3801	17.95	0.286	1.89E+14	0.87096
Minimum	0.003	1.49	0.03	1.39E+11	0.158459
Std. Dev.	0.086	3.125	0.064	5.50E+13	0.175682
Skewness	0.867	-0.449	-0.02	1.28328	0.869248
Kurtosis	3.165	3.782	2.181	3.45723	3.386813
Jarque-Bera	5.307	2.485	1.178	11.8936	5.550989
Probability	0.070	0.289	0.555	0.00261	0.062319
Observations	42	42	42	42	42

Source: Author's computation

### Unit Root Test

The test for unit root is conducted using Augmented Dickey Fuller (ADF) method on the variables of interest. The summary of the results is presented in Table 4.3 below

**Table 4.2: Unit Root Test Results**

Variable	ADF-Stat	5% Critical Value	P-Value
D(LOGMSR)	-7.181005	-2.938987	0.0000
D(LOGCIR)	-5.839972	-2.941145	0.0000
D(LOGGDP)	-3.396040	-2.936942	0.0170
D(LOGMCR)	-6.489038	-2.936942	0.0000
D(LOGSIR)	-7.727285	-2.936942	0.000

Note that the variables were not integrated at level, which prompted the differencing (D) before the unit root test was conducted.

**Table 4.3: Test results of no cointegrating relationship between money supply ratio , credit intermediation ratio, saving intermediation ratio, capital market intermediation ratio and gross domestic product .**

Hypothesized no CE's	Eigenvalue	Trace-Stat	5% Critical	Max-Eigen	5% Critical
Stat	Value	Stat	Value		
None *	0.719030	127.3450	95.75366	50.7802	40.07757
At most 1 *	0.549663	76.56477	69.81889	31.91034	33.87687
At most 2	0.471135	44.65443	47.85613	25.48088	27.58434
At most 3	0.245537	19.17355	29.79707	11.26996	21.13162
At most 4	0.151409	7.903592	15.49471	6.567141	14.26460

Note that to each statistic there is correspondent critical value at 5%; and start rejecting until you do not reject. Also, the Trace test indicates 2 cointegration(s) at the 0.05 level and the Max-eigenvalue test indicates 1 cointegration(s) at the 0.05 level

#### 4.1.5 Testing the nature of the long-run relationship

The cointegrating test has shown that the financial depth variables and gross domestic product have long-run relationship. Investigating the nature of this long-run relationship is therefore necessary.

**Table 4.4: Nature of Long-Run Relationship between Money Supply Ratio (MSR), Credit Intermediation Ratio (CIR), Saving Intermediation Ratio (SIR), Capital Market Intermediation Ratio (MCR) and Gross Domestic Product**

Regressor	Coef	Std Error	t-stat	p-value
LOGSIR(-1)	-0.308364		0.51994	-0.59308
LOGCIR(-1)	-0.038996		0.32548	-0.11981
LOGMCR(-1)	-0.534319		0.14452	-3.66941
LOGBMSR(-1)	1.495820		0.36552	4.09225

Note that the dependent variable is gross domestic product (GDP).

**Table 4.5: Short Run Dynamics on the Relationship between Money Supply Ratio (MSR), Credit Intermediation Ratio (CIR), Saving Intermediation Ratio (SIR), Capital Market Intermediation Ratio (MCR) and Gross Domestic Product (GDP)**

Regressor	Coef	Std-error	t-stat	P-value
ECM(-1)	-0.089701	0.018491	-4.850940	0.0000
D(LOGGDP(-1))	0.040894	0.186912	0.218787	0.8272
D(LOGGDP(-2))	0.196538	0.185288	1.060714	0.2912
D(LOGGDP(-3))	0.405412	0.172532	2.349774	0.0206
D(LOGSIR(-1))	0.137646	0.108655	1.266818	0.2079
D(LOGSIR(-2))	0.152729	0.094629	1.613983	0.1094
D(LOGSIR(-3))	0.138558	0.094008	1.473896	0.1434
D(LOGCIR(-1))	0.208515	0.064194	3.248203	0.0015
D(LOGCIR(-2))	0.179662	0.068653	2.616974	0.0101
D(LOGCIR(-3))	0.226476	0.065465	3.459483	0.0008
D(LOGMCR (-1))	0.004753	0.074586	0.063724	0.9493
D(LOGMCR (-2))	-0.098638	0.043431	-2.271142	0.0251
D(LOGMCR (-3))	0.036872	0.034090	1.081607	0.2818
D(LOGMSR(-1))	0.024344	0.042635	0.570979	0.5692
D(LOGMSR(-2))	-0.023423	0.035978	-0.651043	0.5164
D(LOGMSR(-3))	0.002714	0.042279	0.064194	0.9489
CON	0.058759	0.016158	3.636452	0.0004
Adjusted R-square	0.530652			
Durbin-Watson stat	1.585599			

Note that, the dependent variable is gross domestic product (GDP).

## **Test of Hypotheses**

### **Hypothesis one**

**Ho<sub>1</sub>:** Savings Intermediation Ratio has no positive and significant influence on Gross Domestic Product in Nigeria.

In the light of the short run dynamic results in Table 4.5, the coefficient of savings intermediation ratio from lag 1 to lag 3 are positively signed with a probability value that are higher than 0.05%. This suggests that an increase in savings intermediation will lead to a weak increase in gross domestic product in the short-run. Hence there is positive and insignificant relationship between savings intermediation and gross domestic product.

### **Hypothesis two:**

**Ho<sub>2</sub>:** Credit Intermediation does not significantly drive Gross Domestic Product in Nigeria.

As displayed in Table 4.5, the coefficient of credit intermediation from lag 1 to 3, are positively signed with probability values that are less than 0.05. This implies that an increase in credit intermediation ratio could result in significant increase in gross domestic product in the short-run. Hence there is positive and significant relationship between credit intermediation ratio and gross domestic product in Nigeria.

### **Hypothesis three**

**Ho<sub>3</sub>:** Market Capitalization Ratio does not significantly impact Gross domestic Product in Nigeria.

Results in Table 4.5, reveals that Market capitalization ratio exhibits a positive coefficient in lags 1 and 3 but a negative coefficient in lag 2 with probability value of less than 0.05 only in lag 2. This means that, an increase in Market Capitalization Ratio two years ago will lead to strong decrease in gross domestic product in the short-run. Hence, there is negative and significant relationship between Market Capitalization Ratio and gross domestic product.

### **Hypothesis four**

**Ho<sub>4</sub>:** Money Supply Ratio has not significantly influenced Gross Domestic Product in Nigeria.

As displayed in Table 4.5, Money Supply Ratio shows positive coefficients in lag 1 and 3 but displays a negative coefficient in lag 2 with probability values that is higher than 0.05 applicable to lag 1 to 3, this is an indication of financial instability. Increase in Money Supply Ratio in lag 1 and 3 could trigger increase in the output level of goods and services in the short-run but not significantly. Hence, there is positive but insignificant relationship between Money Supply Ratio and output growth.

### **Discussion of Findings**

As shown in Table 4.5, above, the coefficients and probability values of gross domestic product (GDP) at lag 1 to 3 are positive but significant at only lag 3 while saving intermediation ratio (SIR) exhibit positive but weak influence on GDP at lag 1 to 3. Credit intermediation ratio (CIR) shows strong positive impact on GDP at lag 1 to lag 3. This reveals that there is consistent interaction between saving intermediation ratio (SIR), credit intermediation ratio (CIR) and gross domestic product (GDP). However, market capitalization ratio (CMR) has weak positive relationship with GDP at lag1 and 3 but exhibit strong negative impact on GDP at lag 2, this suggests that there is inconsistent interaction between capital market ratio (CMR) and gross domestic product (GDP). Money supply ratio (MSR) exhibit weak positive effect on GDP at lag 1 and lag 3 while at lag 2, Money supply ratio (MSR) display weak positive impact on GDP at lag 1 and 3 but a negative weak impact at lag 2 indicating a system that is not stable. The ECM coefficient has a theoretical negative sign approximately -0.09, also it is significant at one (1) percent level of significance. This implies that 9% percent disequilibrium in the co-movement between financial deepening ratios and economic growth is corrected within a space of one year. The value of the Adjusted R-square is approximately 0.53 and that of the Durbin-Watson statistic is approximately 2. This implies that the independent variables have a joint effect of about 53 percent on the explained variable. The Durbin-Watson statistic value of approximate 2, shows that there is no problem of autocorrelation.

## **5. SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **Summary of Findings**

This study examined the effects of Financial Deepening on Economic Growth in Nigeria for the period 1981 to 2023. Financial deepening Depth indicators such as money supply ratio, credit intermediation ratio, savings intermediation ratio and market capitalization ratio were examined to investigate their effects on gross domestic product of the Nigerian economy. Descriptive statistics, unit root, and co-integration tests were used to analyze the data for the study. The study variables were not integrated at level, which prompted the differencing (D) before the unit root test was conducted. Cointegration test reveals the

presence of a long run relationship between variables. MSR was found to have mixed (positive and negative) weak impact on GDP for the period, SIR had positive weak impact, while MCR had mixed (positive and negative) impact on GDP for the period. The short run dynamics test reveals that among all the explanatory variables, only CIR exhibits strong positive impact on gross domestic product for the period of study.

### **Conclusion**

The main objective of this research work is to investigate the relationship between financial deepening and economic growth in Nigeria for the period 1981 to 2023. Specifically, the study examined financial deepening depth indicators such as; money supply ratio, credit intermediation ratio, savings intermediation ratio and market capitalization ratio to test their effects on gross domestic product of the Nigerian economy. From the above results, the study concludes that credit to private sector is the most significant predictor of economic growth in Nigeria for the period of study.

### **Recommendations**

The study recommends therefore that:

- i. Private sector investment should be encouraged by reducing lending charges on loan facilities to investors, as these can create an expansionary impact on investment as well as increasing the nation's output.
- ii. Savings intermediation ratio had weak impact on gross domestic product for the period. The study recommends that commercial banks should make deliberate effort to expand their savings mobilization by creating banking awareness to the people living in rural communities, increased real interest rate on fixed deposits with a view to encourage savings, as these can increase investment as well as the nation's output.
- iii. Money Supply Ratio had weak impact on growth for the period of study which could be as a result of financial system instability, the Central Bank of Nigeria should implement effective monetary control measures so as to check commercial bank lending activities with a view to reduce the level of instability in the system.
- iv. Capital market has the capability of improving the earning capacity of participating economic entities by providing investors with additional financial instruments that can meet their liquidity needs and boost their productive capacity. Therefore, weak impact of market capital ratio should be strengthened by setting up laws to ensure that unclaimed funds are claimed in order to encourage savings and investments.

**Competing Interest:** The authors declare that there is no competing or conflicting interest in this manuscript.

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