EMPIRICAL EVALUATION OF THE EFFECT OF FINANCIAL SECTOR ON ECONOMIC GROWTH: EVIDENCE FROM DEPOSIT MONEY BANKS IN NIGERIA

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Abstract: Numerous efforts to enhance the financial system were implemented in Nigeria as a result of the late 2000s global financial crisis. Diverse methods and reforms were implemented to make sure that the financial sector is well-positioned and strong enough to contribute to Nigeria's economic growth as a buffer against the effects of similar crises in the future. Therefore, this study looked at the relationship between Nigeria's financial industry and economic growth from 2004 to 2022. It specifically aims to look at how financial deepening is reflected in the profitability, investment, deposit, advances, inflation, and interest rate to GDP ratios. To achieve its goals, the study used econometric techniques such Unit Root Tests, regression, and causality tests. The financial statements of thirteen listed deposit money banks as of December 2022 (2004-2022) and the CBN statistical bulletin of 2022 were the data's primary sources. Results showed a strong positive association between the financial sector and economic growth in Nigeria. Additionally, it was shown that the rise of the banking sector had little bearing on inflation, advances, and interest rates. The policy relevance of these findings is that the financial sector is one of the sought-after panaceas for achieving economic growth in Nigeria, and any financial development policy is anticipated to have a beneficial impact on the rate of economic growth in Nigeria. Based on these conclusions, the research makes several recommendations, including that the government refocus its financial sector policies on the fact that deposit money banks and the stock market are the most active institutions in the Nigerian financial system. In order to give investors access to long-term resources that are essential for the financing of medium- and long-term projects, the government, through the Central Bank, should pursue favorable policies that will energise the financial sector while ensuring effective and efficient stock exchange functioning free

from fraud and malpractice. These will encourage the private sector's expansion and investments, which are the growth and development engine. Finally, the Central Bank of Nigeria should continuously check on the financial sector's deposit money banks' compliance with monetary policy processes.

Keywords: Financial sector development, economic growth, profitability, investment, and gross domestic product.

INTRODUCTION

Globally, the banking industry contributes significantly to a nation's economic growth and development. They play a crucial role in the financial system because they move limited resources from the surplus to the deficit economic units in an economy (by extending credit), and as such, these actions are part of their fundamental responsibilities (Iwedi & Onuegbu, 2014). The loan resources (bank credits) come in the form of contingent funds, short-, medium-, and long-term credits. Therefore, through their lending and deposit mobilization activities, these Bank credits, to a reasonable extent, exercise reasonable effect on the pattern and trend of economic growth in Nigeria (Nzotta, 2005). It is common knowledge that the extent of banking system complexity, as well as the type and amount of credit given out by the banking sector, depend on economic growth and development. This is partly because the banking industry was created to support and fuel economic growth, and as such, it is affected positively or negatively by all shocks to these processes.

The primary goal of every Nigerian administration has been to achieve strong and consistent economic growth. This was especially true during the colonial period (the period before independence), when the government concentrated on building physical infrastructure because it believed that, in keeping with the prevailing economic theories, the facilities would encourage private investments that would lead to the desired growth. Following independence, the government started taking a more active role in encouraging economic expansion. This time, the idea was to support private business owners and mobilize necessary domestic resources (loans from the banking sector) for investments in a few preferred industries. This elevated deposit money banks and their role as intermediaries in Nigeria's economic history (Ekpenyong & Acha 2011). As a result, financial systems are essential to economic growth, and for nations to succeed over the long term, they must identify and enhance key long-term characteristics that are essential to their development. Countries might promote economic prosperity for all participants in the global economy through such a mechanism. Empirical

research that have typically concluded that cross-country variations in financial development levels account for a sizable fraction of the cross-country variations in economic growth rates support this approach (World Financial Development Report, 2013).

Additionally, the Nigerian financial sector is now unable to realize its potential as an engine for economic growth and development and is not properly fulfilling its development tasks as such. The official financial system is rather limited and offers the private sector only modest levels of credit. According to Audu, Okumoko, and Tubo (2013), this is due to the nation's pitiful state, where government deficits must be funded with local resources. give the banking system the chance to direct money into a far safer investment channel than lending to the private sector.

Although there is disagreement among the actual studies that support this idea, economists have usually come to agreement on the theoretical centrality of financial development in economic development. According to one school of thought, the growth of financial activity is largely unrelated to the growth of real activity; according to a second school of thought, financial activity is crucial in fostering processes of growth, innovation, and economic development; and according to yet another group of academics, the financial market fosters growth, which in turn leads to market formation (Nicet-Chenaf, 2012). Therefore, this study aims to close the gap currently present in the literature by empirically examining the relationship between the development of the financial sector and economic growth in Nigeria, with special attention to Deposit Money Banks.

The broad objective of the study is to examine the effect of financial sector on economic growth in Nigeria. Specifically, it seeks to empirically investigate the significant relationship between profitability, investment, deposits, advances, inflation and interest rate to gross domestic product on economic growth in Nigeria.

LITERATURE REVIEW

The literature on financial development offers some conceptual justification for the connection between the financial industry and economic expansion. The broad consensus is that expanding the financial sector can boost long-term growth. The theories that link the expansion of the financial sector to economic growth are covered in this section. The supply lending theory is the foundation of this work.

Supply - Leading Hypothesis: According to the supply-leading concept, financial expansion promotes economic expansion. The existence and growth of the financial markets lead to increased levels of saving and investing as well as improved capital accumulation efficiency. According to this theory, properly operating financial institutions can increase economic efficiency overall, generate and increase liquidity, mobilize savings, boost capital accumulation, transfer resources from traditional (non-growth) sectors to more modern, growth-inducing sectors, and also encourage competent entrepreneur responses in these modern sectors of the economy. Strong evidence that financial development is crucial for growth was identified in the recent work of Dernirguc-Kunt and Levine (1996) in a theoretical assessment of the many analytical approaches utilized in finance literature. They believe it is vital to persuade lawmakers to give banking sector policies top priority.

Using panel data estimate approaches for the years 1980 to 2006, Kuipou, Nembot, and Tafah (2012) investigated the relationship between financial development and the growth rate per capita real GDP in OECD nations. The variables employed are the liquidity rate, the rate of increase in real GDP per person, and the static panel model with the OLS method of analysis. The findings indicated that financial development had a negative impact on growth, and the Granger tests indicated that there was a single line of causality connecting financial development and economic growth in the OECD economies. Utilizing the Vector Error Correction Modeling (VECM) and co integration method proposed by Johansen and Juselius in 1990. Similar to this, Abdulsalam and Ibrahim (2013) looked at the long-term correlation between financial development indices and economic growth in Nigeria from 1970 to 2010. The study's conclusions showed that in the long run, commercial banks' liquid liabilities and trade openness had a considerable favorable impact on economic growth. In contrast, government spending, interest rate spread, and private sector lending all have a considerable negative impact. The conclusions suggested that the identified issues had a negative impact on private sector lending and that government borrowing and high interest rates were inhibiting investment and growth. In a similar vein, Adekunle, Salami, and Adedipe (2013) assessed the relationship between Nigeria's economic expansion and the development of the banking industry. They argued that creating a stable economic growth and an open, vibrant economy require an effective financial system. The study found that nations with advanced financial systems typically have quicker economic growth. In particular, the size of the banking sector and the liquidity of the stock market are found to have significant positive effects

on economic expansion. They used the OLS method of regression analysis; the ratio of liquidity liabilities to GDP (M2GDP), real interest rate (INTR), and ratio of private sector credit to GDP (CPGDP) were used to depict the financial development, while real GDP (RGDP) was used to quantify economic growth. Only the actual interest rate was found to be adversely correlated by the study. Statistics indicated that none of the explanatory variables were significant. Using time series data for the years 1960–2008, Osuji and Chigbu (2012) looked into the effects of financial development determinants on economic growth in Nigeria. The study used variables like the money supply, private sector credits, and GDP to analyze the data using co-integration analysis, causality testing, and error correcting mechanisms. The findings indicated that the study's chosen independent variable adequately captured the long-term link between financial variables through money integration estimations within the time frames under consideration, development and economic expansion. The estimated long-term Parsimonious Error Correction Model's (ECM) output shown that all of the study's variables were statistically significant. The analysis also showed that loan rate had a considerable impact on GDP but did not match our theoretical hypothesis. Credits from commercial banks to the private sector in our analysis had the expected a priori expectation sign and had a favorable impact on both financial development and economic growth. Contrary to what we anticipated, the MGDP had a detrimental impact on Nigeria's economic expansion and financial development. The study also showed that commercial banks' credits to nonfinancial private enterprises did not follow what was expected a priori, but instead had a major impact on or boosted economic growth in Nigeria. The right sign appeared in the ratio of commercial banks' deposits to the GDP (RDEP), which had a big impact on Nigeria's financial development and economic expansion.

Chude and Chude (2016) also looked at the effects of financial development on economic expansion in Nigeria between 1980 and 2013. An error correcting vector model was used. The outcomes were as follows: (i) The trace determined the contribution of financial development to Central's economic growth, between 1995 and 2014, Eastern and South-Eastern European Countries (CESEE). They discovered that the CESEE economy benefits from foreign-owned banks' presence and these banks promoted economic expansion. Additionally, during the years 1979 to 2013, Cashina, Mohaddesb, and Raissi (2017) analyzed the macroeconomic effects of El-Nino on 21 economies, including Europe as a region. Their findings showed that El-Nino had considerably diverse effects on 21 economies when using global

vector auto regression. Compared to economies like Europe and the USA, economies like Australia, India, Chile, Japan, New Zealand, and South Africa saw a shorter decline in economic activity following the onset of El-Nino. They also demonstrated that El Nio-driven weather shocks caused a 0.16 percent decline in India's GDP growth after the first quarter.

METHODOLOGY

The study studied the link between the expansion of the financial sector and economic growth; the data used were primarily secondary in origin. The study's time frame runs from 2004 to 2022, or fifteen (19) years. The choice of this time period was also forced by the lack of data, which is a significant obstacle for economic studies in Nigeria. The 19-year period was chosen by the researchers because they felt it was a significant increase from the typical 5 to 10 years used in comparable studies and was long enough to reveal the causation between the factors.

The Central Bank of Nigeria's (CBN) Statistical Bulletin of 2022 and the annual reports of Nigeria's listed deposit money banks as of 2022 were the sources of the data. The variables under study are gross domestic product (GDP), profitability of the sector (PROF), investment of the sector (INV), deposit for the year (DEP), advances to customers (ADV), inflation (INF) and interest rate (INTR). The study adopted though with modification, the model version of Oriavwote & Eshenake (2014). The model is stated as follows:

$$RGDP = f(PRF, INV, DEP, ADV, INF, INR, DUMMY) \tag{1}$$

Econometrically, the above equation 1, becomes;

$$RGDP_t = \beta_0 + \hat{a}_1 PRF_t + \beta_2 INV_t + \beta_3 DEP_t + \beta_4 ADV_t + \beta_5 INF_t + \beta_6 INR_t + \mu \tag{2}$$

Where:

GDP = Gross Domestic Product,; PRF = Profitability; INV = Investment; DEP =

Deposit; ADV = Advances; INF = Inflation; INR = Interest Rate; Adopting a semi-log specification, logging (RGDP) the left side of the equation, and specifying in a full econometric form, we have:

$$LNGDP_t = \beta_0 + \beta_1 LPRF_t + \beta_2 LINV_t + \beta_3 LDEP_t + \beta_4 INF_t + \beta_5 LINR_t + \mu \tag{3}$$

Where;

LNRGDP = Log of real gross domestic product;

PRF = Profitability measured as gross profit to sale revenue.

INV = Investment is measured by dividing the difference by the initial cost of investment.

DEP = Deposit is measured by dividing bank's total amount of loans by the total amount of deposit;

INF = Inflation is the Consumer Price Index (CPI), which measures the percentage change in the price of a basket of goods and services consumed by households (as provided by CBN)

INR = Interest rate is

LN = Natural Logarithm;

t= a certain time period,

0 = intercept;

β1- β6= parameters to be estimated;

μ= error term.

Presentation and Analysis of Results

This study, tests began with unit root testing in order to determine whether the underlying time series are stationary or non- stationary. The stationarity tests follow the Augmented Dickey- Fuller (ADF) and Philip Peron (PP) unit root test approaches.

Table 1: Augmented Dickey- Fuller and Unit Root Test Results

Variables	t-statistics	probability	Order of integration
GDP	-3.392300	0.0254	I (1)
PRO	-6.498793	0.0001	I (1)
INV	-6.141236	0.0001	I (1)
DEP	-6.199328	0.0001	I (1)
ADV	-5.030274	0.0011	I (1)
INF	-5.802905	0.0002	I (1)
INT	-5.983441	0.0002	I (1)

Source: Author's Computation from Eviews Output (2019).

The results derived from these augmented dickey- fuller and unit root test results in table 1 shows the following two approaches, all the chosen variables were nonstationary at their level states and were all stationary at their first difference states.

In other words, all the variables chosen for this study are integrated of order one, I (1). The tests for unit root is not just an approach for determining whether a time series is stationary or not but also it serves as a diagnostic test for determining whether a group of time series with similar time trend have long-run relationship. That is, it is known that when a group of time series show similar time trend (being integrated of the same order), co-integration may exist among them. In this study, all the chosen variables are order one, I (1) variables. The result is in consistent with Imoagwu, Priscilla and Ezeanyeji (2019); Prochniak and Wasiak (2017).The regression and causal relationship of the results are reported in table 2 is presented below:

Table 2: Regression Results for GDP, PRO, INV, DEP, ADV, INF and INT.

Variable	Co-efficient	Probability
PRF	792.6	0.0179
INV	80.5	0.0036
DEP	-758.8	0.0123
ADV	25.4	0.9357
INF	30267.8	0.6195
INT	-259.1	0.2838

R-squared 0.962544

Adjusted R-squared 0.938709

F-statistic 40.38281

Durbin-Watson stat 2.021103

Prob (F-statistic) 0.000001

Source: Author's Computation from Eviews output (2019).

The Table 2 which is the regression result reveals the adjusted R-square, which represents the correlation between the observed values and predicted values of the dependent variable. R-Square is called the coefficient of determination and it gives adequacy of the model. Here the value of R-Square is 0.963 that means the independent variable in the model can predict 96% of the variance in dependent variable. The p-value is given by 0.000 which is less than 0.05, which shows the significance of our model. The values of Durbin-Watson statistics for dependent variables in our case is very slightly

above 2.00, this indicates that there is no autocorrelation exists in our study and the regression models assume that the error deviations are uncorrelated.

Durbin-Watson test is used to test autocorrelation among the data (error term). In Durbin-Watson test, null hypothesis indicates that autocorrelation does not exists in error term and alternative hypothesis depicts that autocorrelation exist in error term. Since regression model has assumption of uncorrelated error term therefore it must be fulfilled to run regression analysis. In Table 2 indicate value of Durbin- Watson (DW) as 2.021 which shows that autocorrelation does not exist in error term. Regression model overall significance is identified by F- value. It is actually the explained variance divided by unexplained variance (mean error). In Table 2 F-stat shows the value (40.38281) and it's Probability (0.000). The result is in consistent with Chude and Chude (2016) and Imoagwu, Priscilla and Ezeanyeji (2019).

Table 3: Test of Hypotheses

Variable	*Co-efficient*	*Probability*
PRF	792.6	0.0179
INV	80.5	0.0036
DEP	-758.8	0.0123
ADV	25.4	0.9357
INF	30267.8	0.6195
INT	-259.1	0.2838

Source: Author's Computation from Eviews output (2019).

The result above in Table 3 (test of hypothesis) showed that the p-value is 0.0179 (PRF), 0.0036 (INV), 0.0123 (DEP), and it is significant at 0.05 level of significance. The null is therefore rejected. While the result of ADV, INF and INT with the p-value of 0.9357, 0.6195 and 0.2835 are not statistically significant at 0.05 level of significance, therefore the null hypothesis is accepted.

CONCLUSION AND RECOMMENDATIONS

This study focused specifically on deposit money banks in Nigeria as it examined the relationship between the financial sector and economic growth. The following inferences are drawn from the outcome:

The results of the unit root tests demonstrated that each of the selected variables is nonstationary in its initial state but becomes stationary after the first differencing. They are all integrated first order, in other terms. Additionally,

the co-integration study demonstrated that the variables have long-term relationships, indicating that any departure from equilibrium among them was only transient because equilibrium persisted for them over the long term.

The findings demonstrated that long-term economic growth in Nigeria is significantly influenced favorably by financial development. Additionally, the outcomes demonstrated that profitability, investment, and deposit all have important positive impact on economic growth in Nigeria. The study also showed that the impact of technological advancements, inflation, and interest rates on Nigeria's banking sector development was minimal. This is due to the Central Bank of Nigeria's unpredictable monetary policy, which demonstrated a one-way causal relationship between the financial sector (Deposit Money Bank) and Nigeria's economic expansion.

On the basis of the study's findings, the following suggestions are made:

• The government should refocus its policy initiatives on encouraging an effective financial system while eliminating systemic bureaucratic impediments. This will spark the financial system and provide the rate of economic growth a major boost.

• The Nigerian financial system includes some of the most thriving institutions, including the banking sector and stock market. In order to give investors access to long-term resources that are essential for the financing of medium- and long-term projects, the government should pursue favorable policies through the Central Bank that will energise the banking sector while ensuring effective and efficient stock exchange operation free from scams and malpractices.

• Because economic growth in Nigeria during the study period was not significantly impacted by private sector GDP advances, it is crucial for the finance sector to develop in order to provide credit to microbusiness owners who are frequently shut out of the formal credit markets. These will encourage private sector expansion and investment, which is the key to development and progress. Finally, the Central Bank of Nigeria should always keep an eye on how deposit money institutions in Nigeria are adhering to monetary policy processes.

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