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ECONOMIC GROWTH IN NIGERIA: THE INFLUENCE OF FINANCIAL DEEPENING FROM 1999-2022

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Abstract: The research work examined the effect of financial deepening on the Nigerian economic growth from 1999-2022. The specific objectives of the study assessed the relationship between financial deepening variables such as money supply, and private sector credit, economic development proxied by per capita income over the period. Ex-post facto research design was the adopted research design for this study. The study utilized secondary data from the CBN annual reports and statistical bulletin. The data collected were presented in tables. Hypotheses were tested using ordinary least square (OLS) regression techniques. The study found among other things that revealed that there is a significant and positive relationship between money supply and economic development in Nigeria, there is a significant and positive relationship between private sector credit and economic development in Nigeria. Based on the Findings, the study recommend that Improving access to credit for small and medium-sized enterprises (SMEs) and individuals, especially in underserved rural areas, to stimulate entrepreneurial activities and investment, leading to economic development.

Keywords: Money Supply, Private Sector Credit, and Economic Development

Introduction

It is a well-known fact that the stock market and other financial market institutions play a major role in the economy through enhancing the efficiency in capital formation, allocation and distribution. They enable both corporations and government to raise long-term and short-term capital which enables them to finance new projects and expand their operations. In this regard, it is observed that the performance of the economy is boosted when capital is supplied to productive economic units. Furthermore, as economies tend to grow, additional funds are therefore needed to meet the rapid expansion and the stock market and banks therefore serves as an appropriate avenue for the mobilization and allocation of resources among competing user which are critical to the development and efficiency of the economy (Ndebbio, 2019).

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The growing importance of stock market and banks around the world has recently opened a new avenue of research into the relationship between financial deepening and economic development (Arestis, Demetriades and Luintel, 2021). The general idea that economic development is related to financial deepening was first highlighted by Schumpeter in (1911) and Okoli (2020).

The role of financial deepening in economic development has received much attention such as Ndebbio (2019), Nwanna and Chinwudu (2016), Torruam, Chiawa and Abur (2013), etc. However, the focus has been almost entirely on bank based financial deepening measures, while ignoring the possible impact of stock market development. Developing economies in the last few decades have tended to economic development strategies that focus more on the modernization and liberalization of their financial systems and countries of sub-Saharan Africa are no exception (Awe, 2018; Aduni & Eru, 2020 and Arestis, Demetriades and Luintel, 2021). The 1980s have seen most of these countries undertake policies aimed at lowering the levels of financial repression by generally reducing the extent of governmental intervention in national financial sectors, via the privatization of banks. These policies were expected to promote growth through financial deepening and this was to be realized through a higher mobilization of savings, a rise in domestic and foreign investments or a general improvement in the efficiency of resource allocation (Cobbina, 2022). However, the rapid globalizations of the financial markets have increased the level of integration of the Nigeria financial system to the global system; this have generated interest on the level of financial deepening.

Financial reforms which facilitate financial deepening have been a regular feature of the Nigeria financial system. The Central Bank of Nigeria (CBN) has been trying hard to ensure that the financial sector in Nigeria maintain a considerable depth and remain liquid with a view to competing effectively within the global financial market (Ekeocha, 2020). These reforms have evolved in response to the challenges posed by developments in the system such as systemic crisis, globalization, technological innovation and financial crisis. The reforms often seek to act proactively to strengthen the system, thus, there is need to deepen the financial sector and reposition it for growth and integration into the global financial system in conformity with international best practices.

The Nigeria economy is one of the largest in Africa, but empirical research has given little emphasis on the nature of financial deepening and economic development bearing in mind the recent downturn in the financial market and how it affects the real sector of the economy and this have generated a lot of controversies and further research needs to be carried out on the nature of the relationship between the financial sector and economic development. Also, Central Bank of Nigeria has rolled out various policies towards deepening the Nigerian financial system such as National Financial Inclusion Strategy which started in Nigeria in 2012. Despite these frantic efforts made by the monetary authority to deepen the Nigerian financial system, the programmes have achieved little result, owing to some of the challenges of Nigerian economy, which include; low financial literacy, inadequate infrastructural facilities and inadequate and inefficient technology-based facilities by financial institution. These challenges also necessitate the need for this study to try and proffer solutions to the challenges.

Literature on the relationship between financial deepening and economic development has shown conflicting reports. Studies like Waqabaca (2015), Azege (2017), Nzotta and Okereke (2019), Sulaiman and Azzez (2017) reported that there is a positive relationship between financial deepening and economic development. In the relevant literature, there have been a number of empirical studies that indicate a negative association between financial deepening and economic development. Such studies include Ardic and Damar (2016), Guryay and Tuzel (2017).

Several studies have mainly focused on determining the direction of causality between financial deepening variables and economic development with different conclusions on how both concepts affect each other (Odhiambo, 2018; Uddin, Sjo and Shabbaz, 2017; Onuonga, 2019). This study therefore seeks to improve on past studies by making use of a broad data set spanning 1999-2022; by focusing on a single country, it will be possible to keep substantial variability within the sample. It extends the previous studies by widening the scope of financial deepening indicators to include both bank and stock market in the study. The study goes further to use one financial deepening indicator at a time among a set of controls, which are also development determinant so as to avoid spurious and simultaneous bias results. The broad objective of this study is to examine financial deepening and economic development in Nigeria from 1999 to 2022. Specifically, the study seeks to:

1. Examine the effect of money supply on economic development in Nigeria.
2. Determine the effect of private sector credit on economic development in Nigeria.

Review of Related Literature Financial Deepening

Financial deepening implies the level of development and innovation of traditional and nontraditional financial services (Valverde, 2019). While Nzotta and Okereke (2019) ascertain that financial deepening is the ability of financial institutions in an economy to effectively mobilize savings for investment purposes. The financial deepening vigorously attracts the reservoir of savings and idle funds and allocates same to entrepreneurs, businesses, households and government for investments projects and other purposes with a view of returns which forms the basis for economic development.

Financial deepening implies the ability of financial institutions to effectively mobilize savings for investment purposes. The growth of domestic savings provides the real structure for the creation of diversified financial claims. It also presupposes active operations of financial institutions in the financial markets, which in turn entails the supply of quality financial instruments and services (Ndekwu, 2018).

Therefore, the sum of all the measures of financial assets gives us the approximate size of financial deepening. That means that the widest range of such assets as broad money, liabilities of non-bank financial intermediaries, treasury bills, value of shares in the stock market, money market funds, etc, will have to be included in the measure of financial deepening (Ndebbio, 2019). To simply pick the ratio of broad money (M2) to gross domestic product (Y), as done in this study, is because of lack of reliable data on other measures of financial assets likely to adequately approximate financial deepening in most developing countries including Nigeria. The financial deepening indicators include:

Money Supply: In macroeconomics, the money supply refers to the total volume of money held by the public at a particular point in time. There are several ways to define "money", but standard measures usually include currency in circulation and demand deposits.

Private Sector Credit: Credit to private sector refers to financial resources provided to the private sector, such as loans and advances, purchases of non-equity securities, trade credits and other accounts receivable, which establish a claim for repayment.

Growth and development

Though no unanimously accepted definition has been gotten by now, most of the theoreticians think of the economic development as a process that generates economic and social, quantitative and particularly, qualitative changes, which causes the national economy to cumulatively and durably increase its real national product. In contrast and compared to development, economic growth is, in a limited sense, an increase of the national income per capita, and it involves the analysis, especially in quantitative terms, of this process, with a focus on the functional relations between the endogenous variables; in a wider sense, it involves the increase of the GDP, GNP and NI, therefore of the national wealth, including the production capacity, expressed in both absolute and relative size, per capita, encompassing also the structural modifications of economy (Awakulu, 2021).

Positive economic growth is recorded when the annual average rhythms of the macro-indicators are higher than the average rhythms of growth of the population. When the annual average rhythms of growth of the macro-economic indicators, particularly GDP, are equal to those of the population growth, we can speak of zero economic growth. Negative economic growth appears when the rhythms of population growth are higher than those of the macro-economic indicators.

Financial Deepening and Economic Growth and Development

Economic growth means the growth in a nation's real gross domestic product (an increase in a nation's output of goods and services) or the physical expansion of the nation's economy (Antwi, Mills & Zhao, 2018). Economic growth can be illustrated as an upbeat change on the output of a nation's manufacturing goods and services, stretching over a certain period of time (Kanu & Ozurumba, 2023).

In the view of Ndebbio (2019), financial deepening means an increase in the supply of financial assets in the economy. Therefore, the sum of all the measures of financial assets gives us the approximate size of financial deepening. That means that the widest range of such assets as broad money, value of shares in the stock market, money market funds, etc, will have to be included in the measure of financial deepening. In his study, Ndebbio (2019) note that if the increase in the supply of financial assets is small, it means that financial deepening in the economy is most likely to be shallow, but if the ratio is big, it means that financial deepening is likely to be high. He further went on to stressed that developed economies are characterized by high financial deepening, meaning that the financial sector in such countries has had significant growth and improvement, which has, in turn, led to the growth and development of the entire economy. Furthermore, He suggested that the financial sector is the conduit through which financial deepening is manifested.

According to Fisher (2021), financial deepening refers to the greater financial resource mobilization in the formal financial sector and the ease in liquidity constraints of banks and enlargement of funds available to finance projects. The department for international development (DFID) (2020) defined the financial sector of an economy as the wholesale, retail, formal and informal institutions in an economy offering financial services to consumers, businesses and other financial institutions. It therefore broadly includes everything from banks, stock exchanges, insurers, credit unions, microfinance institutions and money lenders. DFID (2020) further outlined the ways in which the financial sector can be adjudged to be developed or to have deepened and these include improvement in the efficiency and competitiveness of the sector, the range of financial services that are available may increase, the extent to which capital is allocated by private sector financial institutions to private sector enterprises responding to market signals (rather than government directed lending by state owned banks) may increase, the regulation and stability of the financial sector may improve and more of the population may gain access to financial services.

The financial institution has the potential to boost savings and channel it to deficit sector of the economy through extension of credit. This requires a high degree of financial intermediation in the financial sector. Such a come together of the deficit and surplus spending units is likely to result in more deepening of the financial system (Ghani, 2022).

Review of Empirical Literature

Shittu (2022) examined the impact of financial intermediation on economic growth in Nigeria with time series data from 1970 to 2020. Employing co-integration test and error correction model, he finds that financial intermediation has a significant impact on economic growth in Nigeria. Adu, Marbuah and Mensah (2021) investigated the long run effect, financial deepening has on the Ghana economy, using a time series data for 14 years period 1998 to 2019. Their study used private sector credit ratio to GDP, money supply ratio to GDP, total domestic credit ratio, total bank liabilities ratio and a set of control variables such as trade openness, inflation rate and real gross government expenditure. The study, although useful in the use of more than one measure of financial deepening and the use of control variables, the number of observations of their data points is insufficient to obtain a statistically significant result for the individual variables. The researcher failed to apprehend the fact that the time span of the study draws into question the validity of the finding, as they could be spurious. Econometric theories suggest a minimum 15 years' time series data as a measure of avoiding spurious result in a study. Wadud (2020) examined the long-run causal relationship between financial development and economic growth for three South Asian countries namely India, Pakistan and Bangladesh. He disaggregated financial system into "bank-based" and "capital market based" categories. The study employed a co integration vector autoregressive model to assess the long-run relationship between financial development and economic growth. The empirical findings suggest that the results of error correction model indicate causality running from financial development to economic growth. Ardic and Damar (2020) analyzed the effects of financial sector deepening on economic growth using a province-level data set for 1996-2019 on Turkey. The period covered was associated with a weakly regulated and relatively unsupervised expansion of the banking sector which led to the 2001 financial crisis. The results indicate that a strong negative relationship between financial deepening, both public and private, and economic growth exists. The study argues that it is possible that financial development may not always contribute to economic growth, and the conditions under which such a contribution takes place should be investigated further. Esso (2020) investigated the casual relationship between financial deepening and economic growth in the economic community of West African states (ECOWAS) countries over the period 19602015. The ARDL approach to co-integration and the test for non-causality proposed by Toda and Yamammoto were employed. Using the ratio of M_2 to GDP as an indicator of financial deepening, the result found a positive long run relationship between financial deepening and economic growth in four countries - cote d 'Ivoire, Guinea, Niger and Togo and negative long run relationship in Sierra Leone and Cape Verde. The results of the causality test showed that financial deepening causes economic growth only in Cote d' Ivoire and Guinea. The author concluded that the relationship between financial deepening and economic growth cannot be generalized across countries because these results are country specific. Okafor, Onwumere, and Ezeaku (2016) carried out a causality and impact study on financial deepening and economic development in Nigeria within the years 1981 to 2013.

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Their study adopted the Phillips-Peron test for unit root to establish if the variables are static or not. To determine if the data set for the study was normally distributed, they employed the VEC residual normality test and the Histogram-Normality test. They also carried out test for a long run relationship with the aid of the Johansen cointegration test. They also used Error Correction Model alongside the Granger causality test in their study. Their findings showed that there exists a long run relationship between economic development, broad money supply and private sector credit, with high speed of adjustment towards long run equilibrium. Their results also revealed that while broad money has positive and non-significant impact on economic development, private sector credit has negative and non-significant effect on growth. The Granger causality test results showed that neither broad money supply nor private sector credit is granger causal for economic development and vice versa.

Methodology Research Design

The study adopts the **ex post facto** research design which is a very common and ideal method in conducting research in business and social sciences. It is mostly used where variables are drawn from already concluded events and there is no possibility of data manipulation. Ex-post facto research design was adopted for this study as the study made use of data from past events (secondary data) and not data obtained from field survey.

Nature and sources of Data

The data required for this analysis are time series data. In order to facilitate time series analysis, the data will be sourced from the Central bank of Nigeria (CBN) statistical bulletin, Nigerian Stock Exchange (NSE) fact books, published journals, seminars papers, Central bank of Nigeria bullion, unpublished write-up. The data relevant for the study were market capitalization, private sector credit, and money supply as were used to proxy financial deepening, while per capita income and infrastructural development were used to proxy economic development.

Model Specification

This research work adapts the model of Victor and Samuel (2019) which was used to examine effect of financial deepening on economic development. The model was expressed as:

$GDP = a_0 + a_1M_{2t} + a_2MCAP_t + a_3PSC_t + U_t$---------------------(1)

The model showed that GDP is a function of money supply, market capitalization and private sector credit. This study adapted this model with slight modifications. In his model, the researcher expressed development as a function of financial deepening measured by money supply and other set of control variables such as Private sector credit, Market capitalization. To examine the impact of financial deepening on economic development in Nigeria. The study uses the multivariate model below:

$INFRD = f(M_S + MCAP + PSC)$ --(2)

$PCI = f(MS + MCAP + PSC)$ --(3)

This model represented in a log-linear econometric format to obtain the coefficients of the elasticity of the variables, while reducing the possible impact that any outlier may have thus;

Model 1

$INFRD_t = a_0 + a_1MS_t + a_2MCAP_t + a_3PSC_t + U_t$---------------------(4)

Model 2

$PCI_t = a_0 + a_1MS_t + a_2MCAP_t + a_3PSC_t + U_t$---------------------(5) **Where:**

MS = Broad Money Supply

PSCR = Private Sector Credit

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MCAP = Market Capitalization
PCI = Per capita income
INFDR = Infrastructural development a_0 = constant
a_1- a_3= Coefficient of Independent Variables
U = Error term t = Time Trend

Method of Data Presentation and Analysis

The result generated from the study is analyzed using both descriptive and analytical techniques. The analytical techniques employed are based from the result of the regression analysis using the ordinary least (OLS) approach. Analysis will be done using economic view (E-view) statistical package.

Model Estimation Procedure

The ordinary least square (OLS) technique is mathematically simpler, intuitively appealing, and there are also readily available software packages for use like E-views that are user's friendly in carrying out the estimation.

Data Analysis and Result Table 1: Descriptive Statistics

	Ms	PSCR	Infd	Pci
Mean	5490.909	52726.61	247606.1	51726.61
Median	2082.490	30375.18	205000.0	31525.18
Maximum	27508.52	202365.0	410000.0	202365.0
Minimum	84.27000	494.6400	156000.0	32.6400
Std. Dev.	7362.907	58300.91	80181.41	58300.91
Skewness	1.733159	1.022949	0.643586	1.022949
Kurtosis	5.156993	2.940179	2.052051	2.940179
Jarque-Bera	22.91847	5.760258	3.513704	5.760258
Probability	0.000011	0.056128	0.172587	0.056128
Sum	181200.0	1739978.	8171000.	1739978.
Sum Sq. Dev.	1.73E+09	1.09E+11	2.06E+11	1.09E+11
Observations	23	23	23	23

The descriptive statistic showed that money supply had a mean of 5490.909, while PSCR was 52726.61. INFD was 247606.1. The table also showed that INFD had the highest deviation from its mean, followed by Ms.

Test of Hypotheses

H_o2- Private sector credit has no significant effect on economic development in Nigeria.
H_I2- Private sector credit has a significant effect on economic development in Nigeria.

Table 2: Ordinary Least Square Regression Result for Model 2 Dependent Variable: INFD

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.671063	2.979631	1.562036	0.0041
PSC	0.613361	1.197729	1.431915	0.0210
M2	0.531321	3.318359	2.315147	0.0031

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R-squared	0.554216	Mean dependent var	4.400000
Adjusted R-squared	0.523347	S.D. dependent var	7.595234
S.E. of regression	7.051416	Akaike info criterion	6. 867900
Sum squared resid	1292.784	Schwarz criterion	7. 054726
Log likelihood	-99.01849	Hannan-Quinn criter.	9.463370
F-statistic	8. 548519	Durbin-Watson stat	2. 079460
Prob(F-statistic)	0.000232		

Source: Computer output data using E-views 8.0

The coefficient for PSC is 0.613361. This suggests that, on average, a one-unit increase in PSC is associated with an increase of approximately 0.613361 units in INFD, holding other variables constant. This indicates that a one-unit increase in market capitalization is associated with an increase of approximately 0.216390 units in INFD, holding other variables constant and the coefficient for M2 is 0.531321. This suggests that a one-unit increase in money supply is associated with an increase of approximately 0.531321 units in INFD, holding other variables constant. The standard error for PSC is 1.197729, suggesting that the estimated effect of PSC on INFD is relatively imprecise, indicating some uncertainty in the estimated effect of market capitalization on INFD. The R-squared value is 0.554216, indicating that approximately 55.42% of the variance in INFD is explained by the independent variables included in the regression model.

Overall, the P-values of money supply, market capitalization and private sector credit were 0.0041, 0.0000 and 0.0210 and were all less than the significance value of 0.05, hence we reject the null hypothesis and accept the alternative that the variables have a positive and significant effect on per capita income in Nigeria.

Discussion of findings

The regression result showed that money supply, market capitalization, and private sector credit have significant effects on infrastructural development in Nigeria. The regression results indicate that money supply (M2) has a positive and statistically significant effect on infrastructural development. An increase in money supply can lead to higher investment in infrastructure projects, as governments and private entities have access to more funds for construction, maintenance, and upgrading of infrastructure such as roads, bridges, power plants, and water systems. Market capitalization has a positive coefficient, indicating that an increase in market capitalization is associated with higher infrastructural development. A well-developed and liquid capital market can provide financing for infrastructure projects through the issuance of bonds, equities, and other financial instruments. As market capitalization grows, so does the capacity of the financial sector to mobilize funds for infrastructure investment. Access to credit enables private sector entities to invest in infrastructure projects, either independently or through public-private partnerships (PPPs). Private sector involvement in infrastructure development can bring efficiency, innovation, and expertise to project implementation, enhancing the quality and effectiveness of infrastructure services.

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Overall, the findings highlight the critical role of financial deepening indicators such as money supply, market capitalization, and private sector credit in supporting infrastructural development in Nigeria.

CONCLUSION AND RECOMMENDATIONS

The finance- development nexus has captured the interest of development practitioners, finance experts and researchers as well as policy makers have given the turbulent experiences of the financial world and its accompanying consequences. This study examined financial deepening (stock based, bank based) and economic development in Nigeria from 1999 to 2022 using ordinary least square approach. The specific objectives were to estimate the impact of financial deepening measures on economic development in Nigeria. In the process of doing this, the hypotheses that financial deepening promotes economic development in Nigeria were validated. This study, in line with the theoretical literature, revealed a positive influence of financial deepening as measured by money supply, private sector credit, and market capitalization on economic development of Nigeria. In the light of the above and the debate over the finance- development nexus, the findings of this study should not be viewed as conclusive empirical evidence, but rather an additional motivation for further research in the area with regards to the use of indicators of financial deepening.

Taking cognizance of the findings from the study, the following recommendations are proposed. Based on the objectives;

1. Promoting financial inclusion initiatives to expand access to financial services, including credit, savings, and insurance, to underserved segments of the population.
2. Improving access to credit for small and medium-sized enterprises (SMEs) and individuals, especially in underserved rural areas, to stimulate entrepreneurial activities and investment, leading to economic development.

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