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FINANCIAL DEVELOPMENT AND PERFORMANCE OF INDUSTRIAL SECTOR IN NIGERIA

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Abstract: *This study ascertained the financial development and performance of the industrial sector in Nigeria, using broad money supply and variation index of industrial production for financial development and performance of the industrial sector respectively. Ex Post Facto research design was adopted for the study. Data were extracted from Central bank Statistical Bulletin from1986 to 2020. Analysis was done with Auto-Regressive Distributive Lag (ARDL) estimation technique via E-view 10.0. This study revealed that financial development measured by broad money supply and savings significantly explained and affected the variation in industrial sector output in Nigeria. It was recommended that the Central Bank of Nigeria (CBN) should continue to strengthen and regulate the process of financial procedures on areas of industrial sector and ensure commercial banks give adequate priority of their funds to industrial production due to its inherent benefits.*

INTRODUCTION

Over the years, economists, financial analysts, and policymakers have come to believe that the amount of money in the economy has a significant impact on economic activity and the general price level. The relationship between money supply and stock returns has been a hot topic of debate among academics for some time now, whether the relationship exists but whether it is unidirectional or bidirectional. Others contend that if the stock market is efficient, its returns should already reflect changes in macroeconomic variables, and thus they reject the existence of a causal relationship between money supply and stock returns (Akani & lucky, 2014).

In general, financial development is defined as an increase in the quantity, quality, and efficiency of financial intermediary services (CBN, 2011). While theoretical economists attempted to model the hypothetical relationship between financial development and economic growth, empirical researchers investigated the suitability of various indicators for financial intermediation. Monetary aggregate measures have risen to prominence in the empirical literature on this topic. Several studies have used a different set of monetary aggregates to examine the relationship between financial intermediation and growth. Depending on the specific characteristics of the financial system, a few indicators have been proposed as proxies for financial intermediation. The variables chosen are relevant to the size, efficiency, and/or relative importance of various financial institutions.

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Previous studies, such as those conducted by Ibrahim and Alagidede (2018) and Bennett, Anyanwu, and Kalu (2015), found that savings have a positive relationship and a significant impact on the economy. According to the findings of Aiyetan and Aremo (2015), easing financial development constraints and deepening the financial sector are critical to boosting Nigeria's manufacturing output growth. While Chekwube, Anne, Chibuike, and Chukwunonso (2014) discovered that financial development has a negative long-term impact on economic growth. Okoye, Nwakoby, and Okorie (2016) found a weak causal relationship between financial deepening and industrial output, with trade openness and industrial output showing bi-directional causation.

The goals of industrial policies were to address the macroeconomic issues of economic growth, unemployment, and the balance of payment deficit by reducing imports and increasing manufacturing exports, as well as to promote technology transfer and technological progress. Industrial performance indices such as the index of industrial and manufactured production, percentage contribution and value added to the Gross Domestic Product, manufacturing capacity utilization, percentage growth rate, manufacturing share in total export, import, and employment are used to assess the performance of the industrial sector in relation to the objectives of industrial policies. Based on the above development, this study determines how broad money supply affected the variation in index of industrial production in Nigeria.

CONCEPTUAL REVIEW

The total amount of money available in an economy at any given time is referred to as the money supply. According to Gbosi (2005), the money supply is defined as the total amount of cash, coins, and paper currency in circulation at any given time. Currency in circulation and demand deposits are the two most common measures used to define money. The Central Bank of Nigeria controls the country's money supply (Akani & lucky, 2014). Stock returns, on the other hand, are the money gained or lost on stock prices. It is commonly expressed as a rate of return. Money supply can have an impact on stock returns both individually and in conjunction with other macroeconomic variables. There is a large body of literature on the relationship between the money supply and stock returns.

During the First Plan period, the emphasis on an ISI strategy as the cornerstone of industrial development efforts appeared to have overlooked many of the factors required for managing the emerging industrial sector, particularly the management of technologies transferred or acquired. The Second National Development Plan (1970-74), attempted to address the limitations of the ISI strategy, and placed emphasis on 'the upgrading of local production of intermediate and capital goods for sale to other industries. This was the first systematic attempt to build an industrial structure based on agriculture, transportation, mining, and quarrying. Nigeria's newly acquired status as a major petroleum producing country coincided with the Second Plan. The government embraced ambitious, costly industrial projects in sectors such as iron and steel, cement, salt, sugar, fertilizer, pulp and paper, among others, as the economy benefited greatly from massive foreign exchange inflows. According to the plan, the establishment of

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industrial projects during this period was motivated by the need to increase the earning power of the populace, reduce social tension by creating more jobs, make essential goods easily available, and lay the groundwork for a self-sustaining economy. The shallow nature of Nigeria's technological capacity, however, prevented the economy from moving beyond the elementary phases of these projects, and indeed, virtually all of these projects have today either been shut down or operate at very low capacity (Adaowo, 2002).

Empirical studies

Chekwube, Anne, Chibuike, and Chukwunonso (2014) financial development and economic growth in Nigeria: A Reconsideration of Empirical Evidence investigated the impact of financial development on economic growth in Nigeria from 1986 to 2012. The following techniques were used: Ordinary Least Squares (OLS), Augmented Dickey-Fuller unit root test, Johansen cointegration test, error correction technique, and Granger causality test. The empirical results revealed that: all of the variables used are integrated of the same order, I(1); there is evidence of a long run relationship among the variables used; and the normalized cointegration coefficients revealed that financial development has a negative long-run effect on economic growth. Aiyetan and Aremo (2015) investigated the impact of financial sector development on Nigerian manufacturing output growth (1986-2012). The study used Vector Auto regression (VAR) analysis to test whether financial sector variables stimulate output growth in the Nigerian manufacturing sector by maintaining interactions with some key macroeconomic variables in the Nigerian economy from 1986 to 2012. The unit root and Johansen cointegration tests were also used in the study to examine the behavior of the macro data. As a result, relaxing financial development constraints and deepening the financial sector are critical to boosting Nigeria's manufacturing output growth. Ekpo (2014) investigated the role of the financial sector in Nigerian industrial performance from 2002 to 2012. Regression analysis revealed that industrial policies such as import substitution strategy (ISI), export promotion strategy (EPS), and foreign private led industrial strategy (FPLIS) had no significant impact on Nigerian industrial performance. Furthermore, the performance of the industrial sector, particularly the manufacturing sector, is very low. He observed that the policies were dominated by reliance on foreign inputs, which slowed required success. Samuel (2017) used a four-variable Vector Autoregressive (VAR) model and time series data from 1961 to 2013 to investigate the long run relationship between financial development and economic growth in South Korea. The study found that real GDP per capita, financial development, real exports, and real imports were all co-integrated with one vector using unit root tests and cointegration analysis. The empirical results of Granger causality tests using a vector error correction model (VECM) with one co-integrating vector indicated that financial development increased economic growth and that there was unidirectional causality from financial development to economic growth but not from economic growth to financial development, supporting previous theoretical perspectives on the positive relationship between financial development and economic growth. Frances, Chukwuedo, and Chukwunonso (2016) used the Gregor-Hansen

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model to study financial deepening and domestic investment in Nigeria. From 1970 to 2013, an endogenous structural break and supply-leading hypothesis were used to investigate the relationship between financial deepening and investment in Nigeria. The study discovered a unidirectional causality between financial deepening and investment in Nigeria, with the causality running from the former to the latter, using the Granger Causality test and OLS to establish the direction of causality between the two phenomena. Bennett, Anyanwu, and Kalu (2015) studied the impact of industrial development on Nigeria's economic growth from 1973 to 2013. The secondary data collected from the National statistical bulletin was analyzed using the PC Give 8.00 statistical package. GDP was used as the dependent variable, while foreign direct investment, industrial output, total savings and inflation was used as the independent variables. The model explains that the influence of industrial output on economic growth is not statistically significant, even though the sign obtained from its àpriori expectation is positive but not strong enough. Savings have a positive relationship with the economy and have a significant impact on it. Inflation has a negative impact on economic growth, whereas net foreign direct investment has a positive impact. R-squared indicates a 76% increase in GDP. According to Jelilov, Enwerem, and Isik (2016), who used the ordinary least square method to examine the impact of industrialisation on Nigerian economic growth (2000-2013), industrialisation has a negative long-run impact on economic growth According to studies, all of the efforts made over the years to industrialize the Nigerian economy have not yielded the desired results. This implies that things must be done differently, such as by employing the methods and strategies used by other successful economies. This action is critical now, given the country's yearly population increase without a corresponding increase in output and employment opportunities to absorb the products of training institutions. Ibrahim and Alagidede (2018) used panel data from 29 Sub-Saharan African countries from 1980 to 2014 to examine the overall economic growth effect when finance and real sector growth are disproportionate. The system generalized method of moments (GMM) results show that, while financial development helps economic growth, the extent to which finance helps growth is critically dependent on the simultaneous growth of the real and financial sectors. Okoye, Nwakoby, and Okorie (2016) investigated the impact of economic liberalization policy on the performance of Nigeria's industrial sector. The research looked at how dynamism in some key macroeconomic variables, such as the exchange rate, financial deepening, trade openness, and lending rate, affected the trend in output performance of Nigeria's industrial sector after reform. The study used a vector error correction mechanism on data from 1986 to 2014. The study's findings revealed that financial deepening has a significant positive impact on industrial output, while the Granger causality test revealed a weak causal relationship between financial deepening and industrial output, with trade openness and industrial output showing bi-directional causation.

METHODOLOGY

An Ex-Post Facto research design was used to investigate how financial development has

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explained and affected variation in the performance of Nigeria's industrial sector. The researcher cannot manipulate the variation in the variables in this type of research design because there are existing data available and published by government agencies from 1987 to 2021. The secondary data used in this study came from the Central Bank of Nigeria (CBN) annual reports and 2021 statistical bulletin. Unless otherwise stated, the data published in the statistical bulletin are on an annual basis.

The mathematical expression of a model's dependent and independent/explanatory variables is known as model specification. A modified model of Adeusi and Aluko (2015) on the relevance of financial sector development on real sector productivity: 21st century evidence from Nigerian industrial sector was adapted. The functional model of Adeusi and Aluko (2015) is expressed as:

$$IPO = f(DEPTH, BANK, PRIVATE, PRIVY) \quad (1)$$

Where:

IPO = Industrial sector production output

$DEPTH$ = Broad money or liquid liabilities (M2) to GDP.

$BANK$ = It is the quotient of deposit money banks' (DMBs) domestic credit and aggregate of domestic credit by DMBs and the central bank.

$PRIVATE$ = It is the ratio of credit extended to the private sector (CPS) to domestic credit by DMBs.

$PRIVY$ = This is derived by dividing CPS by GDP.

Modifying the model of Adeusi and Aluko (2015) result in the following four functional models for this study:

IIP = f(BMS)

Where:

IIP = Index of Industrial Production

BMS = Broad money supply

a_0 = constant coefficient

α_1 = coefficients of the independent variables

u = error term

t = time trend

Techniques for Data Analysis

The hypotheses and research questions were the basis for presenting the data analysed. The Auto-Regressive Distributive Lag (ARDL) estimation technique was applied in estimating the models. E-Views 10.0 was the econometric software used for the analysis of data.

Unit Root

The variables was diagnosed for unit root to ensure that they are not hampered by stationarity defect which most data possess that likely affect the robustness of results. The Augmented Dicky-Fuller (ADF) and Phillips-Perron tests were used to check the stationarity of the variables, for ADF and PP tests, the null hypothesis of non stationarity. To reject this, the p-value of the ADF statistics must be significant at 5% level of significance, however, 10% level of significance is accepted by checking the p-value of the variable concerned.

DATA ANALYSIS

Descriptive Statistics of Data

Table 1: Descriptive Statistics of Data

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
IIP	128.1749	130.6000	158.9000	90.57000	16.56164	-0.281898	2.558051	17.48393	0.000842	35
BMS	7947669	1952920	36014880	23810.00	1082822	1.333575	3.586745	10.87619	0.004348	35

Source: Output data from E-views 10.0

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According to Table 1, the mean of industrial sector contribution to the index of industrial production has a normal distribution with a kurtosis of less than 3 (2.558051), a standard deviation of 16.56, a mean of 128.17, and a skewness of -0.281898. During the study period, the maximum value of the index of industrial production was 158.90, while the lowest value was 90.57. When compared to the Jarque-Bera statistic and its associated probability, they did support the normality of the index of industrial production data set, with a probability of 0.0000. The mean broad money supply for the study period is N7, 947,669 million, with a maximum and minimum broad money supply for the study period of N36,014,880 million and N36,014,880 million, respectively. The standard deviation, skewness, and kurtosis all indicate that there is little variation from the mean value of the broad money supply during the study period (1986 - 2020). Furthermore, the data set is normally distributed, which fulfills a major requirement of an OLS test. Because the probability value leads to the rejection of the null hypothesis of a normal distribution, the Jarque-Bera test and the adjoining probability of 10.87 and 0.00, respectively, all support the fact that the data set on broad money supply is normally distributed.

Test of Hypothesis

H_0: Broad money supply and savings have not significantly explained and affected the variation in index of industrial production in Nigeria.

H_1: Broad money supply and savings have significantly explained and affected the variation in index of industrial production in Nigeria.

Table 2: ARDL Regression of IIP and Financial Development

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IIP(-1)	0.531520	0.178912	2.970849	0.0095
IIP(-2)	-0.301344	0.123690	-2.436283	0.0278
BMS	1.21E-05	2.19E-06	5.526955	0.0001
C	100.6932	20.94854	4.806694	0.0002
R-squared	0.974496	Mean dependent var		129.8942
Adjusted R-squared	0.948992	S.D. dependent var		16.53575
S.E. of regression	3.734593	Akaike info criterion		5.779476
Sum squared resid	209.2077	Schwarz criterion		6.519598
Log likelihood	-73.58187	Hannan-Quinn criter.		6.020737
F-statistic	38.20949	Durbin-Watson stat		2.205163
Prob (F-statistic)	0.000000			

Source: Author's E-views 10

According to the output in Table 2, broad money supply has a significant positive relationship with the index of industrial production in Nigeria, credit to the private sector has a positive but insignificant relationship with the index of industrial production, and market capitalization and savings have a significant negative relationship with the index of industrial production. Keeping private sector credit, market capitalization, broad money supply, and savings constant, the index of industrial production would be 100.69

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points. A percentage increase in broad money supply and credit to the private sector raises the index of industrial production by 1.21 and 2.79 factors, respectively, whereas a unit increase in market capitalization and saving lowers the index of industrial production by 1.31 and 2.32 factors, respectively. The adjusted R-square value of 0.948992 means that 94.89% changes in index of industrial production was as a result of joint variation in credit to private sector, market capitalization, broad money supply and savings, and this is highly significant at 5% significance level following the p-value (0.00) and f-statistic (38.20). There is no element of autocorrelation in the model as divulged by the Durbin Watson value (2.20).

CONCLUSION AND RECOMMENDATION

It is widely assumed that the financial sector is the catalyst for global economic growth and development; however, there is a widespread misconception that industrialization, as defined by the industrial sector, is widely regarded as a critical tool for accelerating global economic growth and development. This study examines the financial development and performance of the industrial sector in Nigeria from 1986 to 2020, using broad money supply and a variation index of industrial production for financial development and performance, respectively. This study discovered that financial development, as measured by broad money supply and savings, significantly explained and influenced variation in Nigeria's industrial sector output. This study complements the findings of Adeusi and Aluko (2015), who discovered that financial development is a viable means of increasing real sector productivity, and Zhang, Wang, and Wang (2012), who discovered that financial development is generally positively associated with production growth after controlling for many other factors associated with economic growth. This finding, however, contradicts the findings of Mohammed and Sidiropoulos (2006), who found a weak relationship between financial development and industrial growth in Sudan, attributing the weak relationship to inefficient resource allocation. To that end, this study concludes that financial development is critical to the growth of Nigeria's industrial sector. According to the findings of this study, the Central Bank of Nigeria (CBN) should continue to strengthen and regulate the process of financial procedures on areas of industrial sector and ensure commercial banks give adequate priority of their funds to industrial production due to its inherent benefits.

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