



# Banks Financing and Industrial Sector Performance in Nigeria

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**Abstract:** This paper examined the effect of banks financing on industrial sector growth in Nigeria. The objectives of the Study were to examine the effects of domestic money supply, banks credit and maximum bank lending rate on industrial sector performance in Nigeria. The Study is established on Bank-based monetary framework on the grounds that the hypothesis focuses on the positive functions of banks in industrial growth and development. Descriptive and Ex-post facto research designs were adopted to investigate the contribution of various bank financing variables to industrial sector growth measured by manufacturing sector output in Nigeria over a period of 15 years (2004-2018). Method of analysis was the linear regression model using fully modified ordinary least square model to estimate the individual effects of banks financing variables measured by banks credits, domestic money supply, and maximum bank lending rate on industrial sector growth measured by manufacturing sector output. The study revealed that industrial sector growth is strongly impacted upon by banks credits, domestic money supply, and maximum bank lending rate. The study concluded that, there is positive significant relationship between bank credits, domestic money supply and growth in the industrial sector. Therefore, the study recommended that, banks should continue to support the industrial sector through credit borrowing, this way, the dwindling nature of Nigeria industrial sector can be redressed through adequate credits provided by these banks. However, these credits should be given at lower interest rate.

**Keywords:** Banks Financing, Banks Credit, Domestic Money Supply, Manufacturing Sector Output, Maximum Bank Lending Rate

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## 1. Introduction

The advent of unrestricted market economy in the developing nations has been seemed cognizant effort in the development of the industry [17]. The role played by the banking industry through its financing cannot be over emphasized as it provides the necessary and desired impetus to industrial sector growth of the global economy. Banks provide ancillary services to firms and industries and also provide settlement and payment services to industries, thus facilitating their transactions and enhancing their growth [16].

Banks constitute an effective means in the industrialization process because of their financing role. Industrialization is globally believed to be a catalyst for rapid growth and development of any economy. As a process, it also presupposes the provision of appropriate institutions by the state [21]. The role of leading sector has usually been played by industrial sector under the industrialization process. Against this background, industrialization involves extensive technology based development of the productive (manufacturing) system of an economy [5].

One of the focus policies of a country is industrial development. Since independence, uninterrupted governance

in Nigeria has pursued various industrialization programmes with vigor [1]. One of the ways through which governments enhance industrial development of the countries is through industrial financing since investors find it difficult to carry on with industrial activities as a result of financing constraints. Many governments that were under-developed were also to develop rapidly through government participation by establishing financial institutions. To that effect, policies have been declared in which particular emphasis was placed on industrial development projects [2].

Banks are the key channel for financial intermediation in the economy. They are saddled with the responsibility of intermediating between the surplus and deficit units of the economy. They are crucial in improving the performance of the industrial sector. The Credits provided by these banks have improved investment leading to growth in the industrial sector and through them, banks objectives are expected to be met [9].

The critical role banks play in financing the industrial sector in Nigeria is credit extension. Amongst the various banking institutions in Nigeria; commercial and development banks have been the most effective in carrying out this function [13]. The bank of industry which is the oldest, largest and most successful development financing institution was reconstructed in 2001 out of the Nigerian Industrial Development Bank and was introduced as a development institution to accelerate industrial development through the provision of long term loans, equity finances and technical assistance to industrial enterprises [27].

In a bid to revitalize the industrial sector, the Nigerian Government implemented national development plans and programmes aimed at boosting productivity, as well as, diversifying the domestic economic base [32].

Prior to the creation of Central Bank of Nigeria, the Nigeria financial system was characterized by the absence of interdependence currency and machinery for industrial management, domination of expatriate industries, the industries were predominantly owned and controlled by foreigners, and the lack of local investment outlets resulting in excess funds being repatriated for investment overseas [10].

The consequence of this occurrence was the regard of any compelling technology for industrial improvement financing both for the public and private sectors. There were no capital markets, no stock trade, no development banking institution, and an undeniable deficiency of development bank propensity [6].

To address this in the Nigerian modern framework, the Central Bank of Nigeria (CBN) was built up by the Federal Government in March, 1958 under the Central Bank Act of 1958 and given the sole power to give legal tender currency in Nigeria, to sustain external reserves, to defend the value of the currency in the global market, to advance fiscal stability and sound financial structure in Nigeria [33].

To advance its formative capacities and guarantee that credit gets to the genuine area at single digit rates, the CBN has kept on supporting and empowering particular

establishments, for example, the Bank of Industry (BOI), the Bank of Agriculture (BOA), the Nigeria Export Import Bank (NEXIM) and the Urban Development Bank through financing, specialized help, guideline and management. The CBN has additionally helped through the arrangement of specific credit plans at concessionary loan costs, especially in the areas of agricultural finance, export promotion and small and medium scale enterprises.

Notwithstanding these mediations, loan costs charged by banks have stayed high, making credit costly for the industrial sector, especially those occupied with capital concentrated creation forms. This has prompted the collapsing up of assembling firms adding to job losses and declining yield. The test, in this manner, has been the assurance of the degree to which the expense of getting as reflected in the predominant loaning rates charged by banks impacts the exhibition of the modern area in Nigeria [26]. Therefore, in the light of the above considerations, the researcher seeks to examine how banks financing has contributed to the growth of the industrial sector in Nigeria.

## 2. Review of Literature

### 2.1. Conceptual Review

#### 2.1.1. Industrial Growth in Nigeria

Industrial growth refers to the expansion of a country's manufacturing activities, including the generation of electricity and the growth of its communications network. It is a procedure of reducing the relative importance of its extractive industries and of increasing the relative importance of the secondary and tertiary sectors. The most prominent feature of an underdeveloped economy is the dominance of agricultural and extractive sectors in the economy [20].

The rapid industrial growth and development in Nigeria is the key to the change from static and subsistence economy to a dynamic and self-reliant one [11]. Moreover, it is extensively held that a rapid rate of industrial growth would produce the much needed less dependent economy and thus facilitate the attainment of national objectives of enhanced real per capita income, greater employment generation, increased local sourcing of raw materials and development of local industrial technology.

According to previous study, Nigeria has mounted several other forms of policies to promote industrial output growth which are the reflection of different prevailing economic periods in the country and during these periods, the patterns of industrial output growth have been uneven [25]. They further asserted that, there are four prominent periods in the course of Nigeria industrial growth which are the; positive global price shocks (1973-1980), international oil glut (1980-1985), SAP and the oil price shocks resulting from the Gulf War (1985-1990) and recent trends including the present years of civilian rule (1990-2014).

The industrialization in Nigeria ascended between years 1973 and 1981 during the oil boom era, with manufacturing share of GDP reaching 11% [29]. This performance was not

however sustained as the sector experience abrupt decline to 5% in 2000 which less than the proportion at independence was in 1960.

In 2000, manufacturing export was barely 0.4% of exports, while imports of manufactured goods were about 60% of total import. More than 50% of the gross domestic product (GDP) was accounted for by the primary sector with agriculture continuing to play an important role. By contrast, the oil and gas sector shrank during 2006-2010 as its share of GDP declined from about 25 percent in 2005 to about 16 percent in 2010 [23].

With an average annual real growth rate of -3 percent, the sector's contribution to GDP growth was negative between 2005 and 2009. It however had a positive growth rate in 2010 as normalcy returned to the Niger Delta region. Manufacturing sector's contribution to real GDP growth which declined from over 5 percent in 2005 to about 3.96 percent in 2009, however edged up to 4.14 per cent in 2010 [28]. Recently, Nigeria's Industrial production fell 2.9 per cent in Sep 2019, however, following an increase of 4.7 per cent in the previous quarter.

### **2.1.2. Banks' Financing Role in the Industrial Sector in Nigeria**

The industrial sector is an opportunity for expanding efficiency identified with import substitution and export development, generating foreign trade optimal capacity; and increasing job opportunities and standard of living of the nation's citizens which causes unique consumption patterns [16].

Besides, it makes investment capital at a quicker rate than some other segments of the economy while advancing more extensive and increasingly viable linkages among various segments. As far as commitment to the Gross Domestic Product (GDP), the industrial sector is leading and it has surpassed the services sector in various Organizations for Economic Co-operation and development (OECD) countries [4].

The basic function of the banking industry is the financial intermediation role. It is characterized as the way towards transferring of funds from the sector with excess funds to the sector with shortage of funds. Banks perform their financial intermediation role by combining bank deposit and transforming them into bank loan [7]. As such, the intermediation role of banks is such that, banks have the professional competence of merging the interest of accountholders with those of debtors by giving much a coordination function for two stakeholders [21]. Thus, banks intermediation capacities involve development, positive change and division of the saving and investment functions in an economy.

Furthermore, the banks may go about as impetus to modern development given that they are adequately enormous to activate a minimum amount of organizations and they have adequate market power, however this is definitely not a significant condition [32]. He said that, there is a connection between quick industrial development and

banks financing. In the same vein, [13] opined that they stimulate local trade and provide sufficient liquidity for the production sector. He further clarified that banks impact the financing decisions of companies through their loaning exercise, in this way, giving them the opportunity to decide on most optimal financing option. Thus, the transactions and development of industries in Nigeria are improved through proper and adequate provision of settlement and payment facilities issued by banks.

However, many industries have collapsed and foreign firms have also moved away from Nigeria to other favorable environments. The basic challenges of all business, both domestic and foreign, are lack of finance, personal and property security, poor governance, poor infrastructure, etc. [24]. The most important of all is lack of finance which is where the banks come into play through providing finance to support the establishment of new firms and even the expansion of existing ones.

While high interest rate on saving deposits stimulated the supply of savings to the banking system, the high cost of borrowing in the form of high lending rates discouraged borrowers, especially the private sector producers and investors. Thus, the high cost of borrowing leads to high cost of production. On the other hand, interest rate spread has negative impact on industrial growth since it led to high cost of borrowing [29]. Therefore, they argued that an increase in supply of banks credits to the industries is expected to improve industrial growth.

## **2.2. Theoretical Framework**

### **2.2.1. Theory of Bank-based Financial System**

The theory of bank-based financial system was proposed by Joseph Stiglitz in the year 1985. This theory believes that financial intermediaries can improve the acquisition of information on industries, the concentration with which creditors exert corporate control, the provision of risk-reducing arrangements, and the mobilization of capital. This is in support of well-established banks. It isn't, however, a contention in support of a bank-based financial system. The case for a bank-based framework, rather, originates from an assessment of the role of markets in providing financial facilities.

A significant part of industrialization procedure is the advancement of a self-governing money related framework, that is, a lot of specific associations and organizations managing the exchange of installments for the progression of reserve funds and businesses. While all industrial segments have a specific financial framework, comparison of these systems indicates considerable structural diversity. The correlation of these frameworks shows extensive auxiliary decent variety and a key distinction is how many monetary frameworks are bank-based or advertise based [8].

This Study is predicated on Bank-based monetary framework on the grounds that the hypothesis focuses on the positive functions of banks in industrial growth and development which involves that banks can invest funds to foster industrial development more viably than business

sectors in creating economies, and, on account of state-controlled banks, market failures can be survived and the portion of reserve funds can be embraced deliberately. Consequently, banks can settle on investing in the industrial sector without uncovering their choices promptly out in the open markets and this serves as motivation for them to investigate firms, supervisors, and economic situations with positive outcomes on asset allocation and development. Additionally, the theory stresses that powerful banks with close empathy to industries are more effective at exerting pressure on firms to re-pay their debts than atomistic markets.

### 2.2.2. The Quantity Theory of Credit

The author in his work towards a quantity theory of disaggregated credit and international capital flows presented the Quantity Theory of Credit with a central focus on different equation of exchange distinguishing between money used for industrial transactions and money used for non-industrial transaction [34]. He further stressed that money should not be defined as bank deposits or other aggregates of private sector savings. More so, that bank should not be seen as not being financial intermediaries that lend existing money, rather creators of new money through the process of lending. In addition, industrial growth requires increased transaction in industrial activities, which in turn require larger amount of money to be used for such transactions; therefore, the money used for transactions can only rise if banks create more credits. The bank credit can be disaggregated into credit for industrial and non-industrial transactions.

Consequently, the effect of bank credit depends on its quantity and quality which is defined as whether it is used for unproductive transactions (credit for consumption or asset transactions, producing unsustainable consumer or asset inflation, respectively) or productive transactions (delivering non-inflationary growth). Credit used for productive transactions aims at income growth and is sustainable; credit for asset transactions aims at capital gains and is unsustainable.

## 3. Methodology

### 3.1. Research Design

Descriptive and ex-post facto research designs were adopted for the purpose of this study. These research designs were utilized in view of the fact that the data needed for analysis already exist and enable exploring relationships between two or more variables.

### 3.2. Sources of Data

The data for this study was obtained mainly from secondary sources. In order to investigate the relationship between banks financing and industrial growth in Nigeria, information concerning banks credit, maximum lending rate, domestic money supply and manufacturing sector output covering the period of years 2004-2018 (15 years) were retrieved from Central Bank of Nigeria Statistical Bulletin

and National Bureau of Statistics.

### 3.3. Method of Data Analysis

Regression analysis was adopted to obtain interpretable findings. The order of integration was examined using Augmented Dickey Fuller (ADF) test. Johansen Co-integration test was used to test the co-integrating relationship among the variables. Thus, co-integrating regression model using fully modified ordinary least square was adopted in testing the hypotheses. The reason for this was to examine the significance of each independent variable on Manufacturing Sector Output.

### 3.4. Model Specification

The models to be used are expressed mathematically as thus

Equations one and two can written as

$$IG=f(BF)$$

$$BF=(BC, MLR, \text{ and } DMS) \quad (1)$$

$$IG=MSO$$

$$MSO=f(BC, MLR, \text{ and } DMS) \quad (2)$$

Where:

IG=Industrial Growth, BF=Banks Financing; BC=Banks' Credits; MLR=Maximum Lending Rate; DMS=Domestic Money Supply, MSO=Manufacturing Sector Output.

Multivariate Regression model would be;

$$Y=\alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n + \varepsilon$$

$$MSO=\alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots \quad (3)$$

Where; Y represents industrial growth in Nigeria, measured by manufacturing sector output (MSO),  $X_1=BC$ ,  $X_2=MLR$ ,  $X_3=DMS$ .

$\alpha$ =the constant term;

$\beta$ =the coefficient of the variables;

X=the value of independent variables;

$\varepsilon$ =error term.

Thus, Regression equation becomes;

$$MSO=\alpha + \beta_1 [BC] + \beta_2 [MLR] + \beta_3 [DMS] + \varepsilon \quad (4)$$

## 4. Results and Discussions

### 4.1. Descriptive Analysis

This section of the analysis provides an overview on the data set while attempt is also made to describe the main attributes of the data.

The descriptive statistics presented in table 1 gave a glimpse of the central tendencies, measure of dispersion, minimum and maximum values, degree of peakedness, asymmetric value, and the Jarque-bera statistics of all the series used in the study.

**Table 1.** Descriptive Statistics

	BCT	DMS	MLR	MSO
Mean	1185.392	12480.08	23.57400	2923.408
Median	1053.210	12172.49	22.62000	2667.540
Maximum	2230.740	25079.72	31.09000	5332.360
Minimum	332.1100	2131.820	18.36000	1165.660
Std. Dev.	663.7911	7391.454	4.131303	1373.366
Skewness	0.337244	0.144893	0.431148	0.238150
Kurtosis	1.880996	1.878764	2.169833	1.635067
Jarque-Bera	1.066940	0.838217	0.895458	1.306190
Probability	0.586566	0.657633	0.639078	0.520432
Sum	17780.88	187201.2	353.6100	43851.12
Sum Sq. Dev.	6168660.	7.65E+08	238.9474	26405883
Observations	15	15	15	15

Source: Computer Output E-views, (2020).

The analysis revealed the location of the center of distributions of the series via the average values (mean), the minimum values, maximum values as well as how individual variable values are spread on each side of the centre via the root mean squared deviation (standard deviation), thus revealing the uniformity of the items in the distribution of each variable.

The peakedness of each variable is given by the kurtosis statistics, the symmetric nature of the series given by the skewness value while the normality condition of each of the series is given by the Jarque-Bera statistics.

The table showed average values of 1185.39, 12480.08, 23.574, and 2923.41, for banks credit, domestic money supply, maximum lending rate and manufacturing sector output respectively. The minimum and maximum values of banks credit were ₦332.11 billion and ₦2,230.74 billion respectively. For domestic money supply, the table revealed minimum and maximum values of ₦2,131.82 billion and ₦25,079.72 billion respectively. Minimum and maximum values of maximum lending rate reported in table 1 stood at 18.36% and 31.09% respectively. The table reported minimum value of ₦1,165.66 billion for manufacturing sector output while the maximum value stood at ₦5,332.36 billion.

From the table it was observed that all the variables are skewed to the right, given the corresponding positive

skewness statistics of 0.337, 0.1450, 0.431, and 0.238 for banks credit, domestic money supply, maximum lending rate and manufacturing sector output respectively. Their positive values of skewness show that, the coefficients of the variables are positive and their means are greater than median values, also the positive skewed distribution is also showing that there is lower risk than what the standard deviation measures.

As regards Kurtosis, a kurtosis with distribution greater than 3 is a leptokurtic distribution. A leptokurtic distribution (greater than 3) has a sharper peak with lower probability than a normal distribution of kurtosis whose value is equal to 3. A kurtosis with less than 3 is a platykurtic distribution which has a lower and wider peak with higher probability than leptokurtic and normal distribution. Notably, the kurtosis statistics revealed that banks credit, domestic money supply, maximum lending rate and manufacturing sector output are platykurtic (i.e positive kurtosis values are less than 3).

The Jarque-bera statistics revealed that the normality hypothesis stands for all the variables and they are normally distributed given their corresponding probability values of 0.587, 0.658, 0.639 and 0.520 respectively. The above analysis is meant to only reveal the descriptive statistics of each of the variables.

Therefore, no inference was drawn from the characteristics observed. It can also be seen that all the variables have 15 observations. This can be attributed to availability of information on the variables used in the study.

#### 4.2. Unit Root Diagnostic Test

A stationarity test on the variables was performed. Economic theory requires that variables be stationary before application of standard econometric techniques. This is to avoid misleading results. In performing the stationarity test, a maximum lag of 3 was used and included in the intercept. The Augmented Dickey-Fuller (ADF) unit root test was conducted on each of the series under study.

**Table 2.** Unit Root Test Results

	Level			1st Difference		
	ADF-Fisher Chi-Square					
	Intercept	Intercept and Trend	None	Intercept	Intercept and Trend	None
BCT	0.8927	0.3810	0.9791	0.0201**	0.1182	0.0249
DMS	0.9962	0.2962	1.0000	0.0092**	0.0258	0.7049
MLR	0.1612	0.1612	0.9836	0.0894	0.0135	0.0109**
MSO	0.9900	0.3408	0.9922	0.0437**	0.2473	0.4885

\*\*5% level of significance.

Source: Extract from Computer Output, E-views, 2020.

**Table 3.** Summary of Unit root tests.

Augmented Dickey-Fuller (ADF)				
Variables	Level	First Difference	I(d)	Remarks
BCT	-	0.0201**	I(1)	Stationary
DMS	-	0.0092**	I(1)	Stationary
MLR	-	0.0109**	I(1)	Stationary

Augmented Dickey-Fuller (ADF)				
Variables	Level	First Difference	I(d)	Remarks
MSO	-	0.0437**	I(1)	Stationary

\*\*5% level of significance.

Source: Extract from Unit Root Test Result, Table 2.

In order to explore the integration order among the variables, the study used the Augmented Dickey Fuller (ADF) Test. This tool of unit root test (ADF) was tested for all the variables by taking null hypothesis as 'presence of unit root' test and the alternative hypothesis as 'absence of unit root'. If the calculated probability value exceeds the bench mark probability value (0.05), then, null hypothesis is accepted; it is concluded that series is stationary and vice-versa.

It is clear from the table 3 above that the result for unit root test of ADF showed that none of the variables was stationary at level indicated as I(0) on table 3, but they were stationary at first difference indicated as I(1). This implies that co-integrating regression estimate is the appropriate estimation technique as the series are in the same order of integration, thus, it is clear that all

the variables have unit root in their level form but at first difference, the variables were stationary. Thus, the model follows integrating process and Johansen co-integration test was conducted in this context.

### 4.3. Co-integration Analysis

The main drive of this analysis was to ascertain whether a linear combination of the integrated variables becomes stationary in the long run period; if this holds then co-integration exists among the variables (i.e. long run relationship among the variables). The two types of Johansen test; Trace test and Maximum Eigenvalue are used to determine number of integrating ranks and vectors.

**Table 4. Result of Johansen Co-integration Test.**

<b>Date: 03/15/20 Time: 12:03</b>				
<b>Sample (adjusted): 2006 2018</b>				
<b>Included observations: 13 after adjustments</b>				
<b>Trend assumption: Linear deterministic trend</b>				
<b>Series: BCT DMS MLR MSO</b>				
<b>Lags interval (in first differences): 1 to 1</b>				
<b>Unrestricted Cointegration Rank Test (Trace)</b>				
<b>Hypothesized</b>		<b>Trace</b>	<b>0.05</b>	
<b>No. of CE (s)</b>	<b>Eigenvalue</b>	<b>Statistic</b>	<b>Critical Value</b>	<b>Prob.</b>
None	0.970287	72.96996	47.85613	0.0001
At most 1	0.750842	27.25992	29.79707	0.0954
At most 2	0.399604	9.194240	15.49471	0.3477
At most 3	0.178878	2.562082	3.841466	0.1095

Both the trace statistics and max-eigen statistics rejected the null hypothesis of no co-integration at the 0.05 level (i.e. the values of trace and max-eigen statistics are greater than the critical values at 0.05) of only one co-integrating equation while the null hypotheses of three co-integration among the variables were not rejected at the 0.05 critical level. Hence, the johansen methodology concludes that there exists only one co-integrating relationship among the variables implying that there is no long run equilibrium relationship among the variables.

### 4.4. Testing of Hypotheses

The regression model using fully modified ordinary least square was required in testing the hypotheses. The

justification for this is to examine whether each independent variable has significant impact on MSO. The decision rule was to accept the alternate hypothesis and reject the null hypothesis if the P-value obtained was lower than the 5% (0.05) benchmark specified in E-views for the analysis or to accept the Null Hypothesis and reject alternate hypothesis if otherwise.

#### Hypothesis 1

H<sub>0</sub>1: Banks' Credits have no significant impact on the growth of industrial sector in Nigeria.

H<sub>1</sub>1: Banks' Credits have significant impact on the growth of industrial sector in Nigeria.

**Table 5. Hypothesis One Regression Result**

<b>Dependent Variable: MSO</b>				
<b>Method: Fully Modified Least Squares (FMOLS)</b>				
<b>Date: 03/15/20 Time: 13:10</b>				
<b>Sample (adjusted): 2005 2018</b>				
<b>Included observations: 14 after adjustments</b>				
<b>Cointegrating equation deterministics: C</b>				
<b>Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth=3.0000)</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
BCT	2.094663	0.270705	7.737809	0.0000
C	433.5094	376.8795	1.150260	0.2724
R-squared	0.856038	Mean dependent var		3023.934
Adjusted R-squared	0.844041	S. D. dependent var		1366.741
S. E. of regression	539.7477	Sum squared resid		3495930.
Durbin-Watson stat	1.138730	Long-run variance		394880.3

Source: Computer Output, Eviews 7 (2020).

Results of the statistical analysis shown in table 5 reveals that there was a positive significant relationship between banks credit and manufacturing sector output. This was evident from the coefficient (2.094663) and P-value (0.0000) associated with banks credit which was less than the benchmark of 5 per cent specified for this analysis. This outcome basically implied that, with all other variables held constant, an increase or a change in banks credit by one unit resulted in a 2.095 per cent increase in manufacturing sector output in Nigeria. As a result, the null hypothesis which

states that “Banks’ Credits have no significant impact on the growth of industrial sector in Nigeria” was rejected. Therefore, banks credits have significant impact on the growth of industrial sector in Nigeria.

#### Hypothesis 2

H<sub>0</sub>2: Domestic Money Supply has no significant impact on the growth of industrial sector in Nigeria.

H<sub>1</sub>2: Domestic Money Supply has significant impact on the growth of industrial sector in Nigeria.

**Table 6.** Hypothesis Two Regression Result

Dependent Variable: MSO				
Method: Fully Modified Least Squares (FMOLS)				
Date: 03/15/20 Time: 13:40				
Sample (adjusted): 2005 2018				
Included observations: 14 after adjustments				
Cointegrating equation deterministics: C				
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth=3.0000)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DMS	0.191085	0.016101	11.86800	0.0000
C	544.6167	239.4570	2.274382	0.0421
R-squared	0.933364	Mean dependent var		3023.934
Adjusted R-squared	0.927811	S. D. dependent var		1366.741
S. E. of regression	367.2173	Sum squared resid		1618182.
Durbin-Watson stat	0.807595	Long-run variance		168538.8

Source: Computer Output, Eviews 7 (2020).

Results of the statistical analysis shown in table 6 reveals that positive significant relationships between domestic money supply and manufacturing sector output. This was evident from the coefficient (0.191085) and P-value (0.0000) associated with domestic money supply which was less than the benchmark of 5 per cent specified for this analysis. This outcome basically implied that, with all other variables held constant, an increase or a change in domestic money supply by one unit resulted in a 0.191 per cent increase in manufacturing sector output in Nigeria. As a result, the null

hypothesis which states that “domestic money supply has no significant impact on the growth of industrial sector in Nigeria.” was rejected. Therefore, domestic money supply has significant impact on the growth of industrial sector in Nigeria.

#### Hypothesis 3

H<sub>0</sub>3: Maximum Bank lending rate has no significant impact on the growth of industrial sector in Nigeria.

H<sub>1</sub>3: Maximum Bank lending rate has significant impact on the growth of industrial sector in Nigeria.

**Table 7.** Hypothesis Three Regression Result

Dependent Variable: MSO				
Method: Fully Modified Least Squares (FMOLS)				
Date: 03/15/20 Time: 13:51				
Sample (adjusted): 2005 2018				
Included observations: 14 after adjustments				
Cointegrating equation deterministics: C				
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth=3.0000)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MLR	318.7290	31.31021	10.17971	0.0000
C	-4575.460	755.0464	-6.059839	0.0001
R-squared	0.901446	Mean dependent var		3023.934
Adjusted R-squared	0.893233	S. D. dependent var		1366.741
S. E. of regression	446.5853	Sum squared resid		2393261.
Durbin-Watson stat	1.101872	Long-run variance		226280.7

Source: Computer Output, Eviews 7 (2020).

Results of the statistical analysis shown in table 7 reveals that positive significant relationships between maximum bank lending rate and manufacturing sector output. This was evident from the coefficient (318.73) and P-value (0.0000)

associated with maximum bank lending rate which was less than the benchmark of 5 per cent specified for this analysis. This outcome basically implied that, with all other variables held constant, an increase or a change in maximum bank

lending rate by one unit resulted in 318.73 units increase in manufacturing sector output in Nigeria. As a result, the null hypothesis which states that “Maximum Bank lending rate has no significant impact on the growth of industrial sector in Nigeria.” was rejected. Therefore, Maximum Bank lending rate has significant impact on the growth of industrial sector in Nigeria.

#### 4.5. Discussion of Findings

The result of the regression analysis indicated that all the independent variables (banks credit, domestic money supply, maximum lending rate) collectively have positive and significant impact on growth of industrial sector in Nigeria.

From the findings made in hypothesis one, the result indicates that banks credit is a major tool stimulating industrial sector growth in Nigeria. This result conforms to the positive aprior expectation as stated earlier in the Study. Furthermore, this finding is similar to the work of [9]; they found out that commercial bank credits impacted positively and significantly on the manufacturing sub-sector in Nigeria. It has been found that there is a significant positive relationship between bank credit to the private sector, as well as, broad money and economic growth [10].

From the findings made in hypothesis two, the result conforms to the positive aprior expectation as stated earlier in the Study. This indicates that an increase in money supply will cause a fall in interest rate and demand for investment will increase. However, the fall in interest rate also implies cheap credit for consumption by the industries. The findings of hypothesis two is in disagreement with the work of [18]. His research was predicated on the classical quantity theory, keynesian theory and the monetarist theory that provided justifications for the conceptual and empirical discussion. His findings revealed that there is no predictive power of money supply in explaining industrial growth and the increment in money supply is incapable of generating growth in the Nigerian industrial sector. Also, there is a negative relationship between money supply and gross domestic product [19]. Causality test also showed that money supply did not have the predictive power in explaining the growth of the real gross domestic product. However, the findings revealed that there is a positive relationship between money supply and output, granger causality test showed that money supply doesn't granger cause output but on the other hand causality runs from output to money supply, showing a unidirectional relationship [22].

From the findings made in hypothesis three, the result is against the negative sign of aprior expectation stated in this Study and also the work of [3]. Their empirical results indicated that high lending rate had negative impact on manufacturing output in the long-run which indicates that increase in lending rate undermines manufacturing output, thus retarding growth in the real sector. Conversely, banks' lending rate, exerted positive and significant impact on the growth of the manufacturing sector in Nigeria [12].

## 5. Conclusion and Recommendations

### 5.1. Conclusion

This study has examined the impact of banks financing on growth of industrial sector in Nigeria using and macro-economic variables approach. Specifically, the study investigated the relationship between bank financing measured by (banks credit, domestic money supply and maximum lending rate) and the growth of Nigeria's industrial sector measured by manufacturing sector output. Emanating from the findings made in the study, the study concluded that the liberalization of interest rates in Nigeria left a positive trail on the growth of the Nigerian industrial sector. It has also succeeded to establish that, there is positive significant relationship between bank credits, domestic money supply and growth in the industrial sector. Therefore, from the overall result, the study concluded that effective banks financing plays a noteworthy part in the growth and development of Nigeria's industrial sector.

### 5.2. Recommendations

In view of the positive relationship between banks financing variables (banks credit, domestic money supply and maximum lending rate) and industrial sector growth, the study recommended the following:

Deposit Money Banks should continue to enlarge their horizon by increasing the range of services that they offer to the industrial sector. They should also continue to support the industrial sector through credit borrowing, this way, the dwindling nature of Nigeria industrial sector can be redressed through adequate credits provided by these banks.

Monetary Policy authorities should focus on domestic money supply as a major tool of banks financing in causing growth in the Nigerian industrial sector since results show that money supply contributes positively to the performance of the industrial sector in Nigeria. Through the banking sector, government should also develop the industrial sectors of the economy through its capital expenditure. With this, capital expenditure on productive activities and social overheads capital will contribute positively to industrial sector growth which will invariably enhance economic growth in Nigeria.

Policy makers should pursue policies that create the competitiveness of the industrial sector by reducing the lending rate in the banking system. This could include the provision of concessionary interest rates targeted at the industrial sector. Thus, there is need for government to strengthen bank lending rate policy through effective and efficient regulation and supervisory framework.

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