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Bank Credit and Growth of Manufacturing Sector in Nigeria

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Abstract
The study investigated Deposit Money Banks Credit and Growth of Manufacturing Sector in Nigeria from 2005-2019. To achieve this objective, the study adopted a survey research design and data were gathered through secondary sources. The secondary data were variously collected from central Bank of Nigeria (CBN) annual report on various issues, National Bureau of Statistics (NBS), Nigerian Deposit Insurance Corporation (NDIC) annual report and Manufacturers Association of Nigeria (MAN)annual bulletin on Gross Domestic product (RGDP), Broad money supply(M_2), Lending interest rate (LIR) and Exchange rate(EXR). Data gathered were tested for co-integration using Augmented Dickey-fuller (ADF) and vector error correction model (VECM) techniques. Multiple linear regressions were used to test the hypotheses formulated for the study. The data analyzed shows that there is a significant positive relationship between Deposit Money Banks Credit and Growth of Manufacturing sector in Nigeria. On the basis of the findings, the study recommends that the monetary authority should take a deliberate effort to fashion out lending interest rate that will make credit from the Deposit Money Banks affordable to economic agents in the manufacturing subsector. The current situation where return on investment in the subsector is less than the lending interest rate discourages investors in the manufacturing subsector from borrowing funds for the development of the subsector, the study concludes.

Key words: *Bank credits, Manufacturing sector, Interest rate, Gross domestic product, Broad money supply*

Introduction

Bank credit and manufacturing sector have remained two inseparable concepts in the vocabulary of nations' quest for sustainable socio-economic growth and development. The manufacturing sector depends on the financial sector to raise and meet its capital requirements just as the financial sector needs the manufacturing sector for its growth through deposits. This follows the submission of Aurangzeb (2012) that there is bidirectional causal relationship between finance and economic growth. Banking sector development follows real sector development occasioned by higher demand for financial services by the manufacturing sector as a result of growth and expansion. The growth and expansion lead to demand for both physical and liquid capital (Olanrewaju, et al., 2015, Nwabuisi etal, 2020). The manufacturing sector through its expansionary activities creates jobs. Those employed in turn becomes customer of banks from whom deposits are collected for safe custody. This is how cyclical the relationship between banks and manufacturing sector is. Thus, the level of growth of the manufacturing sector to some extent is complementary to the survival of the banking system as well as the quantum of banking sector credit (Iwedi, et al., 2015, Oparah etal, 2023). The banking sector therefore exists to galvanize economic growth through the real sector in which the manufacturing subsector is one.

Manufacturing sector by the nature of its activities requires sophisticated technology, machinery, imported raw material among others which requires a huge capital outlay. In most cases the capital requirement is beyond the financial capacity of the owners to provide, hence, the need to look outside the organization to source for fund. As a value-added creation sector, the manufacturing sector is significant to the economy of the nation

in several folds. As mentioned earlier, it creates employment, makes the nation to be self sufficient through increased export volume, and generates income for the government as well as conserve foreign exchange earnings. Also a robust manufacturing sector has the capacity to stem the tide of foreign induced inflation and preserve the dwindling value of naira relative to other world currencies. Thinking along this line, Ugwuanyi and Utazi (2016) posited that the manufacturing sector is a leading sector and that it is a vehicle for increasing productivity, import replacement, export expansion, generating foreign exchange, raising employment and per capita income. To this end, Orji (2012) held that the manufacturing sector plays a pivotal role in capital formation and general prosperity of the country

For the manufacturing sector to achieve these lofty goals, credit facilitation by the relevant monetary policy authorities becomes imperative. However, the nation's monetary policy rate which is within two digits coupled with the bank lending rate is still very high compared to what is obtainable in the developed economies around the world, still pose a lot of challenges. This has affected in no small measure the capacity utilization of the sector which Audu and Umar (2019) put at 55.37% and consequently the ability of the manufacturing sector to compete at the international arena.

MAN (2017) revealed that 270 manufacturing firm closed operations in 2016 alone and that the capacity utilization of the sector stands at41.2%. Stressing further, MAN (2017) held that other manufacturing firms that have not liquidated are operating at a loss and others still are retrenching workforce just to stay in business and that the sector's contribution to the nation's Gross Domestic Product (GDP) stood at a pantry 4%. This is indeed a gloomy outlook of a sector that supposed to drive the economy of the nation.

This situation calls for a study like this to examine the relationship between bank credit and the growth of the manufacturing sector in Nigeria covering the post bank consolidation era of 2005- 2019.

Statement of the Problem

Manufacturing subsector is the driving force behind growth of nations. Hence, a well develop manufacturing sector generates employment, foreign exchange earnings; increase exports and reduce over-dependent on imported goods (Ogar et al, 2018). There is no gain saying therefore that the optimal performance of the sector improves the general well-being of the nation. However, the poor performance of the subsector has led to a lot of socio-economic dislocations confronting the nation. For instance, the poor performance of the sector has led to unemployment and consequent crimes of diverse dimensions, decreasing foreign exchange earnings as well as imported inflation arising from large inequality between naira and dollar among others confronting the government. On the part of the citizens, they have idle youths and weakening purchasing power as a result of foreign induced inflation.

The poor performance of the subsector in the view of experts was partly as a result of in adequate fund to drive the required growth in the subsector (Tomola et al, 2012, MAN, 2017, & Ogar, 2018).

Consequently, government has come out with policy initiatives aimed at making credits available to players in the manufacturing sector to boost the performance of the subsector. Such policy includes directives to Deposit Money Banks to offer twenty percent of their loans to the subsector, reduce interest rates and lower requirements for collaterals among others.

In spite of these deliberate polices by government to make investment credits available and affordable to the subsector, the performance of the sector is still very low. Its contribution to GDP is just 4 %. This is a far cry from the 15-30% required of the subsector to make Nigeria one of the largest economies in the world by year 2020. Besides, the indices of performance in the subsector are still abysmally low. For instance, manufacturing value added is very low at an average of 10%, capacity utilization is very low at 41.9%, and contribution to GDP is mere 4 % (MAN, 2017). All these necessitate a re-examination of the relationship between Deposit Money Bank Credits (DMBs)and the performance of the manufacturing subsector of the Nigerian economy covering 2005- 2019.

The study was guided by the following research objectives, questions and hypotheses

Research Objectives

The main objective of the study is to determine the nature of relationships that exist between bank credit and the growth of the manufacturing subsector in Nigeria. The specific objectives that drive the study are to:

i. examine the effect of money supply on manufacturing subsector growth in Nigeria
ii. ascertain the influences of exchange rate on the growth of manufacturing subsector in Nigeria
iii. determine the relationship between bank lending interest rate and the growth of manufacturing sector in Nigeria

Research questions

i. What is the effect of money supply on the growth of manufacturing subsector contribution to GDP in Nigeria?
ii. What nature of influence does exchange rate have on the growth of manufacturing subsector in Nigeria?
iii. What is the effect of lending interest rate on the growth of manufacturing subsector in Nigeria?

Research Hypotheses

i. That money supply has no significant relationship with the growth of manufacturing sector in Nigeria
ii. That exchange rate has no relationship with the growth of manufacturing subsector in Nigeria
iii. That lending interest rate has no relationship with the growth of manufacturing subsector in Nigeria.

Conceptual clarifications

The Concept of Bank Credit

Bank is a formal financial institution recognized by law to accept deposits from the public for safe keeping. Bank credit according to Ogar, et al., (2018) is the fund based and non-fund based activities of the banking institutions that are offered to the relevant sector of the economy that make them vulnerable to risk of financial losses of varying degrees at a cost known as interest rate. The word credit according to Usman (2018) comes from a Latin word "credo" which means "I believe". Hence, credit is granted based on belief, confidence and above all trust and faith. This presupposes that credit is predicated on the ability to command capital or services currently with a proviso that payment will be made at a later agreed date.

To this end, Pandey (2012) submitted that credit implies ability to command the others' capital in return for a promise that such credit will be redeemed at some specific time in the future. From the foregoing therefore, credit involves the ability and willingness to borrow. It is the considered submission of Usman (2018) that it is an individual capacity that is often being considered as an economic good to be produced, managed and marketed.

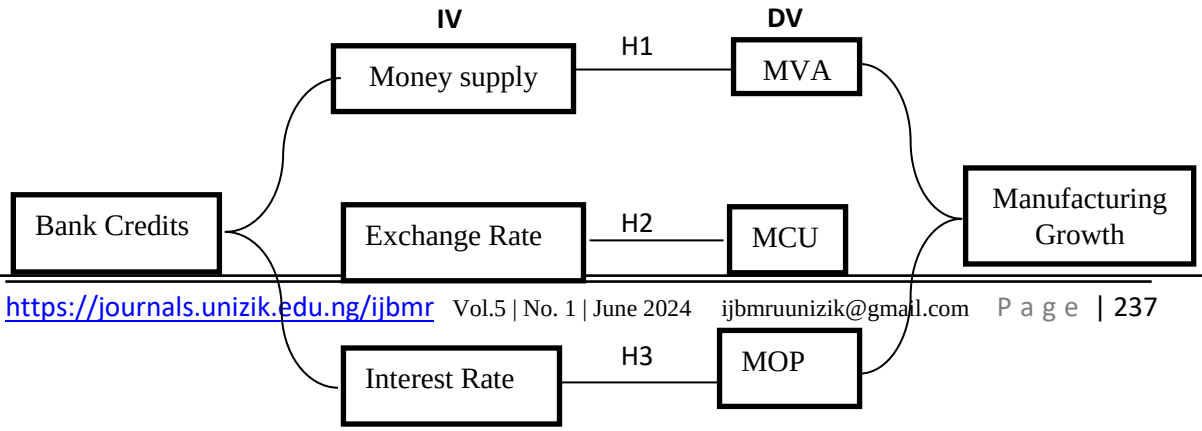
There are essentially four Cs of credit, namely, character, capacity, capital and condition that must be investigated before lending. Also, there are seven Ps of credit which includes purpose, person, productivity-planning scheme, phased disbursements, proper utilization, payment of installment and protection (Usman 2018). Usman 2018 held that credit is regarded as more than just another resource such as land, labour and equipment because it is a determinant to access to other resources required by the manufacturing sector. This finds its justification on the fact that the adoption of new technology requires the use of some improved and state of the art equipment to be acquired or purchased. Hence, credits serves as a catalyst for manufacturing subsector by energizing potentials or employ underused capacities to be functional in the subsector.

Bank credit is therefore a generic description for loans and advances extended by banks to individuals, institutions and investors to further the course of their business. It provides an avenue for the mobilization and deployment of fund from the surplus economic unit to the deficit unit. Bank provides an avenue for people and institutions to save their surplus money and those with deficit to borrow from them. Bank credit creates a seamless avenue for exchange of funds between lenders, investors, and borrowers.

The Concept of Growth of Manufacturing Sector

The concept of manufacturing growth is used in this context as a measure of the degree to which the manufacturing subsector has contributed to the growth of the nation's gross domestic product (GDP). The growth can be measured by the level of contribution made by the manufacturing firms output to the gross domestic product (GDP), manufacturing output (MOP) capacity utilization (MCU) as well as the manufacturing value added (MVA)

Figure 1: Conceptual Framework



In the framework, Bank Credits is the independent variable while growth of manufacturing output is the dependent variable represented by GDP. To achieve research objectives, the independent variable were decomposed into three comprising of money supply, exchange rate, and lending interest rate, while the dependent variable which is the growth of manufacturing output is decomposed into three variables thus: manufacturing value added, manufacturing capacity utilization and manufacturing output.

Theoretical framework

Finance led Growth Theory

The finance led growth theory was the brain-work of Schumpeter (1911) which was based on the belief that financial institutions intermediary roles helps to propel productive capacity of the economy. The proponents of the theory argued that countries with well developed financial system stand the chance of growing faster. Schmpeter emphasized the roles of banks in facilitating technological innovation through their intermediary functions such as the supply of credits to the productive sector. Looking at the Siamese of this theory which corresponds to bank credit and growth of the manufacturing subsector, the study therefore adopts the theory to explain this relationship.

Empirical Review

Various studies have been carried out on the effect of bank credit on the manufacturing sector growth in the Nigeria using different methodologies. These studies include Celina (2018) Kalu et al (2017), Terhemba,(2016), Modebe (2014), Mamman and Hashim (2015) Yakubu and Afofri (2014) and Gbadebo (2017) all discovered a positive significant relationship between bank credit and manufacturing sector growth . While Bamidele (2019) held that bank credit has insignificant impact on the manufacturing sector.

Equally, studies have been carried out to examined the impact of lending interest rate on the performance of Nigeria manufacturing sector such as Erinma (2016) Okwori etal (2014), Nwokoro (2017) all discovered negative relationship between interest rate and manufacturing sector performance in Nigeria using different methods.

Also studied on the effect of exchange rate and manufacturing growth have be carried out by Ikechukwu and Nwokoye (2015), Kifle and David (2016) and Lawal etal (2016) its findings indicates a negative relationship with manufacturing sector output and growth in Nigeria.

Methods

The study adopts a survey research design. There were two variables: the independent and the dependent variables. The independent variable is Bank credit decomposed into money supply (M2), Exchange rate and interest rate and the dependent variable is the manufacturing growth.

Source of Data Collection

Primary data were collected from relevant government agencies such as Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), and Nigeria Deposit Insurance

Corporation (NDIC) for the study. The study covers a period of 2005- 2019. This period was chosen in cognizance of the post consolidation era of the Federal Governmnet.

Model Specification

Available literatures have shown that there is a strong empirical linkage between bank credit and manufacturing sector growth (Randel,2014, Kibichii, Kiptum & Chege,2016, Binta, Muhammed, Bazza & Magaji, 2019, Violet, 2019). Hence, the study draws its model as follows:

MVA= F (M_2, LIR, EXR,) …….1

MCU= F (M_2, LIR, EXR,) …….2

MOP= F (M_2, LIR, EXR,) …….3

Where MVA, MCU and MOP represent manufacturing value added as a ratio of GDP, manufacturing capacity utilization as a ratio of GDP and manufacturing output as a ratio of GDP respectively are proxies of manufacturing sector performance in Nigeria. On the other hand, M_2, LIR, EXR and, Broad money supply, lending interest rates, exchange rate are proxies of Bank credit. In other words, they represent Deposit money bank credit in Nigeria respectively. For the purpose of regression analysis, the three equations are rewritten in their natural log to put them on equal unit of measurement for analysis as follows:

MVA= $bo+b_1InM_2 +b_2InLIR+b_3InEXR + e$……4

MCU= $bo+b_1InM_2 +b_2InLIR+b_3InEXR + e$…….5

MOP= = $bo+b_1InM_2 +b_2InLIR+b_3InEXR+e$…….6

In equation 4, 5, and 6 bo, b1, b2, b3 are the slopes of the model while e is the white error term.

Apriori Expectations

It is expected that b1 - b3 will be positive as it is expected that it will affect the manufacturing performance positively. However, b2 and b3 are expected to affect the manufacturing performance negatively since high interest rates and high exchange rates are expected to have an adverse influence on the manufacturing subsector growth.

Description of Variables

Broad Money Supply (BMS) is the measure of money supply into the economy and it includes cash deposits in the economy. It constitutes all elements M_1 as well as near money a combination of which is cash and deposits, money market securities, mutual funds and other time deposits..

Lending Interest Rates (LIR): The lending interest rates represent the cost of borrowed capital by the economic agents in the manufacturing subsector of the economy. It represents a micro indicator of the availability of funds in the economy for borrowing by the economic agents.

Exchange Rates (EXR): Is the measure of the relative worth of a currency in relation to other currencies. The appreciation of the exchange rates affects the value of the domestic currency in terms of its purchasing power.

Manufacturing Value Added (MOP): It is the measure of the monetary value of products manufactured within the country expressed as a ratio of the GDP.

Manufacturing Capacity Utilization (MCU): Manufacturing capacity utilization is the measure to which the manufacturing subsector utilizes the installed capacity of its production plants expressed as a percentage. It can be calculated by dividing the total capacity by the portion utilized expressed in percentage.

Manufacturing Value Added (MVA): This is the total estimate of net output of all resident manufacturing activity units. It is obtained by adding up outputs and subtracting intermediate consumption.

Method of Data Analysis

Data collected for the study will be analyzed using linear regressions to estimate the values of the parameters bo, b_1, b_2, b_3, The student's t-values obtained to determine the statistical significance of the parameter estimates and the test of goodness of fit for the model using the R^2 technique. Augmented Dickey fuller (ADF) unit root test were used for test of stationary of variables while Johansen co-integrated technique were used to establish evidence of long-run relationship among the variables. The error correction model (ECM) is a mechanism used to ascertain short/run adjustment dynamics of the model.

Data Analysis and Results

This section deals with various techniques adopted in analyzing the secondary data collected. The techniques include:

Augmented Dickey Fuller (ADF) unit root tests to ascertain the stationarity or otherwise of the times series data gathered for the study. Following the ADF test Johansen co-integrated techniques was conducted to examine the long-run relationship among the variables after which error correction model (ECM) was conducted to ascertain short run adjustment of the dynamics and finally Granger causality test to determine the nature of relationship between the dependent and independent variables. Also presented is the descriptive statistics and multiple regression.

Results of the ADF unit root test

According to Usman (2018) in estimating equation that uses time series data; fundamental in the requirement is that such data be examined closely for its properties to ensure that it does not yield a spurious result. It is in view of this that test for stationarity using the Augmented Dickey Fuller (ADF) test is conducted.

The result of the unit root test is as presented in table below

Variable	ADF value of level	ADF value at 1st difference	ADF 5% Critical value	Decision& conclusion

MVA	-6.312	-2.011	-3.600	No unit root test
MCU	-4.382	-2.501	-3.600	No unit root test
MOP	-6.316	-3.241	-3.600	No unit root test
MS	-4.304	-1.473	-3.600	No unit root test
ER	-6.313	-1.141	-3.600	No unit root test
LIR	-6.006	-3.482	-3.600	No unit root test

Source Researcher's compilation using E-view 2024

From table above, the ADF unit root tests statistics established that all the variables are non stationary at level. However, stationary trend was achieved after taking the first difference at 5% level of significance. All the variables are stationary at first level.

Co-integration Test

In order to capture the short run effect that might have taken place in estimating the long-run co-integrating equation, co-integration test was performed employing Johansen (1998) reduced rank co-integration techniques. This method has an in-built mechanism to detect number of co-integrating vectors in a non-stationary time series and allow for hypothesis testing regarding the elements of co-integrating vector.

Johansen co-integration test result.

Hypothesized Number of CE(s)	Eigen value	Trace Statistics	0.05 critical value	Probability xx
None x	0.80124	152.6182	133.0672	0.0000
At most 1 x	0.68812	118.2016	114.3784	0.0041
At most 2	0.49202	76.4617	81.7421	0.0641
At most 3 x	0.45431	52.7762	50.6163	0.0024
At most 4	0.33422	33.1434	37.9126	0.0716
At most 5	0.28624	19.2213	14.4161	0.0417

Source: Researchers compilation using E-view, 2024

Trace test indicates 3 co-integration equation (s) at 0.05 critical value. X denotes rejection of the hypotheses at the 0.05 level.

The table above shows that the trace statistics (152.62) is greater than 5% critical value (133.07) for the first equation and same applies to the other equation that follows. Therefore, the null hypothesis of co-integrating equation is rejected and the alternative hypothesis of co-integrating equation is accepted.

Unrestricted Co integration Rank Test (Maximum Eigen Value)

Hypothesized Number of CE(S)	Eigen value	Maximum-Eigen Statistics	0.05 critical value	Probability xx
None x	0.70123	55.96332	45.04322	0.0024
At most 1	0.68812	48.3121	48.46312	0.0812
At most 2	0.49202	32.4667	35.30112	0.0936
At most 3	0.45431	26.50134	28.60312	0.2366
At most 4	0.33421	14.71282	16.54164	0.5032
At most 5	0.28623	8.41067	9.12007	0.0891

Source: Researchers compilation using E-view, 2024

Max-Eigen value test indicates 1 co-integration equation(s) at the 0.05. x denotes rejection of the hypothesis at the 0.05 level.

Table above complements the result shown in the earlier table. In this case, the max-Eigen statistics (55.96) is greater than the critical value (45.04) for the first integrating equation. Even though the other equations show the absence of no-integration, this is sufficient evidence of co-integration. Therefore, a rejection of the null hypothesis stating that there is no co-integrating. This, leads to the acceptance of the alternative hypothesis which states that there is co-integration.

Long-run Estimation of Evidence of Long-run response of manufacturing sector growth to changes in the explanatory variables in table below.

Normalized co-integrating coefficients.(Standard error in parenthesis).

MSG	MS	ER	LIR
1.000000	-0.01162	-0.43571	-0.521654
	(0.00223)	(0.00531)	(0.07288)
	10.6416	5.6491	4.0571

Source: Researchers compilation 2024 using E- view

The long-run model estimation based on Johansen normalized co-integration test table shows a non-significant positive effect of interest rate stood at (10.6417) and the coefficient of (-0.01164) indicates statistically significant negative effect of money supply on the growth of manufacturing sector in Nigeria in the long-run. The result shows that 1 percent increase in money supply will lead to proportionate decrease in manufacturing output. Equally, the test for the relationship between exchange rate and growth of manufacturing sector in Nigeria, the estimated t- statistics for the exchange rate is 5.6491 and a coefficient of (-0.43571). This is indicative of a negative effect of exchange rate on the growth of manufacturing sector. The result implies that a percentage increase in the exchange rate will lead to 44% decrease in the growth of the manufacturing sector. The result confirms that there is a negative relationship between exchange rate and growth of manufacturing sector thus the acceptance of alternative hypothesis which is to the effect that exchange rate has a relationship with growth of manufacturing sector albeit a negative relationship with manufacturing sector growth in the long-run.

Finally, the result from the table shows that lending interest rate has a t- statistics of 4.0571 and coefficient of -0.521664 indicating a negative effect on the growth of manufacturing sector. This implies that if lending interest rate is high it will adversely affect growth of manufacturing sector in Nigeria in the long-run. From the result, an increase in the lending

interest rate by 1% will lead to 52% decrease in the growth potential of the manufacturing sector. Therefore, the null hypothesis that there is no relationship between lending interest rate and growth of manufacturing sector is rejected and the alternative accepted which states that there is a relationship between lending interest rate and growth of manufacturing sector.

Vector Error Correction Model

To check for the ability of the model to adjust to the short-run disequilibrium, the error correction mechanism (VECM) is applied as displayed in the table below.

Error correction	D(MSG)	D(MS)	D(ER)	D(LIR)
Co-integration equation	-0.44351	16.72133	9.2494	1.508231
	(0.14371)	(56.7623)	(18.7296)	(0.82166)
	-3.08615	0.3298	0.6540	1.8356

Source: compiled by the researcher, 2024

From the result, the error correction mechanism is negative at -0.44. The speed of adjustment to equilibrium in its current period is about 44%. This means that 44% of the disequilibrium in the manufacturing sector growth is offset by the short-run adjustment in each period. The coefficient of adjustment of the error correction mechanism is correctly signed as negative. Thus, it lies between the theoretical expectations ie from -1 to 1. The negative sign indicates convergence in the long-run. Therefore, the model will rightly act to correct any deviation of the dependent variable from its long-run equilibrium value.

Granger Causality Test

The granger causality test is conducted to examine how a change in one variable affects the behavior of the other variable. The result is presented in the table below.

Granger Causality Test

Null Hypotheses	Observations	F- Statistics	Probability
MS does not granger cause MSG	14	1.81642	0.2173
MSG does not granger cause MS	14	16.6871	0.0022

ER does not granger cause MSG	14	5.2418	0.0416
MSG does not granger cause ER	14	4.2242	0.0127
LIR does not granger cause MSG	14	5.3113	0.0145
MSG does not granger cause LIR	14	8.7711	0.0284

Source: Researchers compilation, 2024.

The granger causality test results among the variables revealed that there is an existence of unidirectional causality between MSG and MS, This is evident from the probability value of 0.0022 and F statistics of 16.69 which confirms the existence of unidirectional causality. There was also a causality running from MSG to ER. The corresponding probability value for this causality was 0.0127 which is greater than the 0.05 levels of significance. In addition there were also unidirectional causality running from ER to MSG and from MSG to LIR as shown in the probability of 0.0416 and 0.0286 as well as the f-statistics of 5.24 and 8.77 respectively.

Descriptive Statistics for the Variables

The descriptive statistics as relates to the dependent and independent variables as well as their decomposed variables are presented in table below.

Descriptive Statistics Results

	MVA	MCU	MOP	MS	EXR	LIR
Mean	9.7107	58.145	12.6333	9.07	176.14	14.75
Std Dev	2.0409	9.3146	2.178	2.4525	77.74	1.08413

Skewness	0.6413	0.6619	..5607	.9509	0.111835	.039454
Kurtosis	2.1650	2.4901	2.7725	4.4802	2.7895	2.75434
Variance	0.5310	35.4161	4.7395	6. 01	6043.05	1.175343
Jarque-Beta	3.1642	116.0842	1.1972	1.2365	0.9326	0.64321
Probability	0.1136	0.7215	0.6219	0.3365	0.3316	0.5216
Observations	15	15	15	15	15	15

Source: Researchers compilation, 2024

The table above shows that the average values for MVA, MCU and MOP are 9.71, 58.25, and 12.633 while these variables deviated at 2.04, 9.31, and 2.178 respectively.

The average mean for MS, ER and LIR reads, 9.07, 176.14 and 14.75 and these variables were deviated at 2.45, 77.74 and 1.08413 respectively. More so, the test for normality is anchored on the closeness to zero (0) of the sample skewness and the closeness to 2 of the sample kurtosis. The variables kurtosis is all greater than 2 thus leading to the conclusion that the variables are leptokurtic in nature. This means that they are all greater than normal kurtosis and the weight in the tail of their probability density function is greater than normal.

Regression Results

The study adopts multiple regressions to establish the extent of relationship between the dependent variable (Growth of Manufacturing sector) and independent variable (Bank Credits). The result is presented in table below.

Regression Model Results (Dependent Variable: MSG).

Variable	t-value	Coefficient	Std Error	Probability
Intercept (c)	0.2011442	3.011442	15.04258	0.846
MS	0.84	0.3400467	0.33972173	0.061
ER	0.17	0.0601538	0.823882	0.532
LIR	-0.61	0.1391434	0.459365	0.040

R Square =0.9460

Adjusted R square = 0.9115

F- Statistics = 54.0306

Probability (f-test = 0.0000)

Durbin-waston = 2.0616

Sources: Researchers compilation.

Table above shows the regression results and it reveals a significant positive relationship between the dependent as represented by growth of the manufacturing sector and the independent variables proxy by MS, ER, and LIR respectively. This implies that improvement in any of the independent variables will significantly affect growth of the manufacturing sector since the R- square is 0.95 and the adjusted R-Square is 0.91 which is 91%. In addition, the probability value for the constant is 0.846 while the probability values for all the proxies of independent variables are 0.061, 0.329 and 0.040 respectively.

From the table above, all the explanatory variables are jointly significant at 5% with F-statistics of 54.0306 and probability (f- test) value of 0.0000. From the table, it is observed that money supply (logMS), exchange rate (log ER) and lending interest rate (logLIR) are correctly signed. In other words, they are in consonance with the apriori expectations. Equally, money supply (log MS) has a significant impact on the growth of the manufacturing sector. A one percent increase in the (logMS) leads to 0.34 percent increase

in the growth of the manufacturing sector. This is in line with apriori expectation. The exchange rate (log ER) has a significant impact on the growth of manufacturing sector in Nigeria. A one percent increase in (log ER) will lead to 0.06 percent in the growth of manufacturing sector. Finally, lending interest rate (log LIR) has a significant impact on the growth of the manufacturing sector. A percentage decrease in the lending interest rate will lead to 0.14 percent growth of the manufacturing sector. This is in line with apriori expectation. Lending interest rate which is the cost of capital determines the affordability of loans and advances by manufacturing economic agents. Thus, a reduction in the lending interest rate implies that more funds can be accessed by the players in the manufacturing sector to invest in technology and state of the art manufacturing equipments which can lead to growth. This position is supported by the loanable fund theory which states that the interest rate is determine by demand and supply. Hence, the theory held that more credits will be accessed when interest rate is lower than when it is higher. On the whole, coefficient of determination R^2 of 0.95 indicates that about 95 percent of the total variations in the growth of the manufacturing sector are explained by the explanatory variables. The F-statistics is significant at 5% level. The probability of its value (0.0000) is less than the 0.05 critical levels. Consequently, the researcher therefore rejects the null hypothesis that Deposit Money Bank Credit does not have significant relationship with the growth of manufacturing sector in the long-run in Nigeria.

Finally, the Durbin Watson test value is 2.06 shows absence of positive serial autocorrelation among the explanatory variables in the estimation.

Conclusion and Recommendations

Conclusion

This research examined the impact of Deposit Money Banks Credits and the growth of manufacturing subsector. In the process, multiple regressions and error correction

mechanism was used. The result of the study reveals mixed impact of the explanatory variables on the growth of manufacturing subsector in Nigeria. Money supply, exchange rate and lending interest rate was discovered to have a significant relationship with growth of the manufacturing subsector. On the whole, the regressions conducted revealed a significant relationship between Deposit Money Bank Credits and the growth of the manufacturing sector.

Recommendations

i. Government should ensure balance of mix of money supply into the economy at all times through its monetary policy regulators. This is because much money in the economy induces inflation which is not a desirable situation to the economy and its agents. However, a balance is required to stimulate the economy in a desire direction to meet government objective of employment generation through expansion programmes of the manufacturing subsector.

ii. Government should embark on fiscal discipline to bring exchange rate under control so as enhance local capacity of manufacturing sector. The situation where exchange rate relative to naira is at roof-top, affects the volume of exports by the manufacturers especially where raw materials are imported.

iii. The monetary authority should fashion out a lending interest rate regime that will make credits from formal financial institutions such as Deposit money Banks affordable to economic agents in the manufacturing subsector. The current situation where return on investment in the subsector is less than lending interest rate discourages investors in the manufacturing sector from borrowing more funds.

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