

Impact of Commercial Banks Credit on Industrial Growth in Nigeria (1981-2016)

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Abstract. This study intends to investigate the impact of commercial banks credit on industrial growth in Nigeria. The data used in this study were obtained from secondary sources in that annual time series data on, industrial output, commercial banks loan to industrial sector, the exchange rate and the interest rate. The method of data analysis used is Vector Autoregressive (VAR) Model. The result of this study shows that the commercial banks loan to the industrial sector and the interest rate have negative relationship with industrial output and are significant to industrial output while the exchange rate has a positive relationship with industrial output and it is also significant to industrial output for the period under review. This brings into focus the need to provide adequate financing , stabilized exchange rate, reduced interest rate and provides effective monitoring of the loan disbursed by commercial banks.

Keywords: Commercial Bank Loan, Exchange Rate, Interest Rate, Industrial Growth, Industrial Output.

1. Introduction

Industrial sector creates investment capital at a faster rate than any other sector of the economy while promoting wider and more effective linkages among different sectors (Noko, 2017), but there has been a growing concern on the decline of industrial output in Nigeria in recent times despite several strategies aimed at improving industrial production. The unimpressive performance of the sector is mainly due to massive importation of finished

goods and inadequate financial support to the sector, (Chete, 2014)

The successive governments in Nigeria over the years, including the military and the civilian administrations have laid emphasis on the attainment of self-reliance in their various development plans. There is also a strong focus on the diversification of the economy from the over dependence on the oil sector by encouraging more participation in the agricultural and industrial sectors. The Central Bank of Nigeria (CBN) has also made several efforts in ensuring adequate finance to the industrial sector through various policies and directives to the commercial banks. Recently, the CBN earmarked the sum of N220Billion for Micro, Small and Medium Enterprises to be accessed through the commercial Banks at a single digit rate of 9% (CBN, 2017). Despite the CBN intervention, assessing these funds through the Commercial banks is difficult due to documentation and other requirements.

Despite the various challenges of accessing loans/credit from commercial banks in Nigeria, their role in the provision of adequate financing for the growth of the industrial sector remains very important. Generally, financial institutions play an indispensable role in the overall development of a country, they act as a conduit for the transfer of resources from net savers to net borrowers, that is, from those who spend less than their earnings to those who spend more than their earnings. The financial institutions have traditionally been the major source of long-term funds for the economy.

It is against this background that this study seeks to bridge the gap in literature by taking on empirical investigation on the impact of commercial banks credit on industrial growth in Nigeria to draw the relative stakeholders' attention on variables that are important for the disbursement of required amount of loans that will have a positive impact on the industrial output to prospective investors.

2. Literature Review

It is obvious that industrialization is the backbone for economic advancement in any nation, be it capitalist, socialist or a mixed economy. This is so because it is through the establishment of industries, both small and large that a nation could produce most of the goods and services its people require. According to Jhingan (1997), industrialization is a process of manufacturing consumer goods, capital goods and creating social overhead capital in order to provide goods and services to both the individual and business. Economist from various school of thought have been unanimous that one of the parameters used to measure levels of development of any nation is the extent to which the nation can provide its citizens with the basic goods and services required to maintain a good life in the society.

According to Abdullahi (2017), Industrial sector play a crucial role in the development of a country, it generates employment, products for the people and is of great importance for economic development of a country. It is historical fact that countries with strong industrial sector have showed more economic growth and development, improvement in national income, increased productive capacity, increased employment opportunities and promoted good living standards.

Since the era of the oil boom in the 1970s, Nigeria has been a victim of monolithic economy and since then has been enjoying what is termed as "petro-Naira" without adequately evolving a sound policy that will put the nation's economy on a firm foundation for steady growth (Agu, 2015).

According to Emmanuel and Daniya (1998) industrial growth does not start with finance, rather it starts with the following; the overall development objective and strategy of the country; the desired industrial structure and industrial process; the existing input-output relationships or inter industry linkages. Though finance serves as the most important aspect of industrial growth and Banks plays major role in providing this much needed finance.

Every business enterprise whether big or small, newly formed or and already existing ones requires funds without which it cannot operate. In other words, there can be no investment without funds and it a vital ingredient for the establishment and running of industries. However, the greatest obstacle to rapid industrial development in Nigeria has been identified to be inadequate finance. According to (Agu, 2015), if a country industrial aspirations are to be achieved, the provision of adequate finance should be accorded high priority. But regrettably, Nigerian industrialists have been badly starved of this very important ingredient for both the establishment and maintenance of industries and this exist in the following forms: Inadequate initial capital for take-off; Inadequate funds for maintaining existing industries, and Insufficient funds for expansion.

The lack of adequate funds for industrial activities has greatly denied the Nation of many opportunities of attaining development in industrial sector, a height which Nigeria has always longed, hoped and craved for. In developing countries like Nigeria, availability of finance is one of the important bottlenecks in the process of rapid economic development. Since personal savings are meagre due to lower per capita income in these countries, the chances of increasing the rate of savings appear to be poor. However, much can be done by putting greater emphasis on institutionalization of savings. Therefore, one of the most pressing needs of the developing countries is to promote financial integrity, establish effective and cheap protection for rights of creditors and create financial institutions through which the savings of the community can be increased and effectively channeled into the hands of investors.

Goldsmith theory of 1958 is one of the foremost theories to recognize the role of financial intermediaries in the institutionalization of savings since the growth process is financed either through domestic or foreign funds or even both. In recognizing the role of financial intermediaries in mobilising savings and channeling them to various sectors, Goldsmith analyzed the volume of assets of various financial intermediaries, trends in their types and distribution in relation to long-run economic growth. Goldsmith further explained the development of financial intermediaries and the trend of their share in national asset and wealth particularly are important from the economist's point of view. It indicates the extent and character of financial interrelation which in turn helps to determine how capital expenditures are financed and how existing asset are shifted among owners. These help in the direction of flow of savings into investment and also their size which in turn stimulates economic growth.

Goldsmith explained that the nature of financial structure in less developed countries compared to the developed ones is such that a small proportion of primary securities to Gross National Product and aggregate savings are issued by the individual economic unit acquired through financial intermediaries. Besides, the central bank accounts for two thirds of all claims of financial intermediaries which are held by the public. The implication of this is that there is greater dependence on self-finance and hardly any direct contact between the primary borrower and the ultimate lender.

As a build-up to the Goldsmith theory on financial intermediation, Gurley and Shaw (1960) emphasized the inter relationship between real development and financial development. Gurley and Shaw analysis rests on the propositions that; the government can change the stock of outside money without inducing an equi-proportionate change in the stock of inside money and secondly, that changes in the inside-outside money ratio cause changes in relative prices and particularly in the real rate of interest. They argued that banks are the link between the surplus and deficit

units. The banks obtain deposit from their customers who place their savings with them and then lend these funds to investors.

Gurley and Shaw (1960) believe that credit control discriminate against banks in their competition with non-bank intermediaries, weakening the effectiveness of monetary policy over the long run. They stated that as a prerequisite of monetary control, the authorities take steps to ensure the easy access of banks deposits.

Jayarathne and Strathan (1996) concluded that financial intermediaries impact positively on the economic growth of America using the statistical data analysis but Allen and Santomero (1999) examined the role of financial intermediaries in the economic development of the United State of America (USA), they also used statistical data and presented evidence that the traditional banking business of accepting deposits and advancement of loans has declined significantly in recent years. Hao (2006) examined the relationship between financial intermediation and economic growth in China with the use of one step parameter estimates and concluded that bank as an indicator of financial development is significant but negatively related to growth, this was attributed to the inefficiency in loan distribution.

However, in Africa, Tuyishime, Memba and Mbera (2015) examined the effects of deposits mobilization on financial performance in commercial banks in Rwanda using Pearson and Spearman's correlation analysis to found out that technology has led to increase in deposit at a low cost and this as increased the loan volume to the productive sector of the economy. Muita (2010) examined the effects of merger and acquisitions on the financial performance of commercial banks in Kenya, he used t-statistic test and special case Anova to revealed that there was improvement financial performance as regards to increase in loans and general profitability of the banks after merger.

Meanwhile in Nigeria, Agbo (2000) examined the role of commercial banks in financing small scale industries in Nigeria, he found out with the

use of Tables, Percentages and Chi-Square that Commercial Banks have helped in financing industries in the period under review. Adamu (2013) examined the role of commercial banks' credit in the development of industrial sector with the use of ordinary least square (OLS) method discovered a positive relationship between the commercial banks' credit and industrial development in the period under review.

Haruna (2012) investigated the determinants of cost of financial intermediation in Nigeria's pre-consolidated banking sector using 13 banks quoted on the Nigerian stock exchange. The study used panel data regression models. It was found that the operating expense and loan loss provision accounts for greater variation in commercial banks financial intermediation cost.

Tonye and Andabai (2014) examined the relationship between financial intermediation and economic growth in Nigeria. The methodology used was vector error correction model. The study found out that there is long run relationship between financial intermediation and economic growth, the study concluded that about 89% of the variations in economic growth in Nigeria are explained by changes in financial intermediation variables.

Judith, Ugochukwu and Ugwuoke (2014) examined the impact of Bank credit on the growth of Nigerian industrial sector with the use of Ordinary Least Square (OLS) method to reveal a positive relationship between the Bank's credit and industrial growth, they also went further to recommend a reduction in interest rate through the central bank's monetary policies.

This study, therefore intends to investigate the disbursement of commercial banks loan for prospective investors in Nigeria so as to draw stakeholders attention to those variables considered important in the disbursement of required amount of loans to ascertain the impact of commercial banks finance on the industrial output in order to bridge the gap identified in the literature.

3. Methodology

The study is designed as a survey that seeks to empirically investigate the impact of commercial banks credit on industrial growth in Nigeria.

3.1 Model Specification

In this model, the dependent variable is the industrial output (IO) while the commercial banks loan to industrial sector (CBL), the interest rate (IR) and the CBN official exchange rate(ER) within the same period are the independent variables. It is importance to state the effect of each parameter on the dependent variable.

Banks are statutory vested with the primary function of intermediation in order to make funds available to all economic agents (Baliamoune, 2003) while Ojo (2010) explained that the prevailing interest rate has great impact on the investment behavior and Ayodele (2014) explained that availability of foreign exchange through contentious export drive from both oil and non-oil products will contribute tremendously to increased industrial output. Thus the model below was formulated:

$$Y = F(Cbl, Ir, Er) \dots \dots \dots (1)$$

$$Y = \alpha_0 + \alpha_1 Cbl + \alpha_2 Ir + \alpha_3 Er \dots \dots \dots (2)$$

The lagged function is :

$$LY = \alpha_0 + \alpha_1 LCbl + \alpha_2 Ir + \alpha_3 Er + \mu \dots \dots \dots (3)$$

Where :

Y= Industrial Output

Cbl= Commercial banks loan to industrial sector

Ir= Interest rate

Er= Exchange rate

$\alpha_1, \alpha_2, \alpha_3$ = Slope coefficients of the independent variables.

μ = Error term

It is expected that the commercial banks loan to industrial sector and the exchange rate will have a positive effect on the industrial output. When there is increase in commercial banks loan to industrial sector, there will be increase in the industrial output. Availability of exchange rate will strengthen the naira leading to availability of more funds for industrial activities thereby leading to industrial growth. While the interest

rate will have a negative effect on industrial output. An increase in interest rate will result to high cost of borrowing for industrial purpose thereby reducing the industrial output.

3.2 Method of data analysis

Given that the study employed time series data, the empirical analysis encompasses inferential statistical tools to present a summary of the statistical properties of the data and analysis aimed at addressing the research objectives.

3.2.1 Unit Root Test

Since the study will utilize time series data, then the empirical analysis will start with unit root test. The unit root tests will be conducted to establish the stationarity status of the variables. By definition, a series is said to be stationary process if its joint and conditional distribution are invariant with respect to displacement in time (pindyck and Rubinfeld, 1988). The unit root test is important because if time series is non-stationary, the classic t and F-tests will be inappropriate. Moreover, the problem of nonsense correlation (Yule, 1926) or spurious

regression (Granger and Newbold, 1974) may arise where otherwise unrelated series may be presented as related when non-stationary series are used and will be unsuitable for policy recommendations (Adams, 1992).

This study will employ the Vector Autoregressive (VAR) Model

3.2.2 Estimation Procedure

This study will adopt the Vector Autoregressive (VAR) Model. Vector Autoregressive (VAR) methods is well popularised by Sims (1982) as a natural generalization of univariate autoregressive model. Its very helpful in identifying the relationship among a set of macroeconomic models.

$$Y_t = \mu + \sum_{i=1}^k \theta_i Y_{t-i} + \epsilon_t$$

Y_t is a $(m \times 1)$ vector of $I(0)$ variables
 μ is a $(m \times 1)$ vector of constants, and
 $\theta_1, \dots, \theta_k$ are $(m \times m)$ matrices of parameters,
 k is the appropriate lag length of the model,
 ϵ_t is a $(m \times 1)$ vector of normally distributed error term.

4. Results and Discussions

The analysis started with unit root tests. Where Augmented Dickey Fuller (ADF) is used, this is to avoid producing spurious regression estimates that would be biased and inconsistent. The time series data for all the variables in the model

(Industrial output, Commercial bank loan to industrial sector, Exchange rate and Interest rate) were tested for the period of 1981-2016, to ensure their stationarity. The result revealed that variables LCBL, LER, LIO and LIR are all stationary at first difference. In other words, variables LCBL, LER, LIO and LIR are all integrated at level order $I(1)$.

Table 1

VARIABLES	Augmented Dickey Fuller Test	Order of Integration
LCBL	-6.484783	I(1)
LER	-5.022564	I(1)
LIO	-4.586024	I(1)
LIR	-5.959588	I(1)

Notes: Lag lengths are selected based on Schwarz Bayesian Criterion. The test statistics are compared with critical values from Mckinnon (1996); ***, ** and * denotes significance at 1%, 5% and 10% respectively.

Results of Bounds Tests for Cointegration

Having ascertained the stationarity status of the variables, the next task is conduct cointegration test to

determine whether long run or equilibrium relationship exists between the industrial output and its potential determinants. The study applied the Johansen cointegration test to ascertain whether there is a long run association or integration among the variables or not. One of the important conditions before applying johansen cointegration test is that all the variables must be stationary at the same order and as shown in table 4.1 above, the variables for this study are all stationary at same order i.e order of integration I(1), this is to avoid a misleading and inaccurate result.

Table 2 :Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.523256	45.33499	47.85613	0.0846
At most 1	0.292510	20.14863	29.79707	0.4128
At most 2	0.132429	8.383557	15.49471	0.4253
At most 3	0.099241	3.553581	3.841466	0.0594

Trace test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 3: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.523256	25.18636	27.58434	0.0983
At most 1	0.292510	11.76508	21.13162	0.5710
At most 2	0.132429	4.829976	14.26460	0.7632
At most 3	0.099241	3.553581	3.841466	0.0594

Max-eigenvalue test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Both the Trace statistics tests and the Maximum Eigenvalue statistics tests in Table 2 and 3 respectively shows no cointegration at the 0.05 level Overall, this means there is no long run relationships among the variables, this gives a reliable backing for the adoption of VAR approach in this study.

Results of Vector Autoregressive (VAR) Model

Given the nonexistence of long run cointegrating relationship among the variables in the models, the most appropriate model to estimate the variables is the VAR model. The result is shown in Table 4. The results revealed that the coefficient of commercial bank loan to industrial sector (CBL) is negative, which is against the apriori expectation of this study and it is also not significant within the lag one (One year in this study) with t-statistic value of -1.74893 for the period under review. The coefficient of the exchange rate is positive and it is in agreement with the apriori expectation. The t-statistics of the exchange rate is 2.66957, which means it is significant to industrial output for the period under review. The coefficient of the interest rate is negative; this is in line with the apriori expectation. However, the interest rate is also not significant for the period under review with a t-statistic value of -1.06496.

Variable	Coefficient	Std. Error	t-Statistics
C	0.134053	0.06925	1.93583
D(LCBL(-1))	-0.138686	0.07930	-1.74893
D(LCBL(-2))	-0.048730	0.07218	-0.67517
D(LER(-1))	0.321811	0.12055	2.66957
D(LER(-2))	-0.154195	0.13694	-1.12603
D(LIO(-1))	0.128638	0.20896	0.61561
D(LIO(-2))	0.178938	0.20848	0.85831
D(LIR(-1))	-0.200007	0.18781	-1.06496
D(LIR(-2))	0.290672	0.21531	1.35003
R-squared	0.515195	Determinant resid covariance (dof adj.)	1.42E-05
Adj. R-squared	0.353594	Determinant resid covariance	3.98E-06
Sum sq. resids	4.397803	Log likelihood	17.86790
S.E. equation	0.428068	Akaike information criterion	1.098915
F-statistic	3.188059	Schwarz criterion	2.731469
Log likelihood	-13.57083		
Akaike AIC	1.367929		
Schwarz SC	1.776068		
Mean dependent	0.238361		
S.D. dependent	0.532426		

Source: Researcher’s Computation (2018) using E-views 9

Overall the model is well fitted, stable and good for policy recommendations.

5. Findings

The summary of the findings is as follows:

The coefficient of the Commercial bank loan is negative (-0.138686), this imply that there is a negative relationship between commercial banks loan and the industrial output for the period under review.

The coefficient of the exchange rate is positive (0.3218110); this means that there is a positive relationship between the exchange rate and the industrial output for the period under review.

The coefficient of the interest rate is negative (-0.200007); this means that there is a negative relationship between the interest rate and the industrial output for the period under review.

6. Policy Implication

The coefficient of the exchange rate is positive (0.3218110); this means that there is a positive relationship between the exchange rate and the industrial output for the period under review. Nigeria’s economic aspirations have remained that of altering the structure of production and consumption patterns, diversifying the economic

base and reducing dependence on oil, with the aim of putting the economy on a part of sustainable, all-inclusive and non-inflationary growth. The implication of this is that while rapid growth in output, as measured by the real gross domestic product (GDP), is important, the transformation of the various sectors of the economy is even more critical. This is consistent with the growth aspirations of most developing

countries, as the structure of the economy is expected to change as growth progresses, (Kelikume,2015). Successive governments in Nigeria have since independence in 1960, pursued the goal of structural changes and diversification of the economy to avoid over reliance on the oil sector. The federal government also developed a framework in the Nigeria Economic Recovery and Growth Plan in 2017. The plan focuses on five key areas, namely: improving macroeconomic stability; economic growth and diversification; improving competitiveness; fostering social inclusion; and governance and security. Some key reforms have been rolled out, including the conditional cash transfer initiative targeted at the poorest and most vulnerable population, improving capital budget execution, and strengthening public financial management at both state and federal levels. These will encourage increase in local production and strengthen the naira. The interest rate in this study is negative and insignificant, this is realistic because interest rate is charged on loans and the commercial banks loan to industrial sector for the same period under review are also insignificant.

7. Conclusions

This study examined the impact of commercial banks finance on industrial growth in Nigeria within the period of 1981-2016. It was aimed at analyzing the impacts of Commercial Banks credit/loan to the industrial sector over the years in Nigeria. The study showed that commercial banks loans to industrial sector which is supposed to be a major stimulant to the industrial sector output has not been able to provide adequate capital needed for the growth of the industrial output, this is evident in the continuous importation of goods consumed in the country. Commercial bank loan to industrial sector was found to have a negative relationship with the industrial output. It is expected that the higher the commercial bank loan to industrial sector the higher the industrial output but this study revealed that if the commercial bank loan to industrial sector is increased by 1 percent, this will bring about -1.75 percent decrease in the industrial output. Many factors could be responsible for this negative relationship in the

Nigeria contest, for instance the trend shows that commercial bank loan to industrial sector in Nigeria recently is at an all-time low, this will be particularly true since it's likely that the hostile environment might be impending access to capital by driving up cost of capital (i.e interest rate) , making borrowers to be averse to borrowing due to low profit that could lead to not being able to meet the interest rate obligation. The commercial bank loan to the industrial sector can be made to have a positive impact on industrial output in Nigeria if the CBN promote better and stronger credit culture among the commercial banks to avoid discrimination and inefficiency in the disbursement of bank's loan to prospective investors Commercial banks should ensure that the required amount of loans that will have a positive impact on the industrial output is disbursed to prospective investors and also relax the stringent conditions necessary to access these loans.

8. Recommendations

- CBN should promote better and stronger credit culture among the commercial banks to avoid discrimination and inefficiency in the disbursement of bank's loan to prospective investors. This will also prevent fraudulent diversion of the loan to other uses from the purpose of the loans.
- Nigerian government should strengthen the Nigerian Export Promotion Council (NEPC) in order to promote exportation of goods produced in Nigeria. This will increase the flow of foreign exchange, strengthen the local currency (Naira) and therefore enable industries to have more money to increase industrial output.
- CBN should be encouraged to reduce the interest rate to allow prospective investors accessed bank's credit which could be used to increase industrial activities and output.

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