CAPITAL MARKET DEVELOPMENT AND GROWTH IN NIGERIA: 
AN EMPIRICAL ANALYSIS

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ABSTRACT
This study was prompted to investigate empirically the relationship between capital market development and industrial growth in Nigeria utilizing annual time series data covering the period of 1985-2017. The study adopted both descriptive and analytical tools. The descriptive and analytical tools. The descriptive methods were used to analyze trend performance of the variable captured in the study. The analytical tools employed modern econometric techniques such as the unit root test, co integration test granger causality test, the result showed that there is a bi-directional relationship between industrial output and market capitalization and between industrial output and number of deals, but a unidirectional relationship running from industrial sector development to value of transaction. The result of the short run dynamics revealed that capital market has positive and significant impact on industrial output in Nigeria via market capitalization and number of deals. Output in Nigeria during the evaluation period. The result all showed that capital market has a positive and significant impact on industrial output in Nigeria. The study therefore recommended that the government should implement appropriate reform policies aimed at ensuring efficiency In the workings of the stock market in Nigeria. Also there is need to reduce the cost of rising capital by firms on the stock market as high cost and other bureaucratic delays could limit the use of capital market as veritable source of raising funds for investment.

Keywords: Capital Market, Industrial Development

Introduction
Background of the Study
Industrialization can be seen as the backbone for economic advancement in any nation be it capitalist, socialist or a mixed economy. The possession of industrial capabilities by an economy is considered an important potential for improved economic growth and development. It can be viewed as a veritable channel of attaining the lofty and desirable conception and goals of improved quality of life for the populace. This is because industrial development involves extensive technology-based development of the productive (manufacturing) system of the economy. In other words it could be seen as a deliberate and sustained application and combination of suitable technology, management techniques and other resources to move the economy from the traditional low level of production to a more automated and efficient system of mass production of goods and services (Ayodele and Falokun, 2003). According to kayoed (2015), while Nigeria and the most other developing countries are still struggling to catch up with the developed countries, in terms of industrialization, the world has since moved from the age of industrial revolution to globalization. Nigeria has performed poorly and far below expectation. In the area of industrialization when compared to some regional and global counterparts. For instance in the United States, Brazil, China, India, and south African, the manufacturing sector contributes 13 percent, 15 percent 30 percent, 14 percent and 15 percent to their gross domestic product, while employing 13 million 15 million,
100 million, 30 million and 1.5 million people respectively. In Nigeria, the manufacturing sector contributes a meager four percent to their GDP while employing only two million people.

Many experts share the view that industrialization is a prerequisite for the economic take off or economic development of any country (Okoye Nwisienyi & Eze, 2013). Industrialization is undoubtedly capital intensive. Therefore finance is an essential ingredient in stimulating sustainable industrial growth the development. Levine (1998). Opines that the desired industrial growth and development of any economy is a function of the availability of long-term development funds. The capital market forms the major source of capital for industries in developing economies. It is pertinent to note that substantial capital is required to acquire the machines and other modern equipments which are prerequisite for industrial development. In Nigeria, the role of the capital market in industrial development cum economic growth of the country has continued to generate a lot of arguments amongst economists and policy makers. According to Okaro (2002), the overriding need for a vibrant capital market as a source of the long-term financing of Nigeria’s economic growth is accentuate by the need for alternative sources of long-term finance given the country's foreign dept burden, which has hampered further international borrowing. In spite of the importance of the capital market, some scholars have maintained that Nigerian Capital Market had performed below expectation as a purveyor of cheap and stable funds for Nigeria’s industrial sector. For instance, Ariyo & Adelegan (2005), argued that the liberalization of capital market led to the growth of the Nigerian capital market yet its impact at the macro economy level was negligible. Osai-Brown (2009), pointed out that the Nigerian capital market earning the unenviable accolade as one of the world’s worst performing stock market in 2008 after losing N5.2 trillion in market capitalization and 54 percent in the All-share Index, just a year after it had emerged as the world’s best performing stock market in 2007 with return of 47 percent. The Nigeria capital market as represented by the stock exchange has experienced growth as indicated by growth of its performance indicators namely market capitalization which was about N3 trillion in 2007 but declined to N9.91 trillion in 2010 while all share-index that was 57,990.22 points fell to about 24,770.52 points in the same period. In fact, the near collapse of capital market impacted negatively on the industrial sector to be as an avenue for securing long-term funds to finance long term projects is not as developed as her foreign counterpart. Al-Faki (2006), noted that despite the fact that Nigeria’s capital market had experienced growth as indicated by growth of it’s performance indicators, the industrial sector (especially the manufacturing sector) growth has been impressive. The industrial sector output has been low and has witnessed continuous decline in capacity utilization in spite of successive government’s efforts to promote industrial development in Nigeria. Thus the overriding consideration in this study is to investigate empirically capital market, development and industrial growth in Nigeria.

Statement of the Problem

There was a lot of mixed findings and inclusive results on capital market development and industrial growth in Nigeria. Authors like Joshua (2005) noted the result of the OLS techniques indicates that capital market has positive and significant impact on industrial growth in Nigeria. Dr. Okey Grey (2016) in his study found that industrial growth and development of Nigeria are largely dependent on the Nigerian capital market while the following authors like Eg bunike, Gedeon (2013) showed that the total value of stock has a negative effect on the GDP growth rate and none is significant Abdul (2012), the study conceded there is a negative relationship between Industrial Growth and stock market indices in Nigeria. To the best of my knowledge, this study is the first to use an expanded period of time and modern econometric to empirically examine the impact of capital market on industrial growth in Nigeria.

Objective of the Study

The broad objective of this study is to examine the relationship between capital market development and industrial growth in Nigeria. The specific objectives are to:

i. Determine the relationship between market capitalization and industrial growth in Nigeria

ii. Determine the relationship between number of deals and industrial growth in Nigeria.
Research Questions
The following questions are raised in the course of this study
i. To what extent does market capitalization affect industrial growth in Nigeria?
ii. What is the extent of relationship between number of deals and industrial growth in Nigeria?
iii. What is the extent of relationship between value of transaction and industrial growth in Nigeria?

Research Hypotheses
The following null hypotheses are raised in the course of this study:
HO1. Market capitalization has no significant effect on industrial growth in Nigeria
HO2. Number of deals has no significant effect on industrial growth in Nigeria.
HO3. Value of transaction has no significant impact on industrial growth in Nigeria.

Scope of the Study
This study is on the relationship between capital market development and industrial growth in Nigeria and the study cover years between the periods of 1985 to 2017. The time period has been chosen considering that it offers updated time series observations and it constitutes a period of financial reforms of the capital market.

Significant of the Study
The following people will benefit from the study
i. **Central bank of Nigeria**: This will help in formulating polices towards healthy industrial growth in Nigeria
ii. **Researcher**: This will be a source of reference material for the upcoming researchers.
iii. **Management**: It will serve as a reference document for management to use as guide for managing the affairs of the government.
iv. **The Public**: It will add to the existing knowledge by exposing the public on the matter of industrial growth in Nigeria
v. **Inventors**: It will act as a guide to investors in studying the capital market indices.

Limitation of the Study:
The study of this nature is usually faced with some limitations. The present study is not an exception and therefore has its shortcomings. The work experienced some difficulties in the course of the study arising from lack of limited studies and inadequate published journal articles on similar topic and difficulties in accessing the needed data for the analysis.

Nonetheless, the study remains significant as the conclusion drawn from it may prove to be useful in Nigeria. Application to other economies must be done with caution, because of differences in economic structure.

Review of Related Literature
Conceptual Framework
The capital market is defined as the market where medium to long term finance can be raised (Mbah 2011). The capital market is the market for dealing (that is lending and borrowing) in long term funds (Abu 2009). Substantial academic literature and government strategies support the finance led growth hypothesis, based on an observation first made almost a century ago by Joseph Schumpeter that financial markets significantly
boost real industrial growth and development. Schumpeter asserted that finance had a positive impact on industrial growth as a result of its effects on productivity growth and technological change. Mbah (2001) described it as a forum through which long term funds are made available by the surplus to deficit economic units. It must however, be noted that although all surplus units have access to the capital market, not all deficits economic units have the same access to it. The restriction on the part of the borrowers is meant to enforce the security of the funds provided by the lenders. In order to ensure that lenders are not subjected to undue risks, the borrowers of the capital need to satisfy certain basic requirements. It has very profound implication for the socio-economic growth and development of any nation (Adul 2012)

Capital Market Development and Industrial Growth
In principle, the capital market is expected to accelerate industrial growth by providing a boost to domestic savings and increasing the quantity of investment. The market is expected to encourage savings by providing individuals with an additional financial instrument that may better meet their risk preference and liquidity needs. Better savings mobilization may increase the saving rate. The capital market also provide avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock market are less dependent on bank financing, which can reduce the risk of credit crunch. The capital market therefore is able to positively influence industrial growth through encouraging savings among individuals and providing avenues for firm financing (Tokunbo 2009).

Ewah, etall (2009) asserted that capital market provide the opportunities for the purchase and sale of existing securities among investors thereby encouraging the populace to invest in securities fostering industrial growth.

Market Capitalization
Market Capitalization and its growth rates are indicators of market size and performance. Market size is also measured by the Market Capitalization ratio, which is defines as the value of shares listed divided by GDP. The essence of market Capitalization ratio is that the size of the market should be positively correlated with the ability to mobilize capital capital and diversify risk in an economy (Demigue-Kunt and Levine, 1995).

Number Of Deals
The number of deals of a stock market relates to the ease with which shares are traded in the market. It is measured by the ratio of the securities traded to the total national output, which is computed as total value traded divided by GDP. The number of deals as argued by Osinubi (2002), facilitates profitable interactions between the equity and the money market.

Value Of Transaction
Value of Transaction in the stock market includes existing shares, primary issues and secondary issue, bonds, long-term debt instruments, treasuring Bills and treasuring certificates. The value of these transaction are dependent on the prevailing price in the market, the volume of transaction, companies, Government agencies, corporations that are issuing these bonds, availability of market space in the stock exchange, investor’s interest at that time, economic condition, public perception of those investment and demand supply mechanism (Dr. Tony Nkemakolam 2019)

Theoretical Framework
Theories linking capital market development and industrial growth are scare, however. This study cautiously selected the Mckinnon-Shaw (1973) hypothesis which states that financial liberalization and stock market development would promote industrial growth. We explored this hypothesis to apprehend its mechanism and implication on industrial growth by way of saving mobilization, efficient allocation of resources and investment patterns of individuals.

Mckinnon-Shaw (1973) Hypothesis
Mckinnon and Shaw (1973) hypothesis states that financial liberalization and stock market development would promote industrial growth through their effects on the growth rate of savings, investment, and thus industrial growth. McKinnon and Shaw (1973) argued that the repressed financial markets (low and administered interest rates, domestic credit controls, high reserve requirements and concessional credit practices) discourages savings, retards the efficient allocation resources, increases the segmentation of financial markets, constrains investment and in term lowers the industrial growth rate. The essential message of the McKinnon-Shaw Hypothesis is that a low or negative real rate of interest discourages savings and hence reduces the availability of loanable funds, constrains investment and in turn lowers the rate of industrial growth. On the other hand, an increase in the real interest rate may induce the savers to save more, which will enable more investment to take place and which would exert a positive effect on the economic growth. Bouzid (2012) noted that this idea was adopted by great international institutions such as the International Monetary Fund (IMF) and the World Bank.

Thus, many developing countries have implemented financial liberalization policies with the aim to delete the repressed regime. The financial liberalization policies were aimed at liberalizing interest rates by switching from an administered interest rate setting to a market-based interest rate determination; reducing controls on credit by gradually eliminating directed and subsidized credit schemes; developing primary and secondary securities markets; enhancing competition and efficiency in the financial system by privatizing nationalized commercial banks (Bouzid, 2012). In the McKinnon-Shaw hypothesis, the success of the financial liberalization process depends to the following hypothesis: the effective deepening of the financial sector, a positive correlation between the saving and the real interest rate, and a perfect complementarily between the money demand and investment (Bouzid, 2012).

**Empirical Literature**

Abdul (2012) examined global financial crises, the capital market and industrial growth in Nigeria during the period 2007-2009. He employed ordinary least square regression. The result revealed that there is a negative relationship between gross domestic product and industrial growth in Nigeria during this crises period.

Marco pagan (1993) examined financial market and industrial growth in UK covering the period 1993-2000. The result revealed financial intermediation can affect industrial growth by acting on the saving rate, on the fraction of saving channelled to investment.


Idowu, Abiola and babatunde (2013) investigated the effect of financial reforms on capital market development in Nigeria between 1986-2010. The findings revealed a positive relationship between capital market and industrial growth in Nigeria.

Olounwa and sadibo (2016) analysed capital market development and industrial growth in Nigeria between 2009-2014. He employed structural dynamic model. The variables used were market capitalization and value of transaction. It was found that capital market ratio are both significant and positive drivers of industrial growth in Nigeria.

Owolabi and Ajaji (2013) explored econometrics analysis of impact of capital market on industrial growth in Nigeria. They employed ordinary least square regression. The result indicated that there is a positive relationship between industrial growth and all the stock market development variables.
Sunday Ewah, Esang and Jude (2009) conducted a research on capital market efficiency on industrial growth in Nigeria during the period 1961-2004. The result of the study showed that the capital market in Nigeria has potentials of growth inducing but it has not contributed meaningfully to the industrial growth in Nigeria. Taiwo, Alaka and Afieroho (2012) examined capital market and industrial growth in Nigeria covering between 1981-2014. He utilized vector error correction techniques. The result revealed a positive relationship between capital market and industrial growth in Nigeria.

Greg, Ekpung and Okoro (2013) investigated the impact of capital market on the industrial growth of Nigeria economy under democratic rule. The result showed that while total market capitalization and all share indexes exert positive influence on the GDP growth rate, the total value of stock has a negative effect on the GDP growth rate and non is significant.

Echekoba, Ezu and Egbunike (2013) examined the impact of capital market on industrial growth in Nigeria. The results obtained revealed that capital market has positive and significant impact on industrial growth in Nigeria.

Oke, Micheal, Ojo and Adensi (2012) conducted a study on impact of capital market reforms on industrial growth in Nigeria economy for the period 1981-2010. They employed ordinary least square and Johansen co-integration. The result showed that capital market reforms impact positively on industrial growth in Nigeria.

Okoye Greg (2016) investigated the role of capital market in the financing of business enterprises in Nigeria. The findings revealed that industrial growth and development of Nigeria are largely dependent on the Nigerian capital market.

Mbah (2011) in his study of the impact of capital market on Nigeria economy for the period 2001-2011 noted that there was underutilization of the stock market due to poor enlightment campaign and lack of transparency on the part of the operators.


Abel, Ogamba and ndi Okereke (2012) assessed stock market development and private investment growth in Nigeria between 1970-2006. The result shows that development in the Nigerian stock market over the years was able to spur growth in domestic private investment inflows.

Tokunbo (2009) examined the relationship between stock market and industrial growth in Nigeria covering the period between 1980-2000. The result indicated that there is a positive relationship between industrial growth and all the stock market development variables used.

Webometric Analysis on Capital Market and Industrial Growth.
<table>
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<tr>
<th>Author/name</th>
<th>Country/scope</th>
<th>Topic</th>
<th>Variables</th>
<th>Methodology</th>
<th>Results/Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdul 2012</td>
<td>Nigeria 2007-2009</td>
<td>Global financial crisis, the capital market and industrial growth in Nigeria</td>
<td>1. GDP 2. ALL SHARE INDEX</td>
<td>Ordinary least square regression</td>
<td>The result revealed that there is a positive relationship between capital market and economic growth in Nigeria.</td>
</tr>
<tr>
<td>Marco 1993</td>
<td>London UK 1993-2000</td>
<td>Financial markets and industrial growth an overview</td>
<td>1. mcap 2. exch 3. value of transaction</td>
<td>Ordinary least square regression</td>
<td>The result revealed financial intermediation can affect industrial growth by acting on the saving rate, on the fraction of savings channeled to investment.</td>
</tr>
<tr>
<td>Green (1997)</td>
<td>USA 199-2005</td>
<td>Financial market in development, and the development of financial markets</td>
<td>1. gdp 2. gcf 3. fdi 4. cmi</td>
<td>OLS regression</td>
<td>The result revealed a positive relationship between capital market and industrial growth</td>
</tr>
<tr>
<td>Idowe, Absoha and babatunde 2013</td>
<td>Nigeria 1986-2010</td>
<td>Effects of financial reforms on capital market development in Nigeria</td>
<td>1. market capitalization 2. no of listed cosys 3. local/foreigncurr ency</td>
<td>1. GDP per capital 2. savings rate 3. foreign private investment 4. credit to private sector</td>
<td>A positive relationship between capital market and industrial growth</td>
</tr>
<tr>
<td>Ologunwa, and Sadibo 2016</td>
<td>Nigeria 2009-2014</td>
<td>Capital market development and industrial growth in Nigeria: an empirical analysis</td>
<td>1. market capitalization 2. value of transaction</td>
<td>Structural dynamic model</td>
<td>It was found that capital market ratio and turnover ratio are both significant and positive drivers of industrial growth in Nigeria stock market after industrial savings through savings mobilization</td>
</tr>
<tr>
<td>Owolabi and ajai 2013</td>
<td>Nigeria 1971-2010</td>
<td>Econometrics analysis of impact of capital market on industrial growth in Nigeria</td>
<td>1. gdp 2. gcf 3. fdi 4. cmi</td>
<td>OLS regression</td>
<td>The result indicate there is a positive relationship between industrial growth and all the stock market development variables</td>
</tr>
<tr>
<td>Sunday Ewah, Esang and jade 2009</td>
<td>Nigeria</td>
<td>Appraisal of capital market efficiency on industrial growth in Nigeria</td>
<td>1. gdp 2. mc 3. mr 4. trr</td>
<td>Multiple regression and ordinary least square estimation techniques</td>
<td>The result of the study showed that the capital market in Nigeria has potentials of growth inducing, but it has not contributed meaning fully to the industrial growth of Nigeria</td>
</tr>
<tr>
<td>Edame, Greg Ekpung and Okoro 2013</td>
<td>Nigeria 1980-2014</td>
<td>The impact of capital market on industrial growth in Nigeria</td>
<td>1. gdp 2. mkp 3. rvs 4. vtran</td>
<td>OLS regression</td>
<td>The result showed that capital market has positive and significant impact on industrial growth in Nigeria</td>
</tr>
<tr>
<td>Echekoba and Egbumike 2013</td>
<td>Nigeria</td>
<td>The impact of capital market on the industrial growth of the Nigerian economy under democratic rule</td>
<td>1. tmc 2. asi 3. rvs 4. vtran</td>
<td>Multivariate Regression method</td>
<td>The result showed that while total market capitalization and all shared indexes exert positive influence on the GDP growth rate, the total value of stock has a negative effect on the GDP growth rate and non is significant</td>
</tr>
<tr>
<td>Oke. and Adeusi 2012</td>
<td>Nigeria 1981-2010</td>
<td>Impact of capital market reforms on industrial growth, in the Nigeria economy</td>
<td>1. gdp 2. mcap 3. asi 4. vtran 5. nd 6 inf</td>
<td>1. ordinary lest square 2. Johansen co-integration</td>
<td>The result showed that capital market reforms impact positively on the industrial growth</td>
</tr>
<tr>
<td>Okoye 2016</td>
<td>Nigeria 2008-2015</td>
<td>The evaluative of the role of capital market in the financing of business enterprises in Nigeria</td>
<td>1. mcap 2. asi 3. vst 4. nd</td>
<td>Observations interviews questionnaire</td>
<td>The findings revealed that industrial growth and development of Nigeria are largely dependent on the Nigerian capital market</td>
</tr>
<tr>
<td>Mbah 2011</td>
<td>Nigeria 2001-2011</td>
<td>Impact of capital mkt on Nigerian Economy</td>
<td>1. tmc 2. asi 3. rvs</td>
<td>OLS regression</td>
<td>The study showed that the researcher noted that there was underutilization of the stock market due to poor enlightenment campaign and lack of transparency on the part of the operators.</td>
</tr>
<tr>
<td>Abu 2009</td>
<td>Nigeria 2000-2009</td>
<td>Stock market development and industrial growth evidence from Nigeria</td>
<td>1. cap 2. gdp 3. all share index</td>
<td>1. error correction approach 2. OLS regression</td>
<td>The econometric result indicate that stock market development (market capitalization GDP ratio) increases industrial growth</td>
</tr>
</tbody>
</table>
Ibi, Joshua and Helen (2015) investigated capital market and industrial sector development in Nigeria. The results of the short run dynamic revealed that capital market has positive and significant impact on industrial output in Nigeria via market capitalization and number of deals.

Popoola, Oladayo (2014) examined the effect of stock market on industrial growth and development of Nigeria between 1984-2008. He made use of ordinary least square regression. The results of the research established positive links between the stock market development and industrial growth.

Ogunleye and Adeyemi (2015) investigated the impact of stock market on industrial growth in Nigeria covering the period 1970-2008. The result revealed that there is existence of long run relationship between stock market and industrial growth in Nigeria.

Osho and Ejededawe (2014) examined the role of capital market on Nigeria’s industrial development. He employed ordinary least squared multiple regression. From the study, capital market development is positively correlated with the development of financial intermediaries and industrial growth.

**Gap in Literature**

The researcher employed both previous empirical literatures of different authors in the same area. The researcher will incorporate in this work more sophisticated tools for the analysis such as stationary test, co-integration test, error correction model techniques etc. Most previous work stopped at 2014 but this work will extend the date till 2017.

**Research Methodology**

This chapter presents the research methodology adopted in the study, how data was collected, analyzed and additionally decides the data types and sources.

**Research Design**

The study adopted the ex-post fact research design in examining capital market development and industrial growth. This is because the study is using archival data whose manifestations have already occurred and the researcher cannot manipulate the outcome. According to kerlinger (1973) ex-post facto design is a systematic empirical injury in which the investigator does not have direct control over the value of the variables included in the study.
Nature and Sources of Date:
The research work involved the use of secondary data. The secondary data will be secured from research journals, periodicals, textbooks internet and other publications relevant to the study and these form the bulk of literature review.

Population of the Study: The study longitudinal scope is 1985 -2017 secured from national bureau of statistics database.

Reliability of Study: The content validity was carried out by experts in the field to ensure reliability of the study.

Method of Data Collection: Secondary data were sourced from the central bank of Nigeria statistical bulletin and Annual reports,

Method of Data Analysis
The study used the unit root test for stationary variables. The test was used to check if long–run relationship exists among the variables in the model using the Johansen technique. Results of the regression analysis help to determine the significance level of the study variables in the prediction of the dependent variable. The coefficients were used to show that the independent variables positively or negatively influence the dependent variable or if there is no relation at all. Furthermore one indicator (R- Square) was used to show to what extent the model explains the variation in the dependent variable. The analysis was conducted at 0.05 level of significance.

Model Specification.
Model Specification the researcher followed the line of Onwumere (2009:179) which examines the relationship between a dependent variable and independent variables. Therefore, the basic model in its functional form is specified as follows:
INDOUT = F(MCAP, NDEALS, VTRAN)………………………………………………………….. (1)

Where:
INDOUT = Industrial output
MCAP = market capitalization
NDEALS = number of deals
VTRAN = value of transaction

The model in its econometric linear form can be expressed as
INDOUT = a_o+a_1MCAP+a_2NDEALS+a_3VTRAN+ U…………………………………..(2)
Where a_o are the parameters to be estimated and U is the stochastic error term.
The theoretical expectations about the signs of the coefficients of the parameters are as follow: a_1, a_2, a_3, >0;

Estimation Techniques
This seminar employs unit root test, co-integration test, Granger Causality Test and error correction modeling techniques. These method are believed to overcome the problem of spurious regression while at the same time provide content and good estimates of both long-run and short-run elasticities that satisfy the properties of the classical linear regression. These techniques are also unique and preferred to the traditional Adaptive Expectation and partial adjustment models because the latter are .associated with the problems of spurious regression, inconsistent and indistinct short-run and long-run elasticity estimates.

Analysis of Empirical Results
Data Presentation: Descriptive Statistics

Table 1 below presents the descriptive statistics on the selected macroeconomic variables captured in this study. The aim of the analysis is to examine the performance of the variables during the evaluation period.

<table>
<thead>
<tr>
<th>Variable</th>
<th>INDOUT</th>
<th>MCAP</th>
<th>NDEALS</th>
<th>VTRAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>115265.4</td>
<td>2401.166</td>
<td>548484.2</td>
<td>211125.1</td>
</tr>
<tr>
<td>Median</td>
<td>114992.2</td>
<td>262.6000</td>
<td>49564.00</td>
<td>6979.600</td>
</tr>
<tr>
<td>Maximum</td>
<td>162985.3</td>
<td>14800.90</td>
<td>3535631.0</td>
<td>1679144.0</td>
</tr>
<tr>
<td>Minimum</td>
<td>10922.91</td>
<td>5.000000</td>
<td>7138.000</td>
<td>215.0000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>34002.03</td>
<td>4260.711</td>
<td>861247.8</td>
<td>396985.9</td>
</tr>
<tr>
<td>Skewness</td>
<td>6.40078</td>
<td>1.733441</td>
<td>1.905443</td>
<td>2.148578</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.796829</td>
<td>4.642652</td>
<td>6.192894</td>
<td>2.741125</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>3.126389</td>
<td>20.23666</td>
<td>33.98646</td>
<td>20.23666</td>
</tr>
<tr>
<td>Probability</td>
<td>0.209466</td>
<td>0.000040</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

| Sum | 38033759.9 | 79238.498 | 1809997 | 6967130.0 |
| SUM Sq. Dev. | 3.70E+1 | 5.81E+0 | 2.37E+1 |
| Observations | 33 | 33 | 33 | 33 |

Source: Authors’ Computation

Data as presented in table 1 above showed that industrial output, market capitalization, number of deals, value of transaction, N115265.4 million, N2401.17 million, 548,484.2 million deals, and N211125.1 million, respectively during the evaluation period. The minimum values of industrial output, market capitalization, number of deals, value of transaction, were N10922.91 million, N5.0 million, 7138.0 million deals and N215.0 million, respectively, while their respective maximum values were N162985.3 million, N14800.90 million, 3535631.0 million deals and N1679144.0 million, during the same period. The analysis of skewness showed that the market capitalization, number of deals, value of transaction, positively skewed, while the distribution for industrial output were negatively skewed.

Correlation Matrix

Table 2 below presents correlation matrix, which shows correlation relationships among the variables in the model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>INDOUT</th>
<th>MCAP</th>
<th>NDEALS</th>
<th>VTRAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDOUT</td>
<td>1.000000</td>
<td>0.663913</td>
<td>0.665385</td>
<td>0.607466</td>
</tr>
<tr>
<td>RGDP</td>
<td>0.888001</td>
<td>0.894281</td>
<td>0.805306</td>
<td>0.803277</td>
</tr>
<tr>
<td>MCAP</td>
<td>0.663913</td>
<td>1.000000</td>
<td>0.844046</td>
<td>0.895390</td>
</tr>
<tr>
<td>NDEALS</td>
<td>0.665385</td>
<td>0.844046</td>
<td>1.000000</td>
<td>0.973382</td>
</tr>
<tr>
<td>VTRAN</td>
<td>0.607466</td>
<td>0.895390</td>
<td>0.973382</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation

The results as presented in table 2 above showed that there is a high positive correlation between industrial output and market capitalization (0.66); between industrial output and number of deals (0.67); between industrial output and value of transaction (0.61). The results of the correlation as presented above suggest that there is a high relationship between industrial output and its determinants.
Unit Root Tests

The results of the unit root-tests employing the Augmented Dickey-Fuller test and Phillips-Perron tests are presented in table 3 and table 4 below. The results of the unit root test using both the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test as shown in table 3 and table 4 below revealed that no variable was stationary at levels. Hence, the null hypothesis of non-stationarity cannot be rejected at levels. However, at first difference, all variables were stationary. That means at first difference the variables were integrated of order 1(1).

Table 3: Test for Unit Root using Augmented Dickey-Fuller (ADF) Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test Statistic</th>
<th>Level 1st Difference</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDOUT</td>
<td>-1.065308</td>
<td>-7.046363</td>
<td>I(1)</td>
</tr>
<tr>
<td>MCAP</td>
<td>0.499617</td>
<td>-4.388882</td>
<td>I(1)</td>
</tr>
<tr>
<td>N DEALS</td>
<td>-1.257235</td>
<td>-4.446932</td>
<td>I(1)</td>
</tr>
<tr>
<td>VTRAN</td>
<td>-1.457728</td>
<td>-6.208830</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Test critical Values at Level: 1% = -3.653730, 5% = -2.957110, 10% = -2.617434
Test critical Values at 1st Diff: 1% = -3.661661, 5% = -2.960411, 10% = 2.619160
Source: Researcher's Computation

Table 4: Test for Unit Root using Phillips- Perron (PP) Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test Statistic</th>
<th>Level 1st Difference</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDOUT</td>
<td>-0.93701</td>
<td>-7.901684</td>
<td>I(I)</td>
</tr>
<tr>
<td>MCAP</td>
<td>1.575031</td>
<td>-5.590767</td>
<td>I(I)</td>
</tr>
<tr>
<td>N DEALS</td>
<td>-1.472099</td>
<td>-5.732617</td>
<td>I(I)</td>
</tr>
<tr>
<td>VTRAN</td>
<td>-1.308199</td>
<td>-7.520793</td>
<td>I(I)</td>
</tr>
</tbody>
</table>

Test critical Values at Level: 1% = -3.653730, 5% = -2.957110, 10% = -2.617434
Test critical Values at 1st Diff: 1% = -3.661661, 5% = -2.960411, 10% = -2.619160

Source: Researcher's Computation

Co-Integration Test

Having established that the variables are integrated of order 1(1), suggests that there is a long run equilibrium relationship among the variables. The existence of this long run relationship was tested using Johansen multivariate co-integration analysis based on trace test and maximum eigenvalue test. The results of the cointegration analysis are presented in table 5 below.

Table 5: Results of the Co-integration Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Trace Test</th>
<th>Maximum Eigenvalue Test</th>
</tr>
</thead>
</table>

Source: Researcher's Computation
Hypothesized No. of CE(s) | Trace Statistics | 0.05 Critical Value | Prob.** | Max-Eigen Statistics | 0.05 Critical Value | Prob.**
--- | --- | --- | --- | --- | --- | ---
None * | 650.6819 | 125.6154 | 0.0001 | 214.9612 | 46.23142 | 0.0000
Atmost 1* | 435.7208 | 95.75366 | 0.0001 | 167.9908 | 40.07757 | 0.0001
At most 2* | 267.7300 | 69.81889 | 0.0000 | 135.7448 | 33.87687 | 0.0000
At most 3* | 131.9852 | 47.85613 | 0.0000 | 70.73485 | 27.58434 | 0.0000
At most 4* | 61.25032 | 29.79707 | 0.0000 | 33.74760 | 21.13162 | 0.0005
At most 5* | 27.50272 | 15.49471 | 0.0005 | 23.09875 | 14.26460 | 0.0016
At most 6* | 4.403977 | 3.841466 | 0.0358 | 4.403977 | 3.841466 | 0.0358

Series: INDOUT, MCAP, NDEALS, VTRAN.
Trace test and Maximum Eigenvalue test indicate 7 cointegrating equations at 0.05 level
*Denotes rejection of hypothesis at the 0.05 level.
**Mackinnon-Haug-Michelis (1999) p-values

The results of the cointegration test as presented in table 5 above, using trace test and maximum, eigenvalue test revealed seven cointegrating equations at five per cent level. This is because the trace and maximum Eigenvalue tests values in each of the seven co-integrating equations are all greater than their critical values at 5 per cent level of significance. Thus, we can conclude that the variables are co-integrated and hence the presence of long run relationship among them.

### The Granger Causality Test

Since it is established that there is a long run relationship among the variables in the model, we proceed to conduct a causality test aimed at establishing the direction of causality among the variables of interest. The granger causality test is based on Engle and Granger (1987) pair wise granger causality test. The results of the granger causality test are presented in table 6.

#### Table 6: Granger Causality Test

<table>
<thead>
<tr>
<th>Null Hypothesis;</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCAP does not Granger Cause INDOUT</td>
<td>32</td>
<td>2.91205</td>
<td>0.0986</td>
</tr>
<tr>
<td>INDOUT does not Granger Cause MCAP</td>
<td>32</td>
<td>3.69935</td>
<td>0.0643</td>
</tr>
<tr>
<td>VTRAN does not Granger Cause INDOUT</td>
<td>32</td>
<td>2.21200</td>
<td>0.1477</td>
</tr>
<tr>
<td>INDOUT does not Granger Cause VTRAN</td>
<td>4.61643</td>
<td>0.0401</td>
<td></td>
</tr>
<tr>
<td>NDEALS does not Granger Cause INDOUT</td>
<td>32</td>
<td>3.75328</td>
<td>0.0625</td>
</tr>
<tr>
<td>INDOUT does not Granger Cause NDEALS</td>
<td>3.53267</td>
<td>0.0703</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ Computation

The results of the granger causality test as presented in table 6 showed that there is a bidirectional relationship between industrial output and market capitalization’ and between industrial output and number of deals. This means that the development in the stock market in terms of market capitalization and number of deals granger cause industrial sector development and a feedback effect from industrial sector development to stock market development in Nigeria. However, the results of the granger causality test showed that there is a unidirectional causality relationship running from industrial sector development to value of transaction.

### The Results of the Short Run Dynamics

The results of the error correction model for short run dynamics are presented in table 7 below.

#### Table 7: Short Run Estimates

Dependent Variable: D(INDOUT)
Variable | Coefficient | Std. Error | t-Statistic | Prob.
--- | --- | --- | --- | ---
c | 644.6102 | 1700.752 | 0.379015 | 0.7080
D(MCAP) | 1.398420 | 0.687976 | 2.032659 | 0.0533
D(NDEALS) | 0.038825 | 0.010926 | 3.553335 | 0.0016
D(VTRAN) | -0.083413 | 0.021454 | -3.888029 | 0.0007
ECMC-1 | -1.023919 | 0.198343 | -5.162356 | 0.0000

R-squared | 0.863341 | Mean dependent var | 4751.948
Adjusted R-squared | 0.823482 | S.D. dependent var | 15510.54
S.E. of regression | 6516.599 | Akaike info criterion | 20.61441
Sum squared resid | 1.02E-09 | Schwarz criterion | 20.98084
Log likelihood | -321.8306 | Hannan-Quinn criter. | 20.73587
F-statistic | 21.65998 | Durbin-Watson stat | 1.846305
Prob (F-statistic) | 0.000000

Source: Authors' Computation

The results of the short run estimates as presented in table 7 above showed that the error correction variable has the correct negative sign and it's statistically significant as theoretically expected. The error correction coefficient of 1.02 showed that about 102 per cent of the deviation from equilibrium is corrected each year. This shows a very rapid speed of adjustment from short run disequilibrium to long run equilibrium. The high values of R-squared of 0.86 and adjusted R-squared of 0.82 showed that the estimated short run model has a good fit and a very high explanatory power. Specifically, the adjusted R-squared of 0.823 showed that about 82 percent of the total variation in the industrial output has been explained by variations in its determinants. In similar manner, the high value of F-statistics of 21.66 showed that the estimated short run model is statistically significant. This means that the independent variables have a joint effect on the dependent variable. The Durbin-Watson statistics value of 1.85 showed that there is no autocorrelation in the model. This means, that the residuals are not correlated and hence the model is well-behaved.

Analysis of the short run coefficients showed that market capitalization and number of deals have positive and significant impact on industrial output as theoretically expected. From the results, a N1 million increase in real gross domestic product led to an increase in industrial output by NO.32 million in Nigeria, ceteris paribus. Similarly, a N1million increase in market capitalization and a one unit increase in number of deals brought about an increase in industrial output by N1.40 million and NO.04 million in Nigeria, respectively.

Contrary to expectation, value of transaction has a negative relationship with industrial output in Nigeria. This means that funds mobilized in the stock market has not been efficiently utilized for industrial production in Nigeria. From the result, a N1 million increase in value of transaction led to a decrease in industrial output by NO.08 million. The result also revealed that there is a negative and significant relationship between gross domestic investment and industrial output in Nigeria. This result is not however consistent with theoretical expectation, suggesting that there has not been enough domestic investment arising from low levels of savings. From the result, a N1 million increase in gross domestic investment led to a decrease in industrial output by NO.02 million, during the evaluation period.

Summary of Findings, Conclusion and Recommendation

Summary of Findings
This study was earned out to empirically examine the relationship between capital market and industrial sector development in Nigeria. There is a widely held argument that efficient functioning of capital market is a pre-requisite for industrial development because it helps in mobilizing funds needed for investment in various industries in an economy. "Whether this
assertion holds using Nigerian data was the major objective of this study. From the results obtained,

(1) it was found that capital market has positive and significant impact on industrial output in Nigeria via market capitalization and number of deals.

(2) On the other hand, value of transaction has negative and significant impact on industrial output in Nigeria during the evaluation period

(3) The results also showed that real gross domestic product has a positive and significant impact on industrial output in Nigeria.

Recommendation:
Based on the results obtained, The study recommends the following:

(1) The study recommends that the government should implement appropriate reform policies such as financial market reforms, the privatization and commercialization act of 1988 aimed at ensuring efficiency in the workings of the stock market in Nigeria.

(2) The government through the Nigerian stock exchange should also reduce the cost of raising capital by firms on the stock market as high cost and other bureaucratic delays could limited the use of capital market as veritable source of raising funds for investment.

3 Encouraging the participation of private limited liability companies and information sector operators to access the market for fresh capital.

4 There is urgent need to restore confidence to the market by regulatory authorities through ensuring transparency, fair trading transaction and dealings in stock exchange.

Finally, foreign investors should be encouraged to participate in the market in order to improve market capitalization.

Contribution to Knowledge.
This study on capital market development and industrial growth in Nigeria has benefited the following group of persons:

1. General public: The study has educated the general public on the enormous role industrialization can play in improving the standard of living of the people, create job opportunity for our youth and reduce social vices to the barest minimum.

2. Academic/ future Researcher: This study will serve as useful guide to research student who yawns for knowledge to fill in the existing gap in the literature and improve on their work.

3. Government: This study will help the government to review some of its policies that are at variance with the development of capital market to promote enhanced use of market to finance huge infrastructural deficit which has become the bane of the nations growth.

Suggestion for Further Studies:
This study has effectively evaluated capital market development and industrial growth in Nigeria. Hence attempt should be made by other researchers to explore the subject deeper in terms of other factors that could contribute to the development of industrial sector. Last but not the least, a study on how the bank of industry can finance the industrial sector towards growth and development, the impact of high operational cost on the profitability of industrial sector could be another pioneering research area.

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## APPENDIX 1

Table 3: Trend Analysis of Selected Macroeconomic Variables

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MCAP</th>
<th>NDEALS</th>
<th>VTRAN</th>
<th>INDOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>5.00</td>
<td>7,138.00</td>
<td>388.70</td>
<td>20,174.65</td>
</tr>
<tr>
<td>1986</td>
<td>5.00</td>
<td>10,199.00</td>
<td>304.80</td>
<td>15,802.63</td>
</tr>
<tr>
<td>1987</td>
<td>5.00</td>
<td>10,014.00</td>
<td>215.00</td>
<td>14,424.70</td>
</tr>
<tr>
<td>1988</td>
<td>5.70</td>
<td>11,925.00</td>
<td>397.90</td>
<td>13,596.81</td>
</tr>
<tr>
<td>1989</td>
<td>5.50</td>
<td>17,444.00</td>
<td>256.50</td>
<td>14,470.76</td>
</tr>
<tr>
<td>1990</td>
<td>6.60</td>
<td>23,571.00</td>
<td>316.60</td>
<td>18,226.39</td>
</tr>
<tr>
<td>1991</td>
<td>6.80</td>
<td>27,718.00</td>
<td>497.90</td>
<td>16,392.87</td>
</tr>
<tr>
<td>1992</td>
<td>8.20</td>
<td>20,525.00</td>
<td>382.40</td>
<td>34,477.32</td>
</tr>
<tr>
<td>1993</td>
<td>10.00</td>
<td>21,560.00</td>
<td>850.30</td>
<td>41,200.31</td>
</tr>
<tr>
<td>1994</td>
<td>12.80</td>
<td>33,414.00</td>
<td>610.30</td>
<td>89,596.71</td>
</tr>
<tr>
<td>1995</td>
<td>16.30</td>
<td>29,270.00</td>
<td>225.40</td>
<td>115,591.37</td>
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<tr>
<td>1996</td>
<td>23.10</td>
<td>41,770.00</td>
<td>242.10</td>
<td>136,627.70</td>
</tr>
<tr>
<td>1997</td>
<td>31.20</td>
<td>49,029.00</td>
<td>491.70</td>
<td>274,755.29</td>
</tr>
<tr>
<td>1998</td>
<td>47.50</td>
<td>40,398.00</td>
<td>804.40</td>
<td>282,305.87</td>
</tr>
<tr>
<td>1999</td>
<td>66.30</td>
<td>42,074.00</td>
<td>985.90</td>
<td>283,563.10</td>
</tr>
<tr>
<td>2000</td>
<td>ISO. 40</td>
<td>49,564.00</td>
<td>1,838.80</td>
<td>873,884.71</td>
</tr>
<tr>
<td>2001</td>
<td>285.80</td>
<td>49,515.00</td>
<td>6,979.60</td>
<td>1,293,225.62</td>
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<tr>
<td>2002</td>
<td>281.90</td>
<td>78,089.00</td>
<td>10,330.50</td>
<td>1,215,912.20</td>
</tr>
<tr>
<td>2003</td>
<td>262.60</td>
<td>84,935.00</td>
<td>13,572.10</td>
<td>882,034.02</td>
</tr>
<tr>
<td>2004</td>
<td>300.00</td>
<td>123,509.00</td>
<td>14,072.00</td>
<td>934,551.18</td>
</tr>
<tr>
<td>2005</td>
<td>472.30</td>
<td>256,523.00</td>
<td>28,153.10</td>
<td>2,359,313.33</td>
</tr>
<tr>
<td>2006</td>
<td>662.50</td>
<td>426,163.00</td>
<td>57,683.80</td>
<td>2,874,082.94</td>
</tr>
<tr>
<td>2007</td>
<td>764.90</td>
<td>451,850.00</td>
<td>59,406.70</td>
<td>2,042,716.43</td>
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<tr>
<td>2008</td>
<td>1,359.30</td>
<td>621,717.00</td>
<td>120,402.60</td>
<td>3,037,706.29</td>
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<tr>
<td>2009</td>
<td>2,112.50</td>
<td>973,526.00</td>
<td>225,820.00</td>
<td>4,610,083.70</td>
</tr>
<tr>
<td>2010</td>
<td>2,900.10</td>
<td>1,021,966.60</td>
<td>262,935.80</td>
<td>6,094,891.34</td>
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<tr>
<td>2011</td>
<td>5,121.00</td>
<td>1,367,954.00</td>
<td>470,253.40</td>
<td>7,488,743.54</td>
</tr>
<tr>
<td>2012</td>
<td>13,294.60</td>
<td>2,615,020.00</td>
<td>1,076,020.40</td>
<td>8,085,380.04</td>
</tr>
<tr>
<td>2013</td>
<td>9,562.99</td>
<td>3,535,631.00</td>
<td>1,679,143.70</td>
<td>9,719,513.85</td>
</tr>
<tr>
<td>2014</td>
<td>7,030.84</td>
<td>1,739,365.00</td>
<td>685,717.30</td>
<td>8,071,070.58</td>
</tr>
<tr>
<td>2015</td>
<td>9,918.21</td>
<td>1,925,478.00</td>
<td>799,910.90</td>
<td>15,194,561.13</td>
</tr>
<tr>
<td>2016</td>
<td>9,672.65</td>
<td>1,235,467.00</td>
<td>638,925.70</td>
<td>16,263,083.56</td>
</tr>
<tr>
<td>2017</td>
<td>14,800.90</td>
<td>1,147,626.00</td>
<td>808,994.35</td>
<td>15,825,475.71</td>
</tr>
</tbody>
</table>

Source: Central Bank of Nigeria Statistical Bulletin, 2017