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# The Impact of Capital Market on Manufacturing Output: Evidence of Causal Relationship

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#### Abstract

The study investigated the Impact of Capital Market Indicators on Manufacturing Output in Nigeria (1990-2020). Precisely the study sought to determine the direction of causality between capital market indicators and manufacturing output, to achieve these objective data were collected mainly from the Central Bank of Nigeria (CBN) Statistical Bulletin, Central Bank of Nigeria (CBN) Annual Report and Financial Statement, Nigerian Stock Exchange (NSE) Annual Report and Securities and Exchange Commission (SEC) Statistical Bulletin. Variables such as; Market Capitalization of Equities, All Share Index of Equities, Foreign Direct Investment in Equities and Value of New Issue of Equities were used as independent variables and Manufacturing Output as dependent variable while Inflation and Exchange Rate served as control variables. For empirical analysis the study adopted Augmented Dickey Fuller ADF and Philips-Perron test to determine the characteristics of the variables, which Granger Causality test was employed to examine the causality. The findings of the Granger causality extracted from VAR reveals the existence of unidirectional causality between capital market indicators and manufacturing output. Therefore, the study recommends that government should attract investable funds in the economy through financial deepening and inclusion and also incentivize financing of manufacturing sector.

## Keywords:

Capital Market Indicators Manufacturing output Equities market Granger causality Financial Deepening.

JEL Classification:

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## 1. Introduction

The manufacturing sector is viewed as an important force that drives an economy to a sustainable growth level in both developing and developed countries of the world. The rapid economic developmental changes experienced in other developing countries as China, Brazil India, Indonesia, Malaysia among others was a result of rapid development of their manufacturing sector output.

In Nigeria the manufacturing sector have not played the expected vibrant and vital role in achieving economic growth and development. This is partly attributed to challenges of high cost of funds and unavailability of long-term funds to support long gestation investment. Long-term funding which is the bane of the manufacturing sector could be achieved through an active capital market that mobilizes long-term funds for the development of the sector. The dearth of longterm funding especially in developing economy like Nigeria makes policy makers to undergo significant changes and reforms in the Nigerian capital market over the last few decades.

The Nigerian capital market which commence with the establishment of the Lagos Stock Exchange (LSE) in 1960, underwent significant changes during the last few decades. Important historical evolution of the capital market includes, the Financial System Review Report (1978) that recommended the promulgation of Securities and Exchange Commission (SEC) decree and approval of multiple Stock Exchange in the country, enactment of Companies and Allied Matters Act (CAMA 1990) in 1989 to regulate the incorporation, corporation and activities of all corporate bodies in Nigeria. Others are the incorporation of Central Securities Clearing System (CSCS) in 1992 as the central clearing and depository of the Nigerian Stock Exchange, deregulation of the capital market and allowing Issuing Houses and Stockbrokers to determine price of new issue stock in 1993 and the introduction of Automated Trading System (ATS) to replace the manual call-over, the initiation of X-Gen trading (tradesmart) platform in 2013 for boosting trading, among other reforms. The Nigerian Capital Market showed improvement in terms of growth and development over the years. The listed stock grew from 52 in 1970 to 310 in 2007 and later drop to 167 in 2017 as a result of delisting of Nigeria Stock Exchange's non complaint companies. The value of new issue increased from N11.7 million in 1999 to N149 billion in 2008 then increased to N306 billion in 2017. Similarly, the market capitalization rose from N270.3 million in 1970 to N10.3 trillion and N13.3 trillion in 2007 and 2017 respectively. In fact, the Nigerian Stock Exchange All Share Index (NSE ASI) gain 42.30% to become the

third best performing index globally in 2017 and 50.30% to become the best performing index globally in the year 2020 (NSE 2020)

Despite the segmentation and growth in the capital market indicators, the Nigerian Capital Market has performed below expectation, particularly, as it is related to the real sector (manufacturing sector). Manufacturing sector is one of the major sectors of modern economy which deals with the transformation of inputs or semi-finished goods for the satisfaction of human or to facilitate further product. Nigerian manufacturing sector has not succeeded in appreciably raising its level of production and output over the last 2 decades. The sector remained unimposing with declining share in Gross Domestic Product (GDP). The share of the manufacturing output in Gross Domestic Product (GDP) increases from 7.17% in 1970 to 10.4 in 1980, it then decreases to 3.67% and 1.89% in 2000 and 2010 respectively (CBN, 2012).

It is unusual that the manufacturing sector performed relatively better in the 1970's when the Nigerian Capital Market was at its infant stage and performed dismally in 2000's and 2010's when the capital market indicators experienced growth and development. The Nigerian capital market had performed below expectation in relation to sufficient channeling of capital to the Nigerian Manufacturing Sector. Al-faki (2006) in particular noted that despite the fact that Nigerian capital Market had experienced growth, as indicated by growth of its performance indicators, the manufacturing sector growth has not been impressive.

From the foregoing it is crystal clear that the capital market has not benefited the manufacturing sector despite the remarkable growth and development of its indices and indicators. It is on this backdrop that this study attempts to examine the causal relationship between the equity market indicators and manufacturing sector.

The main objective of the study is to investigate the impact of capital market on the manufacturing output. The specific objective is to examine the causal relationship between capital market and manufacturing output.

# 2. Literature review

This sub-section discusses definitions of concepts of capital market and manufacturing by various authors.

## 2.1 Concept of Capital Market

Capital market is essentially a network for conversion of intangible financial asset within an economy, which distinctively differs with real market in traditional sense. It is merely a network of institution that performs functions that describe as capital market activities (odife, 1984). Capital market is the framework of institution that arranges the long-term financial assets, such as shares debenture, stock and mortgages. Within this framework are primary market instrument such as issuing houses and secondary market instrument like stock exchange (Dabwor, 2015).

Alfaki (2006) defines capital market as a network of specialized financial institution, series of mechanism, process and instrument that in various ways facilitate the bring together of suppliers and users of medium to long term capital for investment in socio economic development of projects. The capital market is divided into primary and secondary market. The primary market or the new issue market provides avenue which government and corporate bodies raise fresh fund, through the issuance of securities which is subscribed to by the general public or selected group of investors. Furthermore, Baye and jensen (1999) described capital market as equity market where ownership of intangible asset such as shares of stocks are bought and sold. New houses and new issues of stocks are sold in the primary market and existing shares of stocks are traded in the secondary market.

In the words of ville (2009) capital market is the arm of the financial market, which is design to facilitate the efficient flow of long-term capital. chou (2009) depicted that capital market has been known to perform important function of mobilizing funds from surplus source to deficient source, thereby matching individual savers need with firm requiring funds and the resulting capital accumulation led to increase investment and economic growth.

Similarly, Nwankwo (1998) opined that capital market comprises the complex of institution and mechanism through which intermediate term funds and long-term funds are pooled and made available to business, government and individuals. He further asserted that capital market comprises the which securities alreadv process by outstanding are transferred. This was further corroborated by Gbosi (2009) who define capital market as that part of financial market which specialized in the mobilization of long term funds for commerce and industry.

According to Sunde and Sanderson (2009) the stock exchange is a market that plays a pivotal role in the economy. It provides a critical link between companies that need funds to set up new business or to expand their current operations and investors that have excess fund to invest in such companies and its provide a regulated market place for buying and selling of shares at a price determine by supply and demand, notwithstanding other macroeconomics fundamentals such as interest and inflation.

Taiwo, Olurunfemi and Olamide (2020) posits that the capital market is the segment of the financial market which facilitates the mobilization and allocation of medium- and long-term funds through the issuance and trading of financial instruments. Such instrument otherwise known as securities, include stock and company shares; commercial and industrial loan; stock and debentures; State government bond and stocks; Federal government development stocks, and the main participant in the capital market are Securities and Exchange Commission (SEC), Nigerian Stock Exchange, Stock Brokers, Trustees, Issuing Houses, Registrars among others

Finally, Kwode (2015) conceptualized capital market as an integral part of the financial system that provides an efficient delivery mechanism for mobilization and allocation, management and distribution of long-term funds. This research work subscribed to the definition of capital market by Dabwor (2015) where he views capital market as the segment of financial sector responsible for mobilizing for long term funds and efficiently channeling the funds for economic development in the areas of expansion of output of firms, upgrading and expansion of plant size, acquisition of new technology, creating financial liquidity, among others. This is because it summarizes the key elements in other definitions and also highlights the influence of the market on the real sector growth (manufacturing inclusive).

# 2.2 Concept of Manufacturing

Manufacturing industries came into being with the occurrence of technological and socioeconomic transformation in the western countries in the 18<sup>th</sup> -19<sup>th</sup> centuries. The period is widely known as the industrial revolution. It all began in Britain and replaced the labour intensive textile production with mechanization and use of fuels (CBN 2011).

Manufacturing is simply the process of making a produce from raw material especially, at a large scale operating using machine. Libiono (2006) through Kaldor first law define manufacturing sector as the engine of growth of the economy. According to World Bank (2007) manufacturing is the process of producing goods in a factory, especially goods that be sold overseas or the act of producing goods in large quantities. Furthermore, Loto (2012) refers to manufacturing sector as an avenue for increasing productivity in relation to import replacement and per capital income which causes unrepeatable consumption pattern. Indeed, Mbelede (2012) opine that manufacturing sector is involved in the process of adding value to raw materials by turning them into products.

According to Keynes (1936) manufacturing sector is a key variable that measures the worth or strength of a country's economic growth and it plays a significant role in decision making. A country formulates economics policy with the aim of stabilizing the real sector, among others. Manufacturing therefore is a key issue in economic policy because it motivates conversion of raw materials into finished goods and services. Charles (2012) posited that the manufacturing sector industries create employment which helps to boost agriculture and diversify the economy on the process of helping the nation to increase its foreign exchange earnings. This was further collaborated by Olorunfemi, Tomolo, Adekunjo and Oguleye (2013) manufacturing sector serves as the vehicle for the production of goods and services, the generation of employment and the enhancement of income.

Ademola(2012) conceptualized manufacturing as the catalyst that accelerate the pace of structural transformation and diversification of the economy, enabling the country to fully utilize its factor endowment, depending less on foreign supply of finished goods or raw materials for its economic growth, development and sustainability.

The conceptualization of manufacturing sector by Abebayo (2011) and Kwode (2015) are similar; Adebayo (2011) manufacturing sector refers to those industries which are involve in the manufacturing and processing of items and indulge or give free rein in either creation of new commodities or in value addition. Then, according to Kwode (2015) manufacturing sector is involved in the production of two (2) categories of goods, consumer goods and capital goods. While the consumer goods refer to the one produced for consumption, the producer goods are those produced to aid further production process.

Thus, manufacturing industries are the key variables in the economy that motivate conversion of raw material into finished goods. In fact, manufacturing sector is the hub of economic activities. This is informed by the fact that it is the sole sector that extracts raw material and transform such materials to a usable form. On the other hand, by accelerating their productive activities the economy would have surplus that can be exported for foreign exchange revenue (Udoh and Ogbuagu, 2012).

Hayatu and Adamu (2017) state Manufacturing sector manufacturing sector depends mainly on short term financing from commercial banks and money market which is inadequate for financing long term capital investment of manufacturing firms

From the foregoing, it can be deduced that manufacturing is the transformation of input into output for the satisfaction of human want. Manufacturing can also be defined as the use of machine, tools and labour to produce goods for consumption and sale.

The concept of manufacturing as put forward by Dabwor (2015) implies that, manufacturing is the conversion and processing of crude product extracted through primary production process into intermediate and finished goods using secondary production technique for further production or final consumption and export. This process of value addition requires sophisticated technology, power, machine, financial and non-financial capital, the application of large scale division of labour. This shall be the working definition in this study, because it embraces all the key components in the previous definitions.

## 2.3 Theoretical Framework:

#### 2.3.1 Kaldorian Theory of Growth

According to Kaldor (1966), an important stylized fact in the growth trajectory of developed economies in the postwar period is the relationship between industrial growth and the performance of the economy as a whole. This observation is the origin of Kaldor's first law, which states that there is a strong relationship between the growth of manufacturing output and growth of GDP. Kaldor's first law can be summed up in the expression "manufacturing is the engine of growth", and was first estimated by Kaldor in a cross section of developed countries over the period 1950 - 54 to 1963-64. The law can be presented by the following regression equation:

$$Qi = \alpha i + \beta i M i$$
 1

Where: Q and M refer to growth of total output and manufacturing output respectively while  $\alpha$ and  $\beta$  are the autonomous output and marginal productivity coefficient of manufacturing respectively.

#### 2.4 Empirical review

It is noteworthy to acknowledge the fact that large number of studies on the impact of capital market on manufacturing sector with different outcome have been conducted over the years, especially in recent years. Among the available studies that provided empirical validation of capital market and manufacturing sector are;

Mamun, Ali, Hoque, Mowla and Basher (2018), investigated the causality between stock market development and economic growth of Bangladesh using ARDL Bound Testing Approach and causality test. The result of the causality test revealed a bidirectional causality between stock market development (market capitalization) and economic growth of Bangledash.

Meanwhile, Elijah (2019) examined the implication of capital market development on manufacturing sector in Nigeria within the framework of ARDL-Bound Testing Approach from 1985-2017 using ARDL Bound Test and pair Wise Granger Causality econometric processes. The findings of the Pairwise Granger causality indicated that both market capitalization and all share index did not granger cause manufacturing sector output while volume of transaction granger cause manufacturing sector output.

Furthermore, Offum and Ihuoma (2018) examined the causal relationship between capital market and performance of the industrial sector in Nigeria from 1985 to 2015, employing Granger Causality test technique. The findings indicated that both market capitalization and total value of shares traded ratio granger causes industrial performance as shown by the unidirectional relationship by both the market capitalization (F- Statistic 1.32167 and p-value 0.2854) and the total value of shares traded (F- Statistic 1.74838 and pvalue 0.1955) ratio to industrial growth. Hence, the researcher reports a unidirectional relationship between capital market development and industrial performance.

In a similar study by Popoola, Ejemeyouwi, Alege, Adu and Onabate (2017) investigate the short run effects, long run effects and causal relationship between stock market and economic growth in Nigeria, using Ordinary Least Square (OLS) and pairwise granger causality method. The result showed unidirectional causality running from All Share Index (ASI) to economic growth in Nigeria.

In addition, Echekoba and Ananwude (2016) assess the causal relationship between index of industrial production and Nigerian stock exchange liquidity and the effects of stock market liquidity has on industrial production 1981 to 2015 using Ordinary Least Square (OLS). Johensen Cointegration test revealed that there is a long run relationship between index of industrial production and stock market liquidity. The OLS regression reports that stock market liquidity has not positively influenced index in industrial production, the Error Correction Model (ECM) indicates that 21% of the error generated in the last period is corrected in the current period, the Granger Causality test disclose that stock market liquidity has no significant effects on index of industrial production rather it is the index of industrial production that has effects on the stock market liquidity in Nigeria.

From the reviewed literature, all the studies focuses on the causal relationship between capital market (equity and debt) and manufacturing sector. But none of these studies or any other studies, best to the researcher's knowledge, specifically researched into the causal relationship between equity's market indicators and manufacturing output. This study identifies this as gap worth filling.

## 3. Methodology

## 3.1 Sources of Data

This study used secondary data in form of time series which was obtained from; Nigeria Stock Exchange (NSE) annual reports, Securities and Exchange Commission (SEC) statistical bulletin, and Central Bank of Nigeria (CBN) statistical bulletins and annual report and financial statements.

# 3.2 Method of Data Analysis

Granger Causality test was used to determine the relationship between capital market indicators and manufacturing output. The Granger Causality will find out the relationship between variables of interest. Engle and Granger (1987) posits that, if two variables are cointegrated, then there is possibility of causality between the variables at least in direction.

Meanwhile, Augmented Dickey Fuller (ADF) and Phillip-Perron (PP) unit root test was employed in order to check the order of integration of the variables included in the research, this has aided in avoiding spurious regression and detecting the appropriate econometric framework adopted for analysis. Variables were found to be integrated of order one (1(1) therefore, vector error correction (VEC) of Johansen cointegration was used.

## 3.3 Unit Root Test

This study used Augmented Dickey Fuller ADF (1979) and Philips Perron PP (1988) to determine the degree of integration of variables (how many time variables is differenced to attain stationarity in a given model) giving the time series of the data, the unit root procedure requires estimating the

ADF as follows;

$$\Delta Y_t = \alpha_0 + \Upsilon Y_{t-1} + \sum_{i=1}^{\kappa} \beta_i \Delta Y_{t-1} + U_t \quad 1$$

 $\triangle Y_t = Y_t - Y_{t-1}$  is the difference of series  $Y_t$ and  $\triangle Y_{t-1} = Y_{t-1} - Y_{t-2}$  is the difference of  $Y_{t-1}$ . A generalized Philips Perron unit root test is also presented thus;

$$\triangle Y_t = \alpha_0 + \Upsilon Y_{t-1} + e_t \qquad 2$$

ADF and PP unit root test will be computed using *E-views* 9 software

## 3.4 Granger Causality Test

Granger Causality Test was conducted to test whether there is any causal relationship between manufacturing output and variables of capital market (market capitalization, value of New Issue, Foreign Direct Investment in Equity, All shares Index inflation and real exchange rate). The Granger Causality Test for the series can be specified in its general form as;

$$Y_{t} = \sum_{i=I}^{J} \beta_{1i} Y_{t-i} + \sum_{i=1}^{J} \beta_{2i} Y_{t-i} + U_{It}$$
3

$$X_{t} = \sum_{i=1}^{J} \beta_{3i} X_{t-i} + \sum_{i=1}^{J} \beta_{4i} X_{t-i} + U_{2t}$$

$$4$$

Where Y=Manufacturing Output, X=capital Market variables, t=the current period of the variable and t-i=the lagged period of the variable  $\beta_{1 to} \beta_{4}$ = the coefficient of the lagged variables and  $U_1, U_2$ = the mutually uncorrelated white noise error term.

## 5 Model Specification

An economic model is a simplification of a real world in which essential features of an economic relationship are explained using diagram, words and mathematic. Koutsiyanous (1973) opines that in an attempting to study any relationship between variables, it is paramount to express the relationship in mathematical form, which is to simplify the model with which the economic phenomenon will be explained empirically. The model of this research was adopted and modified from Salihu and Mohammed, (2017). The model specification involves the following; the determination of the dependent and the explanatory variables, the determination of the apriority theoretical expectation about sign and size of the parameters of the functions, determination of mathematical form of model. Therefore, flowing from economic theory and empirical literature, the functional and econometrics relationship between the manufacturing output and the capital market indices (Market Capitalization of Equity, All shares Index of Equity, Foreign Direct Investment in Equity, Value of New Issue of Equity) while inflation and real exchange rate as checking variables then error term is included to capture the contribution of other variables that are not included in the model. Therefore, to determine the impact of Capital Market on manufacturing output, the level of

manufacturing output is expressed as a function of capital market variables. Hence, the functional relationship between the manufacturing output and the capital market is expressed as follows;

$$MOPT=f(CM)$$
 5

# MOPT=f (MCPE, VFDE, ASIE, VNIE, EXCH, INFL 6

Where; *MOPT*=Manufacturing Output, *MCPE*= Market Capitalization of Equities, *VFDE*= Value of Foreign Direct Investment in Equity, *ASIE*= All Shares Index of Equities, *VNIE*=Value of New Issue of Equities, *EXCH*= Exchange Rate, *INFL*= Inflation. By linearizing the function, we have the following equation:

$$MOPT_{t} = \beta_{0} + \beta_{1} MCPE_{t} + \beta_{2} VFDE_{t} + \beta_{3} ASIE_{t} + \beta_{4} VNIE_{t} + \beta_{5} EXCH_{t} + \beta_{6} INFL_{t} + U_{t}$$

Where  $\beta_0$  is the intercept and  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are estimated parameters where U= stochastic error term.

## 4. Result and interpretation

## 4.1 Unit Root Result

This study applied unit root test to determine the stationarity of the variables by using Augmented Dickey-Fuller and Philip Perron Tests as indicated in Table 4.4. The variables VNI, LMNF, MCE, SIE, INF, EXR and FDI were all found to be stationary at first difference I(I) and satisfies the condition for using Johansen cointegration technique since the variables are stationary at first difference.

Variables	ADF Test	Critical	t-stat	PP Test	Critical	t-stat	Order of
	Stat.	Value		Stat.	Value		Integration
Lmnf	-3.2264*	5%	-2.9763	-1.7686.*	5%	-2.9676	I(1)
MCE	-4.4344*	5%	-2.9678	-4.0408*	5%	-2.9678	I(1)
VNI	-3.3315*	5%	-2.9630	-8.1493*	5%	-2.9678	I(1)
SIE	-5.7810*	5%	-2.9719	-7.5556*	5%	-2.9678	I(1)
INF	-4.5121*	5%	-2.9678	-4.4999*	5%	-2.9678	I(1)
EXR	-3.7926*	5%	-2.9678	-3.6990*	5%	-2.9678	I(1)
FDI	-7.1415*	5%	-2.971	12.4968*	5%	-2.9677	I(1)

 Table 1. Unit Root Result

Note: \*, denotes significance at 5% level and the variables are observed at intercept. Source: author's Computation using e-views version 12.0

4.2 Assessment of Causality between Capital Market Indices and Manufacturing Output Table 4.4 shows both the short run and long run measures of causality between manufacturing output and capital market indices. The long run causality was assessed using the error correction coefficient extracted from the estimated Vector Error Correction Model. Meanwhile the short run causality was extracted from the estimated short run VAR base on granger causality.

# Table 2. Granger Causality Results based on VECM

	Independent Variables										
	$\chi^2$ -statistics of lagged 1 <sup>st</sup> differenced term										
Dependent	[p-value]										
Variable	ΔLMNF	ΔLFDI	ΔLMCE	ΔLVNI	ΔLSIE	$\Delta LEXT$	ΔLINF	(t-ratio)			
ΔLMNF		1.6229	36.846*	7.756**	22.296*	5.6197***	7.7769**	-0.0495**			
		[0.444]	[0.000]	[0.021]	[0.000]	[0.060]	[0.020]	(-2.35)			
ALFDI	8 858**		16.224*	0.3207	4 451	3.618	1.028	0.0024			
	[0.012]		[0.000]	[0.852]	[0.108]	[0.164]	[0.598]	(0.03)			
ΔLMCE	1.376	3.908		8.242**	29.72*	16.206*	2.030	0.4600			
	[0.503]	[0.142]		[0.016]	[0.000]	[0.000]	[0.362]	(1.46)			
ΔLVNI	1.715	9.803*	0.797		2.316	0.645	3.800	-0.0065			
	[0.424]	[0.007]	[0.671]		[0.314]	[0.724]	[0.150]	(-0.02)			
ΔLSIE	0.321	0.026	0.944	4.797***		20.828*	9.983*	0.1083			
	[0.852]	[0.987]	[0.624]	[0.091]		[0.000]	[0.007]	(1.37)			
$\Delta LEXT$	0.113	3.609	1.749	19.043*	4.941*		28.781*	-0.1266*			
	[0.945]	[0.165]	[0.417]	[0.000]	[0.085]		[0.000]	(-1.95)			
$\Delta$ LINF	9.021**	5.395*	2.395	15.131*	8.724**	2.265		-0.4254*			
	[0.011]	[0.067]	[0.302]	[0.001]	[0.013]	[0.322]		(-4.07)			

*Note*: \*, \*\*\* and \*\* denotes significant at 1%, 5%, and 10% significance level, respectively. The figure in the parenthesis (...) denote as t-statistic and the figure in the squared brackets [...] represent as p-value.

The result reveal that, based on error correction term ECT(-1). The estimated ECT has yielded coefficient that is in conformity with the rule of thumb, it is negative, less than one in its absolute value and statistically significant at 5% level. The coefficient 0.0495 implies that there is a speed of adjustment of about 0.0495% per annum in the event of manufacturing output back to equilibrium as the system depart to long run equilibrium.

This result shows that manufacturing output, exchange rate and inflation have long run causality with their determinant while other variables in the system do not exhibit the existance of long run causality with their determinant. The short run causality reveals the existance of unidirectional causalities between variables in the system. as regards the targeted relationship, manufacturing output granger causes market capitalization of equities, value of new issue of equities and all share index of equities. The causation is running from market capitalization of equities, all share index of equities and value of new issue of equities to manufacturing output. Hence, the null hypothesis that said capital market indices does not granger causes manufacturing output is rejected.

Furthermore, the market capitalization of equities probability value of 0.000 is less than its critical value of 0.01 percent. Therefore, market capitalization has significant influence on manufacturing output in Nigeria and this result was supported by Offum and Ihuoma (2018) who found that, there is unidirectional causality running from market capitalization to industrial performance.

Likewise, SIE probability value of 0.000 is less than its critical value of 0.01 percent result shows that there is existence of unidirectional causation running from ASI to manufacturing output at 0.1 percent critical level. This indicates that All Share Index of equities granger cause manufacturing output during the period under study. This result concurred with the findings of Popoola, Ejemeyouwi, Alege, Adu and Onabate (2017). In the same vain, the probability value of new issue of equities of 0.021 is less than its critical

value of 0.05 percent. Hence value of new issue has significant influence on manufacturing output and this result is in conformity with the findings of Dabwar (2015)

This means that capital market indicators Granger causes manufacturing output in the long run implying that capital market indicators contributed immensely to the manufacturing output.

# 5. Conclusion

The result of the Granger causality indicates that, there is existence of uni-directional causality between manufacturing output and capital market variables; market capitalization of equities, all share index of equities and value of new issue of equities granger causes manufacturing output in Nigeria. This implies that capital market indicators granger causing manufacturing out in the long run.

The result Granger causality result revealed a one-way causation between all the indices of capital market and manufacturing output; market capitalization of equities and manufacturing output, all share index of equities and manufacturing output and value of new issues of equities and manufacturing output; capital market indices were granger causing manufacturing output.

Having empirically examined the impact of capital market indicators on manufacturing output in Nigeria, the following policy recommendation is made;

There should be a deliberate policy by the government to develop the capital market to be more accessible and liquid to the investors (retail, institutional and foreign) as well as broadening, deepening in order to increase the market capitalization and make it robust to be a global investment destination that can compete internationally and attract foreign direct investment in equities then address the need of the manufacturing sector of the by incentivize economy financing of manufacturing sector to address weaknesses in business environment caused by limited finance.

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