Stock Market Performance and Manufacturing Growth in Nigeria

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Abstract: **This study examined nexus between stock market performance and manufacturing growth in Nigeria using data spanning between 1985 and 2020. Vector Autoregression (VAR) model was employed to examine the complex interaction between the variables. The result of stationarity test through Augmented Dickey-Fuller (ADF) and Phillip Peron (PP) affirmed the use of VAR. the study concluded that stock market performance has significant influence on manufacturing growth. Hence, government should make concerted effort by making appropriate monetary policy that will promote stock market performance that will leads to capacity growth of manufacturing sub-sector.**

***Keywords*: Stock Market Performance, Manufacturing Growth, all share index, Equity and industrial Loan**

I.INTRODUCTION

The studies on the stock market returns or performance have received considerable attention in recent times because stock market performance is considered to be one of the major determinants of macroeconomic performance in every country, Nigeria inclusive (Donatus, 2009 and Robert, 2008). Obadan (1998), opined that an active stock market contribute to changes in the general level of economic activities which can lead to sustainable economic growth. Majority of Africa countries are richly endowed with natural and mineral resources that ought to have exerted greater influence on their economic growth and if these resources are properly annexed with adequate capital needed, some of Africa countries supposed to be among the developed countries. Nazir, Nawaz & Gilani (2010) agreed that stock market is important pillar of the country's economy.

Nigeria Stock market has experienced remarkable progress since 1981 as evidence by the major stock market performance indicators such as number of listed companies, all share price index and market capitalization. More evidence from Central Bank of Nigeria (2018) indicates that market capitalization for 1985 values at ₦6.6 billion and increase to ₦285.8 billion in 1996 but fall to ₦281.9 billion and ₦262.6 billion in 1997 and 1998 respectively. Stock market capitalization rose from ₦300 billion in 1999 to ₦13.18 trillion while another fall was witness between 2008 and 2009 with ₦9.56 trillion and ₦7.03 trillion respectively. Market capitalization then rose from ₦9.92 trillion in 2010 to ₦19.08 trillion 2013 and later witness fluctuation. Stock market has played vital role in Nigeria economic development most especially in improving private sector and proved to be an important source of capital or financial investment for the private sector. The bulk of the recapitalization of the banking sector was realized through stock market.

Manufacturing sector plays an important role as a driver of innovation, productivity growth and technological change in the global economy. It is no doubt that the growth in the sector is the major factor that leads to economic diversification of most economies of the developed countries of the world (Eze. Emeka and Ogbonna, 2019). Various measures have been taken by successive governments in Nigeria which led to introduction of various reforms in the country. The major objective of these reforms was the diversification and restructuring of the productive base of the economy with a view to enhancing efficiency and reducing its dependence on oil exports. The Structural Adjustment Programme (SAP) as a reform strategy, introduced in 1986 to bail the country out of its numerous challenges had favourable effect on agriculture but a negative effect on manufacturing. The relative contribution of manufacturing production to GDP showed that SAP, indeed, triggered a shrinking growth of the manufacturing sector which contributed 8.7% to GDP in 1986. However, with the adoption of SAP, the manufacturing sector's relative share in output began to fall and reached a 5.29% in 1989 and fell further to 4.96% in 1990s. Despite these reform strategies, oil export is still expanding while the non-oil export is yet to improve appreciably (Awe, 2018). This shows that the reforms are not capable of diversifying the Nigerian economy which would have boosted manufacturing productivity to pave way for sustainable economic growth.

The efforts of successive governments to promote the manufacturing growth which has been identified as the engine room of economic growth and the major determinant in achieving macroeconomic goal in the country has remained insignificant. This has generated a lot of debate among scholars. They partly attributed it to lack of long term funds that is needed to providing impetus for inclusive growth and job creation in the sector. Kwode (2015) is of the view that 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 small and medium scale industries in Nigeria. While Offum and Ihuoma (2018) maintained that the performance of the capital market has not translated to a remarkable growth of the Nigeria manufacturing growth. Ubesie & Ude (2019) also agreed that stock market performed below expectation as a supplier of cheap and stable funds for manufactures in Nigeria. Since there is divergent view on the impact of stock market on manufacturing growth, it is necessary to study the relationship among them from another angle. This critical issue has warranted a new frontier of research with respect to the relationship that exist between stock market performance and manufacturing growth in Nigeria using vector autoregressive (VAR) approach.

II. LITERATURE REVIEW

The issue of stock market performance and its impact on the growth and development of an economy has received considerable attentions not only among academic researchers but policy makers are not left out (Ifeoluwa and Motilewa, 2015). This is because, stock market performance is one of the vital instruments of measuring economic well-being of a nation. In view of Obadan (1998), an active stock market contributes to changes in the general level of economic activities. It contributes to the economy directly or indirectly by mobilizing resources from surplus sector of the economy for the benefit of those in need of fund. It mobilizes savings, creation of liquidity, risk diversification, acquisition and dissemination of financial information, and enhanced incentive for corporate control.

Manufacturing industry been one of the global development agenda as reflected in sustainable development goal is a key ingredient in the economic development process of developing nation, Nigeria inclusive. Manufacturing sector have capacity of generating employment, reducing poverty increase national productivity (Nyong, 2011; Ebong, Udoh and Obafemi, 2014). Ly (2011) opined that manufacturing sector can only strive through adequate capital formation which stock market usually serve as one of major mobilization of financial resources for its development. Stock market has the potential of mobilizes long term financial resources needed by the manufacturing firms (Ogunsakin and Awe, 2020).

There has been a growing concern recently by various scholars on the role of stock market on the economic growth and how it can help in making appropriate policy that can lead to sustainable economic development. Okpara (2010) carried out an investigation on the impact of capital market performance on growth of the Nigerian economy. The results showed that there was a long run interaction between the growth of the economy (gross domestic product) and capital market indicators. From the results, one period lag of market capitalization, new issues, value of shares traded and turnover ratio had significant impact on the growth rate of gross domestic product in the country.

In the same line of research, Olowo, Oluwatoyin & Fagbeminiyi (2011), critically analyzed the efficiency of capital market on the Nigerian economy for the period between 1979 and 2008. The results indicated that the stock market indeed contributed to economic growth as all variables conformed to expectation. The major findings revealed a negative relationship between market capitalization and gross domestic product as well as a negative relationship between turnover ratio and gross domestic product while a positive relationship was observed between the all-share index and gross domestic product. Udoh & Ogbuagu (2012) used total production framework and autoregressive distributed lag (ARDL) co-integration technique for Nigerian time series data covering the period 1970-2009. It was found that both the long run and short run dynamic coefficients of financial sector development variables had a negative and statistically significant impact on industrial production.

In another development, Idyu, Ajekwe, & Johnmark (2013) determined the impact of the Nigerian capital market on the industrial sector component of the Nigerian gross domestic product, ascertain the impact of the Nigerian capital market on industrial loans issued by stock exchange and determine the impact of the Nigerian capital market on average capacity utilization rates of the Nigerian manufacturing sector. An ex-post facto research design was adopted using secondary data to determine the level of impact on the growth of the Nigerian industrial sector for the period 1990 – 2009. The results showed that market capitalization have positive significant impact on industrial sector component of the gross domestic product and average capacity utilization rates of the manufacturing sector. However, the result revealed non- significant impact of market capitalization on industrial loans of the stock exchange.

Also, Kwode, (2015) examined the role of the capital market in financing the manufacturing sector in Nigeria between1970 – 2012. Using ordinary least square method, co-integration test and error correction method; the study reveals that there is a long – term relationship between capital market and the development of the manufacturing firms in Nigeria but the growth in capital market activities did not impact significantly on the manufacturing sector. The Nigerian manufacturing sector has been on the decline because of non-access to long-term funds from the capital market, high interest rate, volatile foreign exchange and unstable electricity.

Egbe, Joshua, Eja, & Uzezi, (2015) examined the relationship between capital market and industrial sector development in Nigeria, utilizing annual time series data covering the period from 1980 to 2012. The study adopted co-integration test, granger causality test and the error correction mechanism (ECM) in the estimation of the relevant relationships among variables. The results 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. However, value of transaction has negative and significant impact on industrial output in Nigeria during the evaluation period. The results also showed that real gross domestic product has a positive and significant impact on industrial output in Nigeria, while exchange rate and gross domestic investment have negative and significant relationship with industrial output in Nigeria.

In the same view, Echekoba &Ananwude (2016) studied the nexus between index of industrial production and Nigeria stock market liquidity and the effect stock market liquidity has on industrial production from 1981 to 2015, through the applications of Johansen cointegration test and its associated error correction model (ECM). The variables employed in the study were index of industrial production and value of stock traded ratio to gross domestic product. The result of the Johansen co-integration indicated that long run equilibrium relationship exists between index of industrial production and stock market liquidity. The ordinary least square (OLS) revealed that stock market liquidity has negative influence on index of industrial production.

Florence, Ogechi, Kingsley, Idika & Odili (2017) evaluated the impact of stock market liquidity and efficiency on performance of the manufacturing sector in Nigeria. Applying unit root test and ARDL bounds test approach to co-integration for time series data ranging from 1985 to 2011. The study found that stock market efficiency and number deals were significant variables that explained the changes in the Nigerian manufacturing sector. Also, Salihu and Mohammed (2017), investigated the impact of stock exchange on the manufacturing sector in Nigeria for the period 1980-2015, using co-integration test and error correction model (ECM). The study found that there is a long term relationship between stock exchange and the development of the manufacturing sector in Nigeria, but the growth in stock exchange activities had insignificant impact on the manufacturing sector in the economy.

Owui, (2019) examined the impact of capital market indicators (industrial loan, equity, market capitalization) on industrial sector financing in Nigeria. He employed ordinary least squares of multiple regression statistical technique based on the analysis. His findings revealed there is a significant impact between industrial loan and the growth of industrial sector financing in Nigeria, there is a significant impact between market capitalization and the growth of industrial sector financing in Nigeria, there is no significant impact between equity and the growth of industrial sector financing in Nigeria.

Based on the available literature, it is crystal clear that scholars did not agree on the relationship that exist between stock market performance and manufacturing growth. Therefore, this work will re-examine the relationship that exist between stock market performance and manufacturing growth in Nigeria by study complex interaction among the variables. This will shed more light on the issue and provided useful insights into the real relationship among them.

III. METHODOLOGY

The study adopts Vector Autoregressive (VAR) model with is components to measure complex between stock market and manufacturing growth in Nigeria. Investigation of shocks transmission is imperative in ascertaining the sensitivity of these variables among one another which is the best measured by impulse response function and forecast error variance decomposition of VAR model (Gujarati and Sangeetha, 2007). The model for the study is hereby specified:

$$Z_t = \mu + \sum_{i=1}^{p} \beta_i Z_{t-1} + \varepsilon_t$$

Where Z_t is the vector of both dependent variable defined as MOT and explanatory variables (ASI, EQT, INDL and INTR)

Where:

MOT = Manufacturing Output
ASI = All Share Index.

EQT = Equity.

INDL = Industrial Loan.

RINT = Real Interest Rate.

IV. RESULTS

4.1 Testing the Normality in the Distribution of the Data Set in the Study

Table 1. Descriptive Statistics

	MOT	ASI	EQT	INDL	INTR
Mean	0.022867	-0.888681	0.349939	0.418056	18.26861
Median	0.021985	-0.884067	0.382458	0.010000	17.77000
Maximum	0.217971	-0.778202	1.870492	6.520000	29.80000
Minimum	-0.175105	-0.965580	-0.316576	0.000000	9.250000
Std. Dev.	0.098163	0.039255	0.439648	1.243499	4.058012
Skewness	0.023259	0.332185	1.233796	3.891151	0.559292
Kurtosis	2.591647	3.158629	5.790233	18.24228	4.337746
Jarque-Bera	0.253374	0.699825	20.81161	439.3371	4.561193
Probability	0.881009	0.704750	0.000030	0.000000	0.102223
Sum	0.823211	-31.99250	12.59781	15.05000	657.6700
Sum Sq. Dev.	0.337258	0.053933	6.765162	54.12016	576.3612
Observations	36	36	36	36	36

Source: Author computation (2021).

Descriptive statistics result in table 1 helps to predict the nature and behaviour of the data distribution. The arithmetic mean value and median value of world MOT, ASI and INTR are symmetrical while those of EQT and INDL are asymmetrical in their distribution. From the results, it was revealed that MOT and ASI, mirror normal skewness, while EQT, INDL and INTR are positively skewness. Kurtosis result in table 1 shows that ASI is mesokurtic which depicts normal distribution, EQT, INDL and INTR are leptokurtic which depicts a peak curve, MOT on the other hands are platykurtic which depicts a flatted curve. Jarque-Bera statistic confirmed that MOT, ASI and INTR are normally distributed while EQT and INDL are not normally distributed.

4.2 Testing the Correlation among the Series using

Correlation Matrix

Before proceeding to other estimations in the study, it is essential to carry-out a test to ascertain if there is interplay among the variable of interest. This is done through correlation matrix.

Table 2

	MOT	ASI	EQT	INDL	INTR
MOT	1	-0.2350	-0.3743	-0.2304	-0.0136
ASI	-0.2350	1	0.8780	0.0423	0.2711
EQT	-0.3743	0.8780	1	0.0863	0.1933
INDL	-0.23048	0.0423	0.0863	1	0.0301
INTR	-0.0136	0.2711	0.1933	0.0301	1

Source: Author computation (2021).

The result in Table 2 gives us a preliminary idea of the relationship existing among the series. The result indicates that all the variables were negatively correlated with MOT.

4.3 Time Series Properties of the Variable.

Table 3. Unit root test

	Level			
Variables	P.P Statistics	ADF Statistics	5% critical Value	Order of Integration
MOT	-4.8226	-4.8114	-2.9484	I(0)
ASI	-3.7643	-3.6785	-2.9484	I(0)
EQT	-5.0796	-5.0797	-2.9484	I(0)
INDL	-4.5647	-4.5711	-2.9484	I(0)
INR	-4.0622	-4.0648	-2.9484	I(0)

Source: Author computation (2021).

The results of both Phillip Peron (PP) and Augmented Dickey-Fuller (ADF) unit root test presented in Table 3 confirm that all variables are stationary at level. The results revealed that all the variables are all order zero, this indicates that condition for cointegration is not met. Hence, the best estimation technique as suggested by Gujarati and Sangeetha (2007) is to result to the short run dynamic estimation using Vector Autoregression (VAR) since long run equilibrium relationship is not achievable. This justify the use of VAR for the analysis in this study.

4.4. Selection of Appropriate Lag Length

Table 4. Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-225.6375	NA	0.078097	14.47734	14.75217	14.56844
1	-146.7014	123.3377	0.005570	11.79383	13.71761	12.43151
2	-109.7705	43.85544	0.006783	11.73565	15.30838	12.91991
3	-42.68922	54.50351	0.002117	9.793076	15.01476	11.52392
4	81.39369	54.28627*	7.25e-05*	4.287894*	11.15853*	6.565316*

Source: Author computation (2021).

The result in table 4 indicates that all the criteria suggest four lag for the model. Therefore, four lag variable was selected.

4.5. Vector Autoregression Estimate

Table 5

	MOT	ASI	EQT	INDL	INTR
MOT(-1)	-0.258158	-0.022939	-0.104919	5.586078	-18.61852
	(0.28080)	(0.11857)	(1.39807)	(5.35409)	(10.3065)
	[-0.91938]	[-0.19346]	[-0.07505]	[1.04333]	[-1.80648]
MOT(-2)	0.018007	-0.012352	-1.356625	-4.282346	13.46411
	(0.31171)	(0.13163)	(1.55198)	(5.94351)	(11.4411)
	[0.05777]	[-0.09384]	[-0.87413]	[-0.72051]	[1.17682]
MOT(-3)	-0.030114	-0.048041	-0.490433	3.519894	-18.35117
	(0.25753)	(0.10875)	(1.28224)	(4.91050)	(9.45262)
	[-0.11693]	[-0.44176]	[-0.38248]	[0.71681]	[-1.94138]
MOT(-4)	0.083938	0.070857	0.305419	-0.151633	13.08303
	(0.26603)	(0.11234)	(1.32455)	(5.07256)	(9.76459)
	[0.31552]	[0.63074]	[0.23058]	[-0.02989]	[1.33985]
ASI(-1)	1.153456	0.501144	5.614634	-38.75117	135.9314
	(1.91849)	(0.81014)	(9.55205)	(36.5809)	(70.4175)
	[0.60123]	[0.61859]	[0.58779]	[-1.05933]	[1.93036]
ASI(-2)	-1.121488	-0.776358	-1.725774	42.00151	84.93540
	(2.44838)	(1.03390)	(12.1903)	(46.6846)	(89.8670)

	[-0.45805]	[-0.75090]	[-0.14157]	[0.89969]	[0.94512]
ASI(-3)	-3.239875	0.917711	11.02987	-17.52936	-98.89917
	(1.80684)	(0.76299)	(8.99619)	(34.4522)	(66.3197)
	[-1.79311]	[1.20278]	[1.22606]	[-0.50880]	[-1.49125]
ASI(-4)	-2.779760	0.173765	2.402187	-2.958936	4.092100
	(1.33890)	(0.56539)	(6.66633)	(25.5296)	(49.1440)
	[-2.07615]	[0.30734]	[0.36035]	[-0.11590]	[0.08327]
EQT(-1)	-0.055316	-0.013745	-0.414320	3.568129	-12.12325
	(0.16554)	(0.06991)	(0.82423)	(3.15649)	(6.07618)
	[-0.33415]	[-0.19662]	[-0.50268]	[1.13041]	[-1.99521]
EQT(-2)	0.095642	0.010146	-0.543561	-2.673944	-6.989484
	(0.19987)	(0.08440)	(0.99516)	(3.81111)	(7.33632)
	[0.47851]	[0.12021]	[-0.54620]	[-0.70162]	[-0.95272]
EQT(-3)	0.230179	-0.041190	-0.580089	1.367686	6.365374
	(0.12908)	(0.05451)	(0.64268)	(2.46123)	(4.73783)
	[1.78324]	[-0.75567]	[-0.90261]	[0.55569]	[1.34352]
EQT(-4)	0.278782	-0.046941	-0.583746	0.473328	4.094455
	(0.11213)	(0.04735)	(0.55828)	(2.13802)	(4.11565)
	[2.48627]	[-0.99137]	[-1.04561]	[0.22139]	[0.99485]
INDL(-1)	-0.015518	-0.002421	0.035495	0.389261	-0.166363
	(0.01722)	(0.00727)	(0.08574)	(0.32836)	(0.63208)
	[-0.90114]	[-0.33297]	[0.41397]	[1.18548]	[-0.26320]
INDL(-2)	0.003175	-0.003595	0.000928	-0.166900	0.399135
	(0.01658)	(0.00700)	(0.08256)	(0.31616)	(0.60860)
	[0.19146]	[-0.51348]	[0.01124]	[-0.52790]	[0.65583]
INDL(-3)	0.005891	0.000743	0.035012	-0.171733	0.001940
	(0.01882)	(0.00795)	(0.09369)	(0.35879)	(0.69066)
	[0.31308]	[0.09347]	[0.37372]	[-0.47865]	[0.00281]
INDL(-4)	-0.005030	0.007861	0.169088	0.309716	0.769284
	(0.01878)	(0.00793)	(0.09350)	(0.35805)	(0.68925)
	[-0.26786]	[0.99140]	[1.80851]	[0.86500]	[1.11612]
INTR(-1)	-0.001055	0.004783	0.037016	0.110781	0.459703
	(0.00684)	(0.00289)	(0.03403)	(0.13033)	(0.25088)
	[-0.15430]	[1.65717]	[1.08770]	[0.85002]	[1.83238]
INTR(-2)	0.006739	-3.72E-05	-0.023512	0.009565	-0.051067
	(0.00681)	(0.00287)	(0.03390)	(0.12981)	(0.24988)
	[0.98984]	[-0.01292]	[-0.69363]	[0.07369]	[-0.20437]
INTR(-3)	0.000542	0.003285	0.036962	-0.002406	-0.068478
	(0.00694)	(0.00293)	(0.03455)	(0.13231)	(0.25469)
	[0.07807]	[1.12116]	[1.06986]	[-0.01818]	[-0.26887]
INTR(-4)	-0.003035	-0.000813	-0.007856	-0.030019	-0.298118
	(0.00612)	(0.00258)	(0.03045)	(0.11662)	(0.22449)
	[-0.49624]	[-0.31471]	[-0.25799]	[-0.25741]	[-1.32796]

C	-5.542887	-0.269187	15.62686	-17.80732	132.7443
	(2.66759)	(1.12647)	(13.2818)	(50.8645)	(97.9131)
	[-2.07786]	[-0.23897]	[1.17656]	[-0.35009]	[1.35574]
R-squared	0.689354	0.708828	0.671076	0.401519	0.717472
Adj. R-squared	0.124542	0.179424	0.073032	-0.686629	0.203786
Sum sq. resids	0.087928	0.015679	2.179732	31.96823	118.4599
S.E. equation	0.089406	0.037754	0.445149	1.704759	3.281627
F-statistic	1.220502	1.338918	1.122118	0.368993	1.396713
Log likelihood	48.94554	76.53236	-2.421487	-45.39014	-66.34744
Akaike AIC	-1.746596	-3.470772	1.463843	4.149384	5.459215
Schwarz SC	-0.784707	-2.508883	2.425732	5.111273	6.421104
Mean dependent	0.016816	-0.888809	0.367074	0.467500	18.87250
S.D. dependent	0.095554	0.041678	0.462352	1.312663	3.677683
Determinant resid covariance (dof adj.)	2.65E-06				
Determinant resid covariance	1.27E-08				
Log likelihood	63.86662				
Akaike information criterion	2.570836				
Schwarz criterion	7.380282				
Number of coefficients	105				

Source: Author computation (2021).

From the VAR result in table 5, lag of ASI and EQT strongly predict MOT, while other variables (INDL and INTR) does not significant impact on MOT.

4.5.1 Impulse Response Analysis among Variables

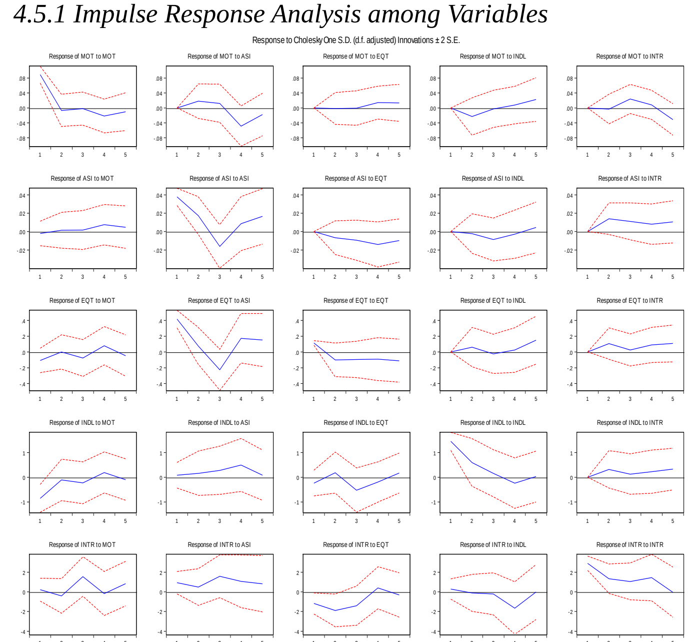

Figure 1. Impulse Response Function Analysis.

From impulse response function analysis result presented in figure 1 shows that the response of manufacturing output to a standard deviation shock (innovation) to other variables has noticeable weak impact. Also, all other selected variables respond poorly to a standard deviation shock (innovation) to one another.

4.5.2. The Forecast Error Variance Decomposition Analysis

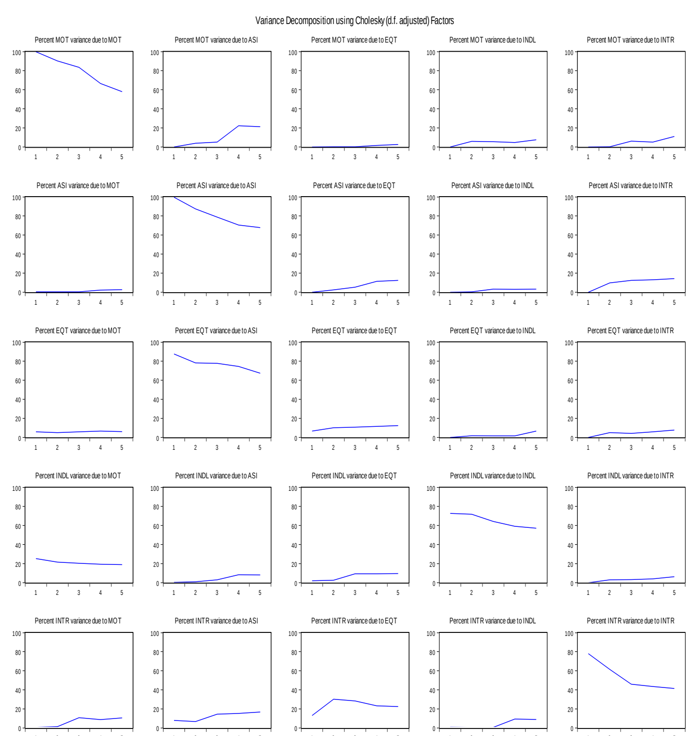

Figure 2. The Forecast Error Variance Decomposition

It is observed from figure 2 that shock (variance) in manufacturing output are mostly caused by the shocks to all share index and feedback shocks from its lag, while the shocks from others are insignificant. Also, the shocks in all share index are influenced by interest rate and slightly by Equity while shock in Equity are caused by all share index. In addition, industrial loan shock only caused by feedback from its own lag. Finally, shock in interest rate are caused by the shock to Equity and feedback from its own lag.

4.6 Diagnostic Test

Table 6: VAR Residual Serial Correlation LM Tests

Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	34.74021	25	0.093 0	1.599001	(25, 8.9)	0.236 6
2	15.15824	25	0.937 6	0.392963	(25, 8.9)	0.968 3
3	42.27898	25	0.016 8	2.471991	(25, 8.9)	0.080 1
4	44.07579	25	0.010 6	2.732072	(25, 8.9)	0.060 1

Source: Author computation (2021).

Table 6 result indicates that there is no serial autocorrelation in the series

Table 7. VAR Residual Serial Correlation LM Tests

Component	Skewness	Chi-sq	df	Prob.*
1	-0.371275	0.735173	1	0.3912
2	-0.304803	0.495493	1	0.4815
3	-0.204738	0.223560	1	0.6363
4	0.874137	4.075286	1	0.0435
5	0.274106	0.400715	1	0.5267
Joint		5.930227	5	0.3131
Component	Kurtosis	Chi-sq	df	Prob.
1	1.966688	1.423644	1	0.2328
2	3.018880	0.000475	1	0.9826
3	4.109360	1.640907	1	0.2002
4	6.209465	13.73422	1	0.0002
5	3.172770	0.039799	1	0.8419
Joint		16.83905	5	0.0048
Component	Jarque-Bera	df	Prob.	
1	2.158817	2	0.3398	
2	0.495969	2	0.7804	
3	1.864467	2	0.3937	
4	17.80951	2	0.0001	
5	0.440514	2	0.8023	
Joint	22.76928	10	0.0116	

Source: Author computation (2021).

Table & shows that there is no problem of multicollinearity. Therefore, the result obtained can be used for effective prediction.

4.7. Testing for Structural Stability

In order to test for the stability of the model used in this paper, the cumulative sum of the recursive residuals (CUSUM) and the cumulative sum of squares is applied. The test finds parameters instability if the plots of the cumulative sum of the recursive residuals (CUSUM) and the cumulative sum of squares go outside the area between the two critical lines. The plots are shown in figures 3 and 4below:

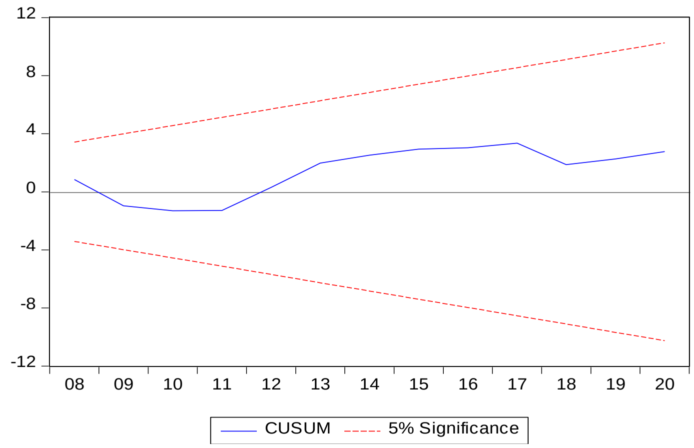

Figure 3. CUSUM Test for Structural Stability of the Parameters

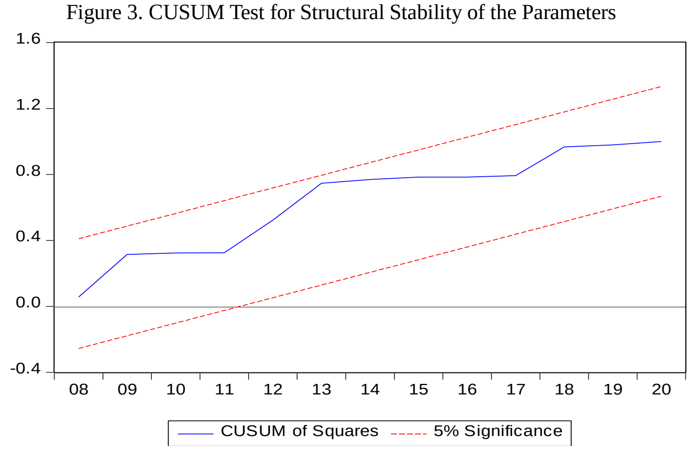

Figure 4. CUSUM of Squares Test for Structural Stability of the Parameters

As shown in fig 3 and fig.4, the results are suggestive of coefficient stability since the plots did not move outside the 5% critical bound. This confirms the existence of coefficient stability for the estimated parameters for the short run dynamics and long run of all share index function over the sample periods as the results indicate tendency of further coefficients stability.

V. CONCLUSION

The study reveals that only all share index and equity that have strong predictive power over manufacturing output. Similarly, industrial loan and interest rate does not exhibit significant impact on manufacturing output. It was observed that both equity and interest rate influence all share index. The finding imply that positive change in both all share index and equity will cause sustainable growth in manufacturing sub-sector. Hence, government should make concerted efforts in promoting stock market activities in the economy, in order bring needed investments required by investors, thereby leading to improve capacity and promotion of manufacturing growth.

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