THE EFFECT OF STOCK MARKET PERFORMANCE ON OUTPUT GROWTH IN NIGERIA

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Abstract

The study investigates the effect of stock market performance on output growth in Nigeria between 1980 and 2022, using ARDL as an estimation technique. The results show that growth rate of Gross Capital Formation (GCFgr) and Market Capitalization of Listed Domestic Company (MCLDC) all assert a positive but non-significant effect on output growth in Nigeria while the Stock Trade Turnover Rate of Domestic Share (STTRDS) demonstrate a significant positive effect on Output Growth in Nigeria in the long-run in Nigeria. Also, Changes in growth rate of Gross Capital Formation D(GCFgr), changes in Market Capitalization of Listed Domestic Companies D(MCLDC) and changes in Stock Trade Turnover Rate of Domestic Share D(STTRDS) all indicate a positive but insignificant effect on growth rate of Gross Domestic Product (Output growth) in Nigeria. it is therefore recommended government should put-in-place policies that promote the effectiveness and efficiency of stock market performance in Nigeria, in order to attain the desired output growth level.

Keyword: *Stock Market Performance, Economic Growth, ARDL and Nigeria*

Introduction

Stock market in Nigeria has been recording tremendous successes over the years and had boosted the confidence of investors both local and foreign investors in the nation's economy across the globe. But it seems to have not really significantly impacted on the level output in the country. Stock market is a vital component for economic development as it provides the listed companies with a platform to raise long-term capital and also provide investors a platform to invest their surplus funds. Therefore, stock market encourages investors with surplus funds to invest them in additional financial instruments that better matches their liquidity performances and risk appetite (Olweny & Kimani, 2011). One of the indicators used to demonstrate how robust the nation's economy is stock market. The return on stock market is influenced by some economic indicators such as Gross Domestic Product, Foreign Direct Investment, Inflation, Interest Rate, Money Supply as well as Exchange Rate among others (Gure & Mutswene, 2023). This clearly demonstrates that; a healthy and robust stock market exhibits certain in impacts on output growth of any given country.

Stock market plays a major role as an economic institution which enhances the efficiency in capital formation and allocation can not be overemphasized. It enables both corporate organizations and government to raise needed fund for their investments in form of long-term capital and enables them to finance new investments and expanding the existing ones (Olweny & Kimani, 2011). However, this can only boost economic performance when the capital is channeled to productive sector of the economy (Alile, 1984). The performance of stock market to a large extent has an impact on growth rate of output of any given nation, either developed or less developed. It has

been noted that, a well-functioning financial system encourages technical innovation by relocating resources to encourage an entrepreneurial development and promote output growth of a nation (Schurpeter, 1911 & Paramati & Gupta, (2011).

Some advanced countries in such as United Kingdom and United State of America have promoted the output growth level in their respective countries due to functional and effective performance of the stock market in their countries. Over the years, every successful government in Nigeria has been working very hard to attract the needed foreign direct investment in Nigeria in order to stimulate output growth but these efforts are to no avail, despite the impressive performance of our capital market. The inability of successful government in Nigeria to encourage foreign investors to come and in in the country be as a result ineffective performance of stock market in Nigeria.

Many scholars have examine the effect of stock market performance on output growth but the empirical studies available show that, their studies are not sufficient enough to clearly demonstrate the real impact of stock market performance on output growth and these studies clearly indicate that, there are controversies as regard the effect of stock market performance on output growth. At the same time, the techniques adopt in most of these studies are not adequate enough t enough to establish the meaningful effect the stock market performance has on output growth. This study is therefore aims at determine both the short-run and long-run effect of stock market performance on output growth in Nigeria, using the most current and appropriate estimation technique. The scope of the study is between 1980 and 2022 covers the period of 42 years. This period covers the pre-SAP era between 1980 and 1985, the post-SAP era, from 1987 to 2022. The period is long enough to establish the short-run and long-run effect of stock market performance on output growth in Nigeria.

1.2. Literature Review

The Capital Asset Pricing Model (CAPM) one of the theories of stock market and it explains the connections between projected return and systematic asset, especially stock, returns. It's a financial model that shows that risk and the necessary return on investment are correlated linearly. The equities risk premium, or the projected return on the market less the risk-free rate, and the asset's beta or the risk-free rate are the foundations of the Capital Asset Pricing Model (CAPM). In order to quantify this systematic risk, CAPM was developed. Given the risk of the assets and the cost of capital, it is commonly used in finance to price hazardous securities and generate predicted returns for assets. Another theory of stock market is Fama and French Three-Factor Model which is an asset pricing model that was propounded in 1992. This theory was an expansion of the Capital Asset Pricing Model (CAPM) that added risk values and sizes of variables to the CAPM's market risk component. The idea considers the consistent outperformance of small-cap and value companies over the market. After accounting for these two variables, the model corrects for the outperforming tendency, which is supposed to increase the theory's utility as a method for assessing managerial success.

Financial-Led Growth Hypothesis asserts a causal link between financial and actual growth. This hypothesis was first proposed in 1966 by Patrick. According to this theory, a healthy financial sector would enable efficient resource allocation, guiding economic sectors in their process of

expansion, by mobilizing scarce resources from surplus to deficit units. There has been debate on the relationship between finance and economic growth in both industrialized and developing nations. A healthy financial sector is required to support the expansion of the real sector, which in turn spurs economic growth (Schumpeter, 1911). Stated differently, the degree of development or deepening of the financial sector determines the rate of economic growth. Paul Romer in 1990, introduced the endogenous growth model in the field of Economics. This model is one numerous theoretical models used in the field of economics to analyze the relationship between financial development and economic growth. The idea behind this is that financial intermediation encourages economic expansion. The foundation of the endogenous growth

theory, often known as the new growth theory and is based on the internal forces, rather than external ones, determine growth.

The endogenous growth model has been applied in a number of research to explain the connection between financial development and economic growth. According to Greenwood and Jovanovic's (1990) theory, financial development and economic growth are related. According to the theory, increase in income and the financial structure progressively takes shape as economic continue growth when economic growth is steady and robust in later stages of maturity, income stabilizes and the financial system completely get matured.

Empirically speaking, Oskooe, (2010), investigates the casual link between emerging Stock market performance and economic growth in Iran, using granger causality and VECM to establish the direction of causality and confirm or otherwise the long run impact of stock market performance on economic growth respectively. The fundings demonstrate the existence of a causal link between output growth and stock price stability in the long run while a bilateral causal relationship was established between share price and output growth in the short run in Iran. In the same vein, Al Salamat & Batayneh (2023), examine the effect of stock market performance on output growth in MENA countries between 2000 and 2019, the study makes use of Panel ARDL. The results show that stock market index such banking sector development, ratio of foreign direct investment to GDP and consumer price index all show a significant positive long run effect on output growth in MENA. Again, Kushwaha (2024), looks at the interplay among output growth rate, GDP per capita and stock market performance in India between 1980 and 2022, employing multiple regression equation model. The results indicate a strong positive relationship between GDP per capita and Bombay Stock Exchange (BSE) while a less significant causal link is found to exist between output growth rate and Bombay Stock Exchange in India.

1.3 Methodology

ARLD model is adopted as an estimation technique for this study based on the result of the unit root test which also necessitates this study to conduct a Bound test to establish if the variables can cointegrate together in the long-run. The study makes use of secondary data and data on Output Growth (proxy by Gross Domestic Product growth rate (GDPgr)), growth rate Gross of Capital Formation (GCFgr), Market Capitalization of Listed Domestic Companies (MCLDC) and Stock Trade Turnover Rate of Domestic Share (STTRDS) are all sourced from World Development

Indicator (WDI), 2023. The model specification is in a linear form which mirrors the work of Paramati & Gupta (2011) with little modification.

The model is stated thus:
GDPgr = f(GCFgr, MCLDC, STTRDS) ... 11

Writing it in an explicit form:
$GDPgr = \alpha_0 + \alpha_1 GCFgr + \alpha_2 MCLDC + \alpha_3 STTRDS + \varepsilon_t$ … 1.2

Where GDPgr is Growth Rate Gross Domestic Product, GCFgr is Growth Rate Gross of Capital Formation, MCLDC is Market Capitalization of Listed Domestic Companies, STTRDS is Stock Trade Turnover Rate of Domestic Share, α_0 is constant or point of intersection while $\alpha_1 \ to \ \alpha_3$ are the coefficients of the variables and ε_t is stochastic error term.

1.4 Results and Discussion of Findings

This part presents the results and discussion of findings where the results of both the descriptive and empirical analyses conducted are discussed. The descriptive analysis in form of measures of central tendencies of the variables is presented first and followed the objective of the study which is to determine the effect of stock market performance on output growth in Nigeria. The study starts the analysis of results with descriptive analysis of variables.

1.4.1 Descriptive Analysis of Variables

Descriptive analysis presents the descriptive explanations of the statistics results.

1.4.1.1 Descriptive Statistics

Table 1.1: Descriptive Statistics of Variables

Variables	Observations	Mean	Std. Dev.	Minimum	Maximum
GDPgr	30	2.0507	2.1989	-3.8861	5.0340
GCFgr	30	5.9134	16.7342	-27.7326	37.8789
MCLDC	30	12.8527	5.9104	2.4975	30.5089
STTRDS	30	8.1896	6.7702	1.0747	34.7853

Source: *Author's Computation, 2024*

In table 1.1 above, the results of the estimated mean value which shows the data distribution indicates that (MCLDC) recorded the highest mean value of 12.85 while growth rate of Gross Domestic Product (GDPgr) has the lowest mean value of 2.05. One major observation is standard deviation which measures the variability of the data and all values of standard deviation are positive. Variable like growth rate of Gross Capital Formation (GCFgr) has the highest standard deviation of about 16.73 which means that, it demonstrates higher variability while other variables like STTRDS (6.77), MCLDC (5.91), and GDPgr (2.20) have their standard deviations with declining in variability which indicates reduction in the variability.

1.4.1.2 Unit Root Test

Phillips-Perron Unit root test is employed. The results are presented in table 1.2

Table 1.2: Unit Root Test

	AT LEVEL		FIRST DIFFERENCE		
Variable	Phillips-Perron Test Statistics	Prob.	Phillips-Perron Test Statistics	Prob.	
GDPgr	-3.8606	0.0064	----------	---------	I (0)
GCFgr	-5.5377	0.0001	----------	---------	I (0)
MCLDC	-3.9899	0.0047	----------	---------	I (0)
STTRDS	-2.4795	0.1306	-8.2814	0.0000	I (1)

Source: *Author's Computation, 2024*

The results of unit root test as show in table 1.2 investigate the statistical prosperities of all the variables. The Phillips-Perron t-Statistics for unit root was conducted for the variables in the model. The null hypothesis tested for the ADF is $H_0 : \alpha_1 = 0$ for all the variables while the alternative hypothesis is

$H_1 : \alpha_1 < 0$, for at least one of the variables. The lag lengths are selected using the Akaike Information Criterion. The results of the test at level and first difference are presented accordingly, the null hypothesis is that there is a unit in each series, that is, each variable is non-stationary. The rule of thumb is that, the null hypothesis should be accepted if the Phillips-Perron statistics are less negative, meaning that, greater than the critical value at any chosen level of significance. The results of Phillips-Perron in table 1.2 indicate that all the variables (GDPgr, GCFgr and MCLDC) are found to be integrated of order zero, that is, *I (0)* except STTRDS is said to be integrated of order one, that is, *I(1)*. The results of unit root test thus suggest the use of ARDL Co-integration test based on the fact that all variables in the model are not stationary at their level.

Table 1.3: Bound Test Result

ARDL Bounds Test		
Included observations: 38		
Null Hypothesis: No long-run relationships exist		
Test Statistic	**Value**	**K**
F-statistic	7.9609	3
Critical Value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.72	3.77
5%	3.23	4.35
2.50%	3.69	4.89
1%	4.29	5.61

Source: *Author's Computation, 2024*

The rule of thumb is that, if the computed F-statistics falls below the lower bound value I(0), the null hypothesis, that is (no-cointegration) is accepted. But if the computed F-statistics exceeds the upper bound value I(1), the null hypothesis is rejected thus, there is existence of long-run relationship. If the computed result falls between the lower and upper bounds, then the test is inconclusive. Based on this, the result of Bound test from table 1.3 shows that, the null hypothesis of no cointegration is rejected since the F- statistic value of about 7.96 is higher than the upper bound critical value of 3.99 (restricted) at 1% level from 1able 1.4. We therefore conclude that, there is cointegration among the variables.

Table 1.4: Bound Test for Cointegration

	5% Critical Value		1% Critical Values	
	Lower	Upper	Lower	Upper
Restricted Intercept No trend	2.27	3.28	2.88	3.99
Unrestricted Intercept No trend	2.45	3.16	3.15	4.43

Source: *Pesaran, et al, 2001*

1.4.3 ARDL Long-Run and Short-Run Analyses

Table 1.5: ARDL Long Run and Short Run Results

Dependent Variable: D(GDPgr)				
Dynamic regressors (2 lags, automatic): GCFgr MCLDC STTRDS				
Selected Model: ARDL(1, 0, 1, 1)				
Variable	Coefficient	Std. Error	t-Statistics	Prob.
Long Run Equation				
GCFgr	0.0126	0.0266	0.4728	0.6410
MCLDC	0.1329	0.0942	1.4115	0.1721
STTRDS	-0.1961	0.0722	-2.7160	0.0126
C	1.9031	1.2760	1.4915	0.1500
Short Run Equation				
D(GCFgr)	0.0116	0.0238	0.4855	0.6321
D(MCLDC)	0.0303	0.0657	0.4606	0.6496
D(STTRDS)	0.0243	0.0780	0.3116	0.7583
CointEq(-1)	-0.9174	0.1807	-5.0771	0.0000**
Akaike Info Criterion 4.315328		R-squared 0.610964		
Schwarz Criterion 4.645365		Adjusted R-squared 0.504864		
Hannan-Quinn Criterion 4.418692				

Source: *Author's Computation, 2024*

Note: * is 10 % level significance, ** 5% level of Significance and * is 1% level of significance.**

From table 1.5 above, the long run results from ARDL indicate that, growth rate of Gross Capital Formation (GCFgr) and Market Capitalization of Listed Domestic Company (MCLDC) all assert a positive but non-significant effect on growth rate of Gross Domestic Product (GDPgr) (as proxy for output growth) in Nigeria. This implies that a unit increase in the level Gross Capital Formation growth rate and Market Capitalization of Listed Domestic Company (MCLDC) lead to about 1.26

per cent and 13.29 per cent increase in the level of economic growth in Nigeria respectively. However, these increases are said to be insignificant in both cases in the long run. This implies that, the accumulation of capital and market capitalization of listed domestic company as means of measuring stock market performance have no significant effect on the Nigerian economy. The finding of this study is supported by the submission of Al Salamat & Batayneh (2023) and Kushwaha (2024) who concluded that, stock market performance has the ability to boost the level of output in an economy. On the contrary, the results also demonstrate that, Stock Trade Turnover Rate of Domestic Share (STTRDS) a significant positive effect on growth rate of Gross Domestic Product in Nigeria in the long-run. This indicates that, a unit increase in STTRDS brings about 19.61 per cent reduction in the level of Output growth in Nigeria in the long-run.

Again, from table 1.5 above, short run results indicate that, there is co-integration among the variables adopted in the equation. Changes in growth rate of Gross Capital Formation D(GCFgr), changes in Market Capitalization of Listed Domestic Companies D(MCLDC) and changes in Stock Trade Turnover Rate of Domestic Share D(STTRDS) all show a positive but insignificant effect on growth rate of Gross Domestic Product (Output growth) in Nigeria. This explains that, a unit increase in both D(GCFgr), D(MCLDC) and D(STTRDS) lead to about 1.16 per cent, 3.03 per cent and 2.44 per cent an increase in the level of Output growth in Nigeria. However, these effects are said to be insignificant in Nigeria in the short run. The coefficient of ECM which measures the speed of adjustment back to equilibrium is -0.9174 and it is significant at 5% level with the negative sign. This indicates that about 91.74% of previous disequilibrium is adjusted in the model in the short run within Nigeria. The Adjusted R-Square which 0.504864 shows that, about 50.49 per cent of the variables that determines output is consider in the model.

1.4.4 Discussion of Findings

To achieve the objective of the study, stationary test is conducted first to avoid spurious regression, using Phillips-Perron Statistical test. The results reveal that all the series are not integrated of the same order. While GDPgr, GCFgr and MCLDC are found to be stationary at level, STTRDS is said to be stationary at first difference. Based on this, the condition for co-integration has not been met, therefore, the study proceeds to carry out Bound test to confirm if the variables can co-exist in the long run as a necessary condition for the use of Autoregressive Distributed Lag (ARDL). The Bound test result confirms the presence of co-integration among the variables. Therefore, the study now proceeds to deploy ARDL technique. The long run of ARDL results indicates that GCFgr and MCLDC are said to demonstrate a positive but insignificant effect on output growth in Nigeria. However, STTRDS shows to have a negative and non-significant effect on output growth in Nigeria. This implies that a unit increase in GCFgr and MCLDC bring about 1.26 per cent and 13.29 per cent increase in the level of output growth in Nigeria. In addition, a unit increase in STTRDS leads to about 19.61 per cent decrease in the output growth level in Nigeria. However, these effects are found to be insignificant within the Nigerian economy. This result is also confirmed by of Al Salamat & Batayneh (2023) and Kushwaha (2024) who concluded that, stock market performance has the ability to boost the level of output in an economy. The short run results show that, change in growth rate of Gross Capital Formation (GCFgr), change Market Capitalization of Listed Domestic Companies (MCLDC) and change in Stock Trade Turnover Rate

of Domestic Share (STTRDS) demonstrate a positive but insignificant relationship with output growth in Nigeria. That is, a unit increase in the level of D(GCFgr), D(MCLDC) and D(STTRDS) lead to about 1.16 per cent, 3.03 per cent and 2.43 per cent growth in the level of output in Nigeria, respectively. This implies that, an increase in stock market performance improves the output growth level in Nigeria. However, this improvement said to be ineffective on the Nigerian economy in the short run.

1.5 Summary

This study investigates the effect of stock market performance on output growth in Nigeria, using annual time series of data spanning from 1980 to 2022. The objective of the study is to determine both the short-run and long run effect of stock market performance on output growth in Nigeria. To avoid spurious regression in this study, the time series properties of the data used Phillips-Perron unit root testis carried out. The results from the stationarity tests confirm that all the variables are found to be stationary at level except STTDC which said to be stationary at first difference. That is, the variables are integrated of order *I (0)* and *I(1)*. The results confirm the necessary condition for Auto Regressive Distribution Lag (ARDL) test. The study therefore carry out Bound test to test to establish if these variables can co-exist in the long-run. The outcome of Bound test shows that will reject the null hypothesis and accept alternative hypothesis which implies that there is cointegration in the model. The results show that growth rate of Gross Capital Formation (GCFgr) and Market Capitalization of Listed Domestic Company (MCLDC) all exert a positive but non-significant while the Stock Trade Turnover Rate of Domestic Share (STTRDS) demonstrate a significant positive effect on Output Growth in Nigeria in the long-run in the long-run in Nigeria. Also, Changes in growth rate of Gross Capital Formation D(GCFgr), changes in Market Capitalization of Listed Domestic Companies D(MCLDC) and changes in Stock Trade Turnover Rate of Domestic Share D(STTRDS) all indicate a positive but insignificant effect on growth rate of Gross Domestic Product (Output growth) in Nigeria

1.6 Conclusion

Based on the findings of this study, the following conclusions are made: Judging from the analysis of the effect of stock market performance on output growth in Nigeria, the study demonstrates that, growth rate of Gross Capital Formation (GCFgr), Market Capitalization of Listed Domestic Companies (MCLDC) and Stock Trade Turnover Rate of Domestic Share (STTRDS) (as proxies for Stock Market Performance) all have a positive effect on output growth in Nigeria. Sequel to the findings of sensitivity of output growth to the stock market performance in Nigeria both in the short run and in the long run, the following recommendations are made.

1.7 Recommendations

In view of all the aforementioned findings in this research work, the following recommendations are therefore put forward:

i. as stock market performance is found to have a positive but non-significant effect on output growth in Nigeria, it is therefore recommended government should put-in-place policies that promote the effectiveness and efficiency of stock market performance in Nigeria.

ii for the fact that, stock market performance demonstrates a positive effect on output growth in Nigeria, government should refocus her attention on how to encourage the players in this market in order to play a leading in the Nigerian economy so as to bring about the desired output growth.

REFERENCES

Al Salamat, W. & Bataynet, K. I. (2022): Does Stock Market Performance have a long Effect on Economic Growth: Evidence from MENA. *Journal of Government and Regulation*. Vol. 11. Issue, 2. Pp 368 – 373.

Alile, H. (1984): The Nigerian Stock Exchange: Historical Perspective, operation and Contributions to Economic Development. *Central Bank of Nigeria Bullion*. Silver Jubilee Edition, 2, Pp 65 - 69.

Gure, I. & Mutswenje, V. S. (2023): Macroeconomic Variable and Stock Market Performance in Kenya. *International Journal of Economics and Finance (IAJRF)*. ISSN 2518 – 2366. $(1). Pp. 87 – 98.

Kushwaha, S. (2024): Analyzing the Interplay Between Economic Growth Rate, GDP per Capita and Stock Market Performance I India: A Case Study of the BSE Index. *International Journal for Multidisciplinary Research (IJFMR)*. E-ISSN – 2582 – 2160, Vol. 6, Issue, 3, Pp. 10.

Olweny, T. O. & Kimani, D. (2011): Stock Market Performance and Economic Growth: Empirical Evidence from Kenya Using Causality Test Approach. *Advance in Management & Applied Economics*. Vol. 1, No. 3, Pp 158 – 196, ISSN: 1792 – 7544. International Scientific Press.

Oskooe, S. A. (2010): Emerging Stock Market Performance and Economic Growth. *American Journal of Applied Sciences.* 7(2), 265 -269, ISSN 1546 – 9239.

Paramati, S. R. & Gupta, R. (2011): An Empirical Analysis of Stock market Performance and Economic Growth: Evidence from India. *International Research Journal of Finance and Economics*. ISSN 1450 - 2887, Issue 73. Eurojournal Publishing, Inc. www.eurojournal.com/finance.htm.