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Performance Analysis of Stock Market on Economic Growth in Nigeria (1992 – 2022)

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Abstract

This study investigated the short run effect, long run effect and causal relationship between stock market and economic growth in Nigeria. The study made used of secondary data, which were sourced from Central Bank of Nigeria (CBN). The Ordinary Least Squares, ADF Unit Root Test and ARDL co integration bond tests were applied to the variables. The OLS result showed that the market capitalization had a significant and positive relationship with economic growth, it also showed that a long run relationship exists between the stock market performance and economic growth in Nigeria in the long run. The study suggested some of the possible reasons for the negative impact of stock market on the Nigerian economic growth and recommended that efforts should be made to improve the stock market performance to have a positive effect on the real gross domestic product of Nigeria overtime.

Keywords: *All Share Index, Market Capitalization, Stock Market Gross Capital Formation, Economic growth*

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Background to the Study

The stock market plays major role in economic growth and expands other operations. In this manner, Alile, (1984), observes that the performance ole as an economic institution which enhances the efficiency in capital formation and allocation. It enables both corporations and the government to raise long-term capital which enables them to finance and boost the economy when capital is supplied to productive economic units. As the economy continues to develop, additional funds would be required to meet the rapid expansion and the stock market therefore serves as an appropriate tool in the mobilization and allocation of saving among competing uses which are critical to the growth and efficiency of the economy. It is in this light that the stock exchange market acts as a barometer for economic performance in the sense that, it assists in allocating the necessary capital needed for the consistent growth of an economy (Alile, 1997). Alile (2000) further argue that the determination of the overall growth of an economy depends on how efficiently the stock market performs in its allocative functions of capital. When the stock market mobilizes savings, it simultaneously allocates a larger portion of the same to firms with relatively high prospects as indicated by their returns and level of risk. The significance of this function is that capital resources are channeled by the mechanism of the forces of demand and supply to those firms with relatively high and increasing productivity, thus, enhancing economic expansion and growth.

Stock markets are a vital component for economic development as they provide listed companies with a platform to raise long-term capital and also provide investors with a forum for investing their surplus funds. Stock markets therefore encourage investors with surplus funds to invest them in additional financial instruments that better matches their liquidity preferences and risk appetite. Better savings mobilisation may increase the saving rate, and which in turn spurs investments and earns investment income to the owners of those funds. As the economy grows, more funds are needed to meet the rapid development and the stock markets serve as a veritable tool in the mobilisation and allocation savings among competing uses which are critical to the growth and efficiency of the economy, (Alile, 1984). Stock market liquidity again helps to reduce the downside risk and cost of investing in projects that do not pay-off for a longtime. With a liquid market, the initial investors do not lose access to their savings for the duration of their investment project because they can quickly and easily sell their stake in a company as noted by Bencivenga and Smith, (1991).

Further, the stock market being a major component in the financial sector of most developing economies such as South Africa and Nigeria, serves a pivotal role in contributing towards economic growth in these countries. Stock markets fuel economic growth through diversification, mobilising and pooling of savings from different investors and availing them to companies for optimal utilization. As much as the stock markets are important in facilitating diversification of the financial sector services, they also provide companies with a platform to raise funds, and offer the investors alternative investments to put their funds in. However, they face serious constraints if not properly monitored and adequate measures taken to curb any externalities. Most stock markets especially those in the developing countries face constraints which result in serious implications such as liquidity issues, and absence of well-developed investor base.

Majority of research done with regard to this area are mostly centered on the role of financial development in stimulating economic growth, without considering the determinants of stock market performance and that of banking industry. For a well-developed stock market, it is expected to theoretically increase savings by enhancing the set of financial securities available to savers to diversify their portfolios thus reducing risks and effectively allocating capital to the productive units in an efficient manner. This informs the basis for the current study to investigate how the stock markets in the two-economy development are contributing to the growth of the economies.

The link between the stock market performance and economic growth has often generated strong controversy among analysts based on their study of developed and emerging market. (Samuel, 1996; Demirgue – Kunt and Levine, 1996; Akinifesi, 1987; Levine and Zervos, 1996; Obadan, 1998; Onosode, 1998; Emenuga, 1998; Osinubi, 1998) According to Nyong (1997), the financial structure of a firm, that is, the mix of debt and equity financing changes as economies develop, however, more towards equity financing through the stock market. This also informs the study to investigate the contribution of external shocks as it relates to the stock markets activities towards the growth of the economy.

However, when it comes to specific role of stock markets and banks in the economic growth, there are also conflicting theoretical predictions. Stiglitz (1985) has shown that banks perform a better role in promoting economic growth than stock markets especially when it comes to resource allocation. Singh (1997) indicated that stock markets do not lead to long-run economic growth due to macroeconomic instability, volatility arbitrariness of pricing process. Japillo and Pagano (1994) and Atje and Jovanovich (1993) have indicated that the stock markets contribute positively in economic growth. However, Boyd and Prescott (1986), Boyd and Smith (1998) and Blackburn, Bose and Capasso (2005) have all shown that stock market and banks are necessary in promoting economic growth. Therefore, they consider stock markets as substitute to banks rather than complimentary. This study tries to deviate from this submission and want to investigate that they are complimentary rather than substitute.

Following the increasing role of stock markets in both developed and developing countries, recent empirical studies are now modeling concurrently stock markets, banks and economic growth in their empirical work. Works like Habiba & Waliu, (2020), Victoria & Emem, (2020), Rousseau & Wachtel (2000), Levine and Zervos (1998), Arestis, Demetrides and Luintel (2001); Beck and Levine (2004); and Dritsaki and Dritsaki-Bargiota (2005) have all considered stock markets and banks jointly with economic growth in their works. They further argue that omitting a stock market variable makes it difficult to appropriately examine banks development and economic growth when controlling for stock market system.

The study examined the effect of stock of banks activities and stock market development on economic growth of Nigeria. The study specifically looked at the channel through which banks activities and stock markets capitalization promote economic growth by focusing on capitalization of the stock market, that is, investigate the contribution of banking industry to the development of the stock market capitalization vis-à-vis economic growth for the Nigeria

economy. The study attention in this regard was borne out of existing gap in the literature on bank, stock market and economic growth nexus using time series and cross-sectional data. The objective of this study is to empirically examine the performance of banking sector and stock market capitalization in Nigeria economy.

Literature Review

A model was presented by Greenwood and Jovanovi (1990) in which financial intermediation and the rate of economic growth are endogenously determined. It uses dynamic programming and explains through research, collection and analyze of information, the flow of resource can be enhanced which leads to economic growth. Through this process financial intermediation becomes positively linked with economic growth. Bencivenga, Smith and Starr (1996) through overlapping generation model indicate that stock market development facilitate reduction in transaction cost which helps in promoting economic growth making it easy for investors and savers to frequently sell and buy financial assets. Greenwood and Smith (1997) equally suggest that stock market components of financial system play an important role in the efficient allocation of available resource which helps in promoting specialization, reducing the cost of mobilizing savings and ultimately higher economic growth. Garcia and Liu (1999) observe that a reciprocal relationship between financial system development and economic growth exists whereby economic growth makes the development of financial intermediation system profitable, and the establishment of an efficient financial system permits faster economic growth. The researchers stressed that the financial and real sectors interact during all stages of development and that there is; at no stage, only a one-way relationship between financial development and economic growth prevails.

Chen, Richard, and Ross (1986) observe that no satisfactory theory would argue that the relation between financial markets and macro economy is entirely in one direction. Furthermore, stock prices are usually considered as responding to external forces. They further stated that all economic variables are endogenous in some ultimate sense and only natural forces such as supernovas, earthquakes etc are truly exogenous to the world economy, and that to base an asset pricing model on these systematic physical factors was beyond human capacity. More and more authors, {like Levine and Zervos (1998), Jim and Boubakari (2010), Antoniod, (2010) etc} therefore, prefer describing the relationship as a two-way causation or uni-directional relationship or the feedback effect, and in these studies, they do not always establish the direction of the causality between these two variables, and those that does, seek to identify the direction of the causality often lead to ambiguous conclusion. This study therefore adopts the financial development and economic growth theory to empirically investigate the relationship that exists among stock market performance, banking sector development and economic growth.

Levine and Zervos (1998) have focused on the relationship between economic growth and financial development using both bank and market indicators. They tested this relationship for a sample of 42 countries over the period 1976 – 1993. They found that the initial level of stock market development liquidity and the initial level of banking development are positively and significantly associated with long term economic growth, productivity growth and capital

accumulation. They also find that stock market size, as measured by market capitalization divided by Gross Domestic Product (GDP), is not correlated with growth indicators. However, there are number of weakness associated with the Levine and Zervos approach: It does not deal with the issue of causality; it does not control for country fixed effects; it excludes other components of the financial sector e.g., bond markets and the financial services; and it uses initial values of stock market and bank development indicators while theory stresses the contemporaneous level of financial development.

Jim and Boubakari (2010) investigated the casual relationship between stock market and economic growth for five European Countries (Belgium, France, Portugal, Netherlands and United Kingdom) by taking quarterly time series data of period 1995 to 2008. Granger causality test was used by taking variables of market capitalisation, total trade value, and turnover ratio from stock market, Gross Domestic Product (GDP) and Foreign Direct Investment (FDI) supplemented economic growth for each country. Results of this study showed that the countries which have efficient and liquid stock market have a positive relation among stock market and economic growth and inverse was the case with those countries which have inefficient and less liquid stock market. Shabaz, Ahmed and Ali (2008) inspected nature of link between economic growth and stock market. Used annual time series data over the period from 1971 – 2006. To address the issue regarding the stationary of data, two new tests, Dickey Fuller Generalized Least Square and Ng Perron Tests were used. And Johansen co-integration test and ARDL techniques were used to check the robustness and economic growth. In long run Engle Granger causality test confirms the bi-directional causality in both and uni-directional causality in short runs.

Nazir, Nawaz, and Gilani (2010) explored the affiliation among the stock market development and economic growth in Pakistan over the period of 1986 – 2008. For investment the stock market development and economic growth relationship by using the two major measures of stock market development, namely size of the market and liquidity prevalent in the market in terms of market capitalization. The results exposed that economic growth can be achieved by increasing the depth of the stock markets of a country as well as the market capitalization in an emerging market like Pakistan. Mohtadi, Yartey, and Adjasi (2007) checked the casual relationship between stock market development and economic growth for 21 developing countries. This study used panel data of 21 years from 1977 to 1997 and used dynamic panel estimation approach. Results showed that the indicators of market capitalization ratio, foreign direct investment, domestic investment and secondary school enrollment have positive relation with growth but shares traded ratio was misleading indicator for market liquidity. The study found that the stock market played a vital role in the economic growth through direct and indirect channel.

Antonios (2010) checked the fundamental link between stock market development and economic growth for Germany by taking the data over the period 1965 – 2007. Vector autoregressive model (VAR) has been used to estimate the relationship between economic growth, stock market development and bank lending. The aim of this study was to explore the long-run relationship between these variables, applying the Johansen co-integration analysis

based on the classical unit roots tests. The findings of Granger causality tests showed a unidirectional causality between stock market development and economic growth.

Mishra, Mishra, Mishra, and Mishra (2010) explored the impact of capital market efficiency on economic growth in India. The study used time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter 2010. Multiple regression models have been used for estimations. Results indicate that the capital market of India has potential to contribute to contribute to the economic growth of the country.

Olagunde, Elumilade and Asaolu (2006) carried out a study on stock market capitalization and Interest Rate in Nigeria: A Time series analysis. The study empirically examines the relationship between stock market capitalization rate and interest rate. Time series data obtained from Central Bank of Nigeria and Nigeria Stock Exchange (NSES) were analyzed using regression. The study result showed that the prevailing interest rate exerts positive influence on stock market capitalization rate. Government development stock rate exerts negative influence in stock market capitalization rate and prevailing interest rate exerts negatives influence on government development stock rate. The study further revealed information as very important to capital market development.

Method of the Study

This research work adopted ex-post facto design for this study; this is because this type of research design does not allow the researcher to manipulate data. Since this research work will be making use of secondary data which had already been computed by others, this research design will be suitable for this work.

The study specifies this model to examine the link between stock market and economic growth in Nigeria, $Y = f(SM)$ ..... (i)

Where:
Y = Economic growth (proxied by Gross Domestic Product)
SM = Stock Market (proxied by market capitalization),

Therefore, the model is specified thus:
$GDP = f(SM)$ ..... (ii)

Where:
GDP = Gross Domestic Product

The model is specified:
$GDP = b0 + b1SM + \mu$ ..... (iii)

Where: bo = coefficient
μ = error term

Results and Discussion

The analysis of data and discussion of the results of the study are presented thus:

Unit Root Test

The study conducted stationary test using Augmented-Dickey Fuller Approach and the result is depicted on Table 1.

Table 1: ADF Unit Root Test Result
At logarithm Levels

Variable	Critical value@5%	ADF-T-Statistics	Order of integration
GDP	-2.967767	-2.99567	*I*(0)
MCAP	-2.963972	-2.249460	-
At First Difference			
GDP	-	-	-
MCAP	-2.967767	-5.278052	*I*(1)

Source: Authors computation, 2024

Looking at Table 1, it is obvious that the variables of the study were integrated of different orders. The result shows that while GDP was stationary at levels, MCAP required differencing once before it became stationary. Hence, the two variables of interest are integrated of *I*(0) and *I*(1), thereby satisfying the condition specified for using Autoregressive Distributed lags model.

ARDL Co-integration Bond Test

The result of co-integration bond test is presented on Table 2

Table 2: ARDL Bound Test

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.431416	10%	3.02	3.51
K	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58

Source: Author's computation, 2024

Table 2 reveals that F-statistics (5.43) is greater than both lower bound (3.62) and upper bound (3.51) values at 5% level of significance; this connotes lack of empirical evidence to accept null hypothesis. Hence, the study concluded that there is a long run co-integrated relationship between economic growth and stock market performance.

Table 3: VAR Lag Order Selection Criteria
Furthermore, VAR lag order selection criteria were used to determine the optimal lag length of the ARDL model. The result is presented of Table 3.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-24.39076	NA	0.024214	1.954871	2.050859	1.983413
1	57.27638	145.1860*	7.70e-05	-3.798250	-3.510287*	-3.712624
2	62.43931	8.413656	7.11e-05*	-3.884393*	-3.404454	-3.741682*
3	64.01545	2.335032	8.64e-05	-3.704848	-3.032933	-3.505053
4	66.08653	2.761438	0.000103	-3.561965	-2.698074	-3.305085

Source: Author's computation, 2024

From Table 3, is noticeable that the model that minimized using Akaike Information Criterion (AIC) was lag 2. Consequently, the ARDL model was estimated at optimal lag 2.

ARDL Short Run Estimates
Table 4: ARDL Error Correction Regression
Dependent Variable: D(LGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP(-1))	0.389570	0.129866	2.999791	0.0062
D(LMCAP)	0.012008	0.012622	0.951357	0.3509
ECM(-1)*	-0.162963	0.038787	-4.201440	0.0003
R-squared	0.590183	Mean dependent var		0.042003
Adjusted R-squared	0.558658	S.D. dependent var		0.035772
S.E. of regression	0.023765	Akaike info criterion		-4.543519
Sum squared resid	0.014684	Schwarz criterion		-4.402074
Log likelihood	68.88102	Hannan-Quinn criter.		-4.499220
Durbin-Watson stat	2.219864			

Source: Author's computation, 2024

Table 4 shows the result of the estimated model on short run basis. According to the Table, GDP at lag 1 was positive and significant in predicting itself, to the extent that for every 1% increase in its lag 1 value, it predicted 38% change in the its current year value and vice versa. This suggest that GDP derives cumulative force from its past year values that drives it growth.

In addition, stock market performance, proxied by market capitalization (MCAP) was also positive but insignificant in predicting economic growth in the short run. In this wise, 1% upward change in MCAP produced about 1.2% upward change in GDP and vice versa. For the coefficient of error correction (ECM), Table 4 shows that the model reversed to equilibrium on the long run with negative coefficient -0.16, which is statistically significant at 5% critical value, judging by its p-value which is 0.0003. This implies that a temporary disequilibrium in the previous period in the short run was corrected in the current year at the rate of about 16%.

The R^2 value is 0.59%, indicating the goodness of fit of the model as it implies that economic growth (GDP) was predicted by stock market performance (MCAP) to the tune of 59%, while the remaining 41% was accounted for by other factors not modeled in the study. The adjusted R2 value also further confirmed the robustness of the estimated model since it is not far from the R^2value, signifying the stability of the model from being affected by degree of freedom. The standard error of the estimates is also very low; this increases the reliability of the estimates, while the Durbin-Watson statistics is 2.21, suggesting the absence of autocorrelation which could inhibit the efficiency of the estimates.

Table 5: ARDL Long Run Estimates
Dependent Variable: D(LGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMCAP	0.215100	0.015463	13.91071	0.0000
C	9.050860	0.146855	61.63141	0.0000
EC = LGDP - (0.2151*LMCAP + 9.0509)				

Source: Author's computation, 2024

Table 5 shows that in the long run, stock market performance (MCAP) was statistically significant in predicting the Nigerian economic growth. According to the Table, increase in MCAP by 1%, was responsible for about 22% increase in GDP. This result thus confirms that both economic growth and stock market performance were positively co-integrated in the long run during the period covered by the study. Consequently, increased in the stock market activities triggered significant growth in the Nigerian economy

Stability Diagnostic Test

The study further used Cumulative Sum of Square (CSQR) to verify the stability of the model of the period of the study so as to understand its predictive power. The result on indicated by Figure 1 show that the trends of the model were laying between 5% significance level. This confirms that the estimated model was stable over the observed period and could be reliably deployed for prediction and inference making.

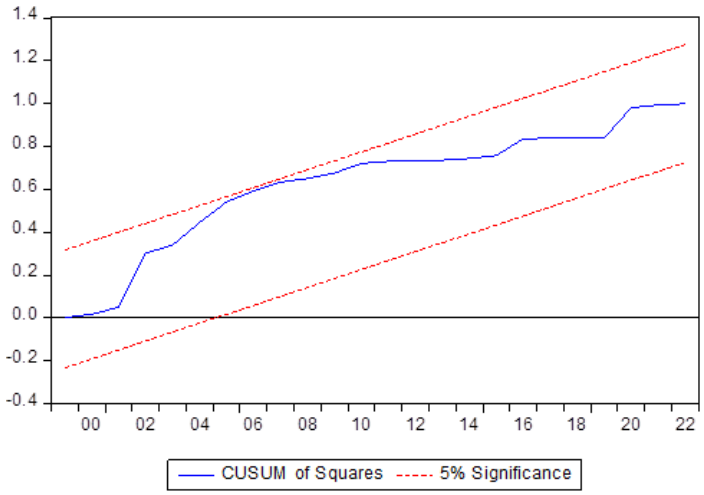

Figure 1

Conclusion and Recommendation

The paper aimed at analyzing the performance of stock market on the growth of Nigerian economic growth for the period covered. That the Stock Exchange Market promotes economic growth is not in doubt. It serves as an important mechanism for effective and efficient mobilization and allocation of savings, a crucial function for an economy devious of growth. The study attempts to place this role in the Nigeria between the periods of 1992 – 2022. By the use of a notable Stock Exchange Market development indicator (market capitalization), the relationship between Stock Exchange Market and economic growth was found to be positive in Nigeria economy. Banks´ credit to private sector and interest rate contributed significantly to amount of liquidity in market capitalization (MCV). Performance of stock market depends on the availability of credit to private sector and interest rate and on the Nigeria economy; therefore, the study recommend that more credit should be made available to the stock market in order to enable it to perform efficiently.

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