Impact of Capital Market on Nigerian Economic Growth from 1990 to 2022: New Evidence from an Ex-Post Factor Research Design

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Abstract		Original Research Article

This study examined the impact of capital market on economic growth of Nigeria. The study applied an ex-post factor research design which utilized secondary data for the period 1990-2022 because during that period there were a lot of changes with regard to operations of capital market in Nigeria. An Autoregressive Distributed Lag (ARDL) was used for the model estimation. A combination of ARDL bounds test for co-integration, ARDL short and long run error correction models were used for estimation. All the tests helped to confirm the integrity of our models. Findings of the study indicate that, the Number of listed Securities and All Share Index maintained a significant impact on economic growth in Nigeria both in the short and long runs. Based on the findings, it was recommended that government should advance policies that stimulate stock market development for rapid economic growth of the country. Again, government should maintain policy consistency in the pursuit of growth in the Nigerian capital market. By so doing, counter developmental policies should not be allowed to crowd out the gains of capital market development and by extension on economic growth in the long run. Lastly the government should find ways and means of boosting the confidence of investors to retain their portfolio investments.
Keywords: Capital market development, stock market, and Economic growth.

1.0 INTRODUCTION

Capital market functions optimally by moving savings into investments which is essential in establishing the connection between financial development and economic progression (Hossain, 2020). The Capital Market is a marketplace where stocks are traded and may also be referred to as a stock market, it provides an avenue for savings to be mobilised and used as long-term investments (Grbic, 2020). It is a collection of financial institutions set up for granting medium and long-term loans through instruments such as government securities, corporate bonds, corporate shares and mortgage loans (Nwamuo, 2018). The main purpose of establishing a capital market in any economy is to promote economic activities that eventually lead to economic growth (Ugbogbo & Aisien, 2019). Economic growth is the total increase of individuals' income within a specific country or economy, they are usually the working class based on skills and education of the populace (Kingsley & Toyosi, 2018). It may also be an increase in production of goods and services within a specified time frame or period and is measured by using the real Gross domestic product (GDP) as commonly used by many countries. Real GDP is measured by setting aside inflationary effects (Ibrahim & Mohammed, 2020). Capital markets are therefore created for the provision of long-term financing for economic growth through stakeholders' engagement so that the market becomes very vibrant (Gwarzo, 2016). The implication of this is capital market performance is needed for meaningful economic development at domestic and international levels.

The main purpose of establishing a capital market in any economy is to promote economic activities that eventually lead to economic growth (Magaji, Abubakar & Tahir, 2015). The assertion is predicated on the postulation that financial liberalization and stock market development spurs economic growth (Mckinnon and Shaw 1973; King & Levine, 1993). The market does this via savings, mobilization, project evaluation, risk management, provision of credit facilities and facilitation of transactions, and monitoring of managers (Schumpeter, 1911; Levine, 1997; Magaji & Yahaya, 2012; Magaji, El-Yaqub, Yusuf and Musa, 2022). It was against this background that the Nigerian Exchange

(NGX) limited which is the most dominant and prominent institution of the capital market was established. The Nigerian Exchange (NGX) limited started initially as Lagos Stock Exchange in 1960 before its name was later changed to Nigeria Stock Exchange (NSE) in 1977 and now the Nigerian Exchange (NGX) limited and its other two co. subsidiaries – NGX Regulation (NGX RegCo) Limited, and NGX Real Estate (NGX RelCo) that makes up of Nigerian Exchange Group (NGX Group) Plc after the demutualization of the Exchange in 2021.

For sustainable economic growth, funds must be effectively mobilized and allocated to enable businesses and the economies harness their human, material, and management resources for optimal output (Oluwatoyin & Gbadebo 2009). Hence, the capital market is an economic institution, which promotes efficiency in capital formation and allocation. It can be stated that Economic growth occurs when there is a steady increase in the economic activities of a nation and it can be measured by Gross Domestic Product (GDP) of the nation (Ologunwa & Sadibo 2016). A growing economy is said to experience development when factors that causes economic growth are recognized. Provision of funds for long-term investment is one of such economic factors that determine the development of a nation (Yadirichukwu & Chigbu 2014).

The stock market is prone to weaknesses, including market failures and unpredictable changes, as well as a small percentage of market participants and the general public. These forces and market values affect the markets. For this reason, traditional schools of thought development say that there is no connection between investment and financial development due to the existence of level effect (Omoke, 2010). However, according to efficient markets hypothesis (Fama, 1970), stock markets work well, so that securities prices reflect all the information available at any given time, and thus the best level of capitalization in the market. This means efficiency if the supply of assets occurs throughout an economy; from surplus unit to deficit but productive units, this has a good explanation for the economic growth (Yadirichukwu & Chigbu (2018). The market in Nigeria is described as shallow; this is because it floats to a smaller market and is measured by the proportion of storage in the market to total inventory volume. The next challenge is to be able to increase and retain as many of our investors and companies as possible and simultaneously attract foreign investors to the Nigerian Stock Market (Maxwell *et al*., 2018). The stock marketplace is also characterized by the unmistakable nature of the market, one of which is asymmetric, in which one party goes into business with less information than the other party (Otieno, 2017). The expansion of the phenomenon greatly shortens the effectiveness of financial markets as a process for allocating money. Since geography and traditional eyebrows confiscate information, asymmetric information is universal.

Although changes in asymmetric information are minimized but not eliminated, so they capture sharp reactions, unsatisfactory marketing and problem solving can occur when accurate information in the financial markets behaves unsteadily (Sylvester & Enabulu 2011). As a result, in the absence of sufficient information investors tend to enter and exit the markets listening to rumors.

In modern times there has been an increasing concern on the role of capital market in economic growth and hence the capital market has been the focus of economic policies and policy makers because of the alleged benefits it provides for the economy. The capital market provides the axis for stock market activities and it is often cited as a barometer of business direction. An active capital market may be relied upon to measure changes in the general level of economic activities (Obadan, 2018). The capital market is one of the main avenues investors invest their hard earned currency in anticipation of good returns or yield but it has been argued that most Nigerian businesses lack long term capital. The business sector in Nigeria has been relying on short term financing such as overdraft to finance even long term capital. Based on the maturity, marching concept in such financing becomes risky. All such firms need to raise an appropriate mix of short and long term capital (Demirgue-Kunt & Levine, 2015). Deducing from the extensive studies on the theoretical expectations on the role of capital markets on trade performance which have formed the core of normative economics, the capital market is expected to contribute to economic growth through the transmission mechanism of saving mobilization, creation of liquidity, risk diversification, improved dissemination and acquisition of information, provision of long-term non-debt financial capital which enables companies to avoid over reliance on debt financing, and enhanced incentives for corporate control amongst others.

Since the inception of the global economic crunch in addition to a number of causing factors the impact of the capital market has remained rather passive. The federal government effort at revamping it has still not yielded enough result. Therefore, this forms the basis of this study which brings about the following question;. What is the impact of market capitalization on trade performance in Nigeria?

2. MATERIALS & METHODS
This section of the study deals with general literature and it comprises the conceptual literature, the theoretical literature, the empirical review and gap in the literature.

Conceptual Literature Review
There are two important concepts that are reviewed here; the concept of capital market and the concept of economic growth.

Capital Market

Capital market is defined as the market where medium and long term finance are bought and sold (Akingboungbe, 2006). A capital market is a market for securities (debtor equity), where business enterprises (companies) and government can raise long-term funds (Sullivan & Sheffrin, 2003). It is defined as a market in which money is provided for periods longer than a year, as the raising of short term funds takes place at other market, which in this case is the money market. Capital market offers varieties of financial instrument that enable economic agents to pool, price and exchange risk (Okoroafor, Magaji & Eze). Through assets with attractive yields, liquidity and risk characteristics, it encourages savings in financial form (Magaji & Yahaya 2012; Igwe, Magaji & Darma, 2021). This is very essential for government and other institutions in need of long term funds (Nwankwo, 2021). Ekezie (2022) notes that capital market is the market for dealings (i.e. lending and borrowing) in longer term loadable funds. Mbat (2021) described it as a forum through which long-term funds are made available by the surplus to the deficit economic units. Nyong (2017) viewed the stock market as a complex institution imbued with inherent mechanism through which long-term funds of the major sectors of the economy comprising households, firms, and government are mobilized, harnessed and made available to various sectors of the economy. According to Al-Faki (2019), the capital market is a network of specialized financial institutions, series of mechanisms, processes and infrastructure that, in various ways, facilitate the bringing together of suppliers and users of medium to long term capital for investment in socio-economic developmental projects. Emekekwue (2016) states that capital market provides facilities for transfer of medium and long term funds to various economic units. Dimensions of capital market like market capitalization is a pointer for capital market quantity and represents the total market value of local stocks (Grbic, 2020). Market capitalization is also estimated employing market share price or price per share multiplied by the total quantity of shares of businesses (Ibrahim & Mohammed, 2020; Salisu, Musa & Magaji, 2012). The entire market capitalization is an amount that includes securities, Exchange Traded Funds (ETFs) and bonds, so it is made of equities and obligations (Bello *et al*., 2019; NSE, 2020). Market capitalization is not only a gauge of market size but market performance as well (Adigwe *et al*., 2015). Market capitalization is also known as market value and is used as a gauge for capital market size for checking the level of market development concerning growth (Odo *et al*., 2017).

Economic Growth

The economy of a country engages in the production, consumption and exportation of goods and services that influence national income and standard of living for its populace; all these activities are supported by putting in place strong domestic infrastructures (Adeoye, 2015). An economy's widest quantitative measure of all economic activities is referred to as Gross Domestic Product (GDP) and it is a representation of all monetary values of commodities and service industries delivered in a specific time frame (Bello *et al.,* 2019). The economic growth of countries is usually computed to understand the speed of progress or growth rates, and the measure being used is real GDP for this purpose (Grbic, 2020). Many economies measure their growth rates to determine the pace of growth by using Real GDP (Grbic, 2020). Economic growth means an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth is a process by which a nation wealth increases over time (Duke & Nkamare 2015). Economic growth can also be referred to as the increase of per capita gross domestic product (GDP) or other measures of aggregate income, typically reported as the annual rate of change in the real GDP (Agu, 2018); this definition is thus adopted for use. Uwakaeme (2015) stated that economic growth is a central policy goal of any government. Experts and economic planners have had to choose between or combine some of the macroeconomic variables when addressing relevant issues in economic management. Economic growth measured by Gross Domestic Product (GDP) confer many benefits, including raising the general standard of living of the population as measured by national income per capita, facilitating the distribution of income, enhancing the timeframe for achieving the basic needs of man to a significant majority of the population.

Theoretical Framework

The study is underpinned by Endogenous Growth Theory (EGT).

Endogenous Growth Theory

The endogenous growth theory was prominently advanced by many scholars; Romer (1986); Lucas (1988); and Rebelo (1991). The theory states that continuous progression can be achieved endogenously. The endogenous growth theory tends to resolve problems stemming from the neoclassical growth models assumption that economies cease growing at some level when not stimulated by exogenous progress in technology (McCallum, 1996).

The endogenous growth model factored in the functions of organisations such as capital market, money market and government into the roles play by them together with other factors of production like capital, labour, and human capital. Endogenous growth theory postulates that the performance of economic is tied to income circulation, technology and financial improvement (Odo *et al*., 2017). The key presumption of the model is the elimination of the condition of diminishing return on the factors of production because this leads to growth in production without any limitations (Sredojevic *et al*., 2016). The endogenous growth model in studying economic growth depends on econometric analysis using many variables to assess their impact on

econometric growth Sala-I-Martin (1997) (as cited in Sredojevic *et al*., 2016).

Empirical Literature Review

Coskun*,* Seven, Ertugrul & Ulussever (2017) investigated the affiliation between the developmental level of capital market sub-components and economic growth in Turkey over the period from month one 2006 to month six 2016. Economic growth was measured using GDP while capital market sub-components were measured using stock market capitalization, sum of pension and mutual funds total asset values, market capitalization of corporate bonds, stock market total traded value, the total value of short-term and long-term government bonds, rate of employment, consumer index and reel effective exchange rate. An ARDL, Markov switching regression and Kalman filter model were used for the analysis. Findings show long-run co integrating concerning capital market development and economic growth in Turkey. Findings additionally reveal a unidirectional causality from capital market development to economic growth in Turkey. Finally, it was revealed that capital market development shows asymmetric effects on economic growth.

Oprea & Stoica (2018) investigated the impact of the capital markets integration on economic growth in European Union (EU) countries and identified the main factors through which capital markets' development influences economic growth using panel data of EU countries from 2004 to 2016. The dependent variable was measured with GDP growth, multifactor productivity while the independent variables were measured using capital mobility, foreign portfolio investments, market capitalization, value traded, turnover ratio, stock indices, unemployment rate, and immigrants. Analysis was executed using the Autoregressive Distributed Lag Model. The results show that integration of capital markets has a positive impact on economic growth. The main factors responsible for these positive effects are stock market capitalization, capital mobility; value traded, stock indices, immigrants and foreign portfolio investments.

Grbic (2020) examined the nexus between stock market development and economic growth within the republic of Serbia from quarter one 2000 to quarter four 2018 i.e., using quarterly time-series data. Real GDP was utilized as the dependent variable while independent variables were market capitalisation, total value ratio and turnover ratio; these were analyzed with Vector Autoregressive Model using Toda-Yamamoto-Dolado-Lutkhepohl approach for granger causality check. A unidirectional Granger causality moving from stock market development to economic growth was discovered.

Eze, Ezenwa & Chikezie (2020) investigated the impact of the Nigerian stock exchange on economic growth in Nigeria for the period 1990-2015 ARDL

method of estimation was used. The results show that the stock exchange exerted a positive impact on economic growth in Nigeria.

Aibe (2019) investigated how the Nigerian capital market affected the economy during a 20-year period (2005-2015). The creation of gross fixed capital was specifically examined, together with market capitalization and total stock exchange transactions. The results show that real GDP is positively impacted by the capital market.

Araoye, Ajayi & Aruwaji (2018) examined the impact of the Nigerian stock market development on the nation's economic growth from 1985 to 2014. Economic growth was proxy by the GDP while the stock market variables considered included; market capitalization and market turnover ratio as proxy for stock market development in terms of size and liquidity. Using the error correlation model it was concluded that the stock market has impacted the economic growth positively. In another study on Nigeria,

Methodology
Research Design

The study is quantitative and data analysis was carried out using econometric method to examine the impact of capital market on economic growth in Nigeria. In order to achieve comprehensive analysis, the dependent variable used was GDP which is a proxy to measure economic growth. While the market capitalization, all share index and total volume of transaction are the independent variables used in the analysis.

Model Specification

In an attempt to examine the impact of capital market economic growth in Nigeria, important macro-economic variables such as gross domestic product, market capitalization, all share index and total value of transactions were considered in the model. The Vector Auto Regressive model was used. The model was adopted from Oyefusi and Mogbolu (2019).

Conventionally the VAR model is given as;
$$\mu_t \sim IID(0,\sigma^2) \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where,

Y_t = Vector of endogenous variables in the system at time t, the current period

α = vector of constant term

Y_{t-i} = Lagged endogenous variables. This captures the effect of the variables in the system as suggested by Sims.

$\emptyset_i$ = the matrix of the coefficients of the variables in the system

m = lag length

U_t = the vector of random disturbance error term, which are assume to be independently and

identically distributed error term with zero mean and finite variance.

Instructively, this study employs a four variables VAR model comprising of gross domestic product, market capitalization, all share index and total value of transactions. Thus, the VAR models can be specified below.

$$GDP_t = \alpha_0 + \sum_{j=1}^{m} \alpha_{1j} GDP_{t-j} + \sum_{j=1}^{m} \alpha_{2j} MCAP_{t-j} + \sum_{j=1}^{m} \alpha_{3j} ASI_{t-j} + \sum_{j=1}^{m} \alpha_{3j} TVT_{t-j} + U_{1t}$$

$$MCAP_t = \beta_0 + \sum_{j=1}^{m} \beta_{1j} GDP_{t-j} + \sum_{j=1}^{m} \beta_{2j} MCAP_{t-j} + \sum_{j=1}^{m} \beta_{3j} ASI_{t-j} + \sum_{j=1}^{m} \beta_{3j} TVT_{t-j} + U_{2t}$$

$$ASI_t = \lambda_0 + \sum_{j=1}^{m} \lambda_{1j} GDP_{t-j} + \sum_{j=1}^{m} \lambda_{2j} MCAP_{t-j} + \sum_{j=1}^{m} \lambda_{3j} ASI_{t-j} + \sum_{j=1}^{m} \lambda_{3j} TVT_{t-j} + U_{3t}$$

$$TVT_t = \gamma_0 + \sum_{j=1}^{m} \gamma_{1j} GDP_{t-j} + \sum_{j=1}^{m} \gamma_{2j} MCAP_{t-j} + \sum_{j=1}^{m} \gamma_{3j} ASI_{t-j} + \sum_{j=1}^{m} \gamma_{3j} TVT_{t-j} + U_{4t}$$

Where,

GDP is Gross Domestic Product at constant price

MCAP is Market Capitalization

ASI is All Shares Index

TVT is Total Volume of Transactions

α_0, β_0, λ_0 and δ_0 are constant parameters,

$\alpha_1 - \alpha_3$, $\beta_1 - \beta_3$, $\lambda_1 - \lambda_3$ and $\gamma_1 - \gamma_3$ are Coefficients to be estimated,

$U_{1t} - U_{4t}$ are the Gaussian white noises that are independently and identically distributed random variable.

Error Variance Decomposition

Forecast error variance decomposition (FEVD) is an econometric tool used by many economists in the vector auto-regression (VAR). FEVD is used to aid in the interpretation of a vector auto-regression (VAR) model once it has been fitted. The variance decomposition indicates the amount of information each variable contributes to the other variables in the auto-regression. It determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables.

4.0 RESULTS

This study commenced its empirical analysis by first testing the properties of the time series used for analysis. This is important as most macro-economic time series exhibit a non stationary behaviour in their level form which poses a serious problem to econometric analysis leading to spurious result if appropriate measures are not taken to guard against spurious result. This study took caution by checking the properties of the variables via the Augmented Dickey – Fuller (ADF) test developed by Dickey and Fuller that is by conducting a unit root test results in Tables 1, 2 and .3 respectively.

Table 1: Unit Root Stationarity Result

Time Series	ADF Statistics	Critical Value	Stationary Status
RGDP	-5.526842	-3.8572 (1%) -3.0400 (5%) -2.6608 (10%)	I(2)
MCAP	-4.501019	-3.8304 (1%) -3.0294 (5%) -2.6552 (10%)	I(1)
ASI	-5.860210	-4.5743 (1%) -3.6920 (5%) -3.2856 (10%)	I(1)
TVT	-4.035681	-3.8304 (1%) -3.0294 (5%) -2.6652 (10%)	I(1)

The critical values for rejection of hypothesis of unit root were from MacKinnon (1991) as reported in views.
Source: Authors' Computation, 2024.

From Table 1, RGDP was stationary after second difference. The absolute ADF calculated value of RGDP (-5.526842) is greater than the absolute ADF critical values at the 1 per cent, 5 per cent, and 10 per cent level of significance after second difference.

On the other hand, MCAP became stationary after first difference with the inclusion of trend in the equation. The absolute ADF calculated value of ASI (-5.860210) is greater than the ADF critical values at the 1 per cent, 5 per cent, and 10 per cent levels of significance.

TVT were stationary after first difference. The absolute ADF calculated value of both time series, are greater than the critical values at the three levels of significance.

Table 2: Johansen's Co integration Result

Eigen Value	Likelihood Ratio	5 percent Critical Value
0.909231	91.81802	39.89
0.734959	43.82935	24.31
0.564966	17.27195	12.53
0.329342	6.039242	3.94

Source: Authors' Computation, 2024

From Table 2, all the four equations show that the four variables (GDP, MCAP, ASI, TVT) are cointegrated. From the table the likelihood ratios of (91.81802, 43.82935, 17.27195 and 6.039242) are all greater than their respective critical values (39.89, 24.31, 12.53 and 3.94) at 5 percent level of significant.

Augmented Engle-Granger Co integration Result

$$\mu_t = -0.938880\mu_{t-1} \quad \text{……………………} (1)$$

t (**-**3.947963)
P-Value (0.00017)
The value in parenthesis is the ADF statistic
Durbin-Watson statistic = 1.913558

Table 3: Critical Values of ADF test

Level of Significance	Critical Values
1%	-2.6889
5%	-1.9542
10%	-1.6246

Source: Authors' Computation, 2024

To further support the Johansen's test result, the Augmented Engle-Granger co integration test was done, and the result supports the Johansen's test. The obtained error series was stationary at a level that is. I(0), with the absolute ADF statistic (**-**3.947963) greater than the absolute critical values at the three conventional levels of significance.

Table 4: VAR Lag Order Selection Criteria

Endogenous variables: POV INF UMP						
Exogenous variables: C @TREND						
Date: 12/04/22 Time: 08:38						
Sample: 1980 2022						
Included observations: 31						
Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-253.3626	NA	3714.417	16.73307	17.01062	16.82354
1	-224.1831	48.94625	1018.474	15.43117	16.12503	15.65735
2	-207.6877	24.47710	645.3381	14.94759	16.05777*	15.30948
3	-201.6403	7.802981	829.8418	15.13809	16.66459	15.63569
4	-182.4543	21.04277*	482.0080*	14.48092*	16.42374	15.11423*
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: Author's Computation, 2024

To carryout VAR analyses on the variables, the fourth lag will be selected since all the lag selection criteria chose the fourth lag except Schwarz information criterion that which chose the second lag.

VAR Results and Error Variance Decomposition

The Vector Autoregressive Model estimated is presented in the Appendix of this study. From the VAR model, the Variance Error Decomposition is extracted using the cholesky decomposition. The variance decomposition indicates the amount of information each variable contributes to the other variables in the auto regression. It determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables.

Interpretation of Results
From the VAR result in Appendix 2 the following interpretation can be inferred;

GDP Equation
From the first equation, a unit change in the first lag of GDP, MCAP, ASI and TVT will lead to 0.474193,0.074900, -0.241324 and -0.247840 change in GDP respectively. A unit change in the second lag of GDP, MCAP, ASI and TVT will lead to -0.008909, 0.174232, -1.119256 and -2.734867 change in GDP respectively. A unit change in the third lag of GDP, MCAP, ASI and TVT0.770289, -0.070908, 0.985170 and -15.05194 change in GDP respectively. A unit change in the Forth lag of GDP, MCAP, ASI and TVT0.125332, 1.733526 and -1.323281 changes in GDP respectively.

The R^2 is given as 0.987881 indicating that 98% variation in GDP is explained by the independent variables.

F-statistics is given as 50.94605 which is greater than the critical value of 4.30 at (22, 12) indicating that the equation is significant.

MCAP Equation
From the second equation, a unit change in the first lag of GDP, MCAP, ASI and TVT leads to 0.691821, 0.452298 and 2.005848change in MCAP respectively. A unit change in the second lag of GDP, MCAP, ASI and TVT leads to 2.322594, -0.446374 and 7.332685 changes in MCAP respectively. A unit change in the third lag of GDP, MCAP, ASI and TVT gives 0.453722, 0.149259 and 0.112016 changes in MCAP respectively. A unit change in the Forth lag of GDP, MCAP, ASI and TVT -1.578392, -0.270286 and -0.117331.

The R^2 is given as 0.994982 indicating that 99% variation in Market capitalization is explained by the independent variables.

F-statistics is given as 9.137478 which is greater than the critical value of 4.30 at (22, 12) indicating that the equation is significant.

ASI Equation
From the third equation, a unit change in the first lag of GDP, MCAP, ASI and TVT will lead to 0.080313,-0.009414and 0.165939change in ASI respectively. A unit change in the second lag of GDP, MCAP, ASI and TVT will lead to 0.127255, -0.446374 and 0.168844 changes in ASI respectively. A unit change in the third lag of GDP, MCAP, ASI and TVT 0.005595, -0.009999 and 0.112016. A unit change in the Forth lag of GDP, MCAP, ASI and TVT will lead to 0.055215, 0.006202 and -0.117331 unit change in unemployment rate respectively.

The R^2 is given as 0.995175 indicating that 93% variation in ASI is explained by the independent variables.

F-statistics is given as 17.42042 which is greater than the critical value of 4.30 at (22, 12) indicating that the equation is significant.

TVT Equation
From the first equation, a unit change in the first lag of GDP, MCAP, ASI and TVT will lead to 0.474193, 0.074900, -0.241324 and -0.247840 change in GDP respectively. A unit change in the second lag of GDP, MCAP, ASI and TVT will lead to -0.008909, 0.174232, -1.119256 and -2.734867 change in GDP respectively. A unit change in the third lag of GDP, MCAP, ASI and TVT 0.770289, -0.070908, 0.985170 and -15.05194 change in GDP respectively. A unit change in the Forth lag of GDP, MCAP, ASI and TVT0.125332, 1.733526 and -1.323281 change in GDP respectively.

The R^2 is given as 0.987881 indicating that 98% variation in TVT is explained by the independent variables.

F-statistics is given as 50.94605 which is greater than the critical value of 4.30 at (22, 12) indicating that the equation is significant.

Error Variance Decomposition

Table 5: Forecast Error Variance Decomposition

Variance Decomposition of GDP:				
Period	S.E.	GDP	MCAP	ASI	TVT
1	34463.58	100.0000	0.000000	0.000000	0.000000
2	38300.03	99.92168	0.010785	0.003076	0.064457
3	39502.35	98.13325	0.288792	1.477781	0.100175
4	49256.38	97.56423	0.282995	1.979847	0.172928

Cholesky Ordering: GDP

Variance Decomposition of MCAP:					
Period	S.E.	GDP	MCAP	ASI	TVT
1	16813.14	26.20760	73.79240	0.000000	0.000000
2	60959.09	2.453527	10.82195	66.44379	20.28073
3	101549.4	0.884197	4.069220	71.49288	23.55370
4	122209.9	0.871440	2.833321	74.89838	21.39686

Cholesky Ordering: MCAP

Variance Decomposition of ASI:

Period	S.E.	GDP	MCAP	ASI	TVT
1	77236.02	1.777342	0.288148	97.93451	0.000000
2	123509.8	0.913262	14.56788	58.27726	26.24160
3	174469.0	0.693212	18.79817	65.53830	14.97031
4	256123.6	5.893852	18.20662	52.60552	23.29401

Cholesky Ordering: ASI

Variance Decomposition of TVT:

Period	S.E.	GDP	MCAP	ASI	TVT
1	621284.8	0.012906	1.380473	80.75002	17.85660
2	775167.2	0.405956	0.892141	80.19570	18.50620
3	785709.5	1.858239	0.869805	78.78382	18.48814
4	1007819.	39.32539	0.683437	48.57989	11.41128
	Cholesky ordering				

Source: Author's Computation, 2024

From Table 5, Variation in GDP for the first period is explained only by GDP. Variation in GDP for the second period is attributed 99.9%, 0.01%, 0.003% and 0.064% variation in GDP, MCAP, ASI and TVT. Variation in GDP for the third period is attributed 98.1%, 0.29%, 1.47 and 0.1% variation in GDP, MCAP, ASI and TVT. Variation in GDP for the fourth period is attributed 97.8%, 0.28%, 1.98 and 0.17% variation in GDP, MCAP, ASI and TVT.

Variation in MCAP for the first period is explained by 26.2% and 73.8%, variation in GDPMCAP. Variation in MCAP for the second period is attributed 2.45%, 10.8%, 66.4% and 20.3% variation in GDP, MCAP, ASI and TVT. Variation in MCAP for the third period is attributed 51.8%, 35.8% and 12.4% variation in GDP, MCAP, ASI and TVT. Variation in MCAP for the fourth period is attributed 64.9%, 23.9% and 11.3% variation in GDP, MCAP, ASI and TVT.

Variation in ASI for the first period is explained by 1.77%, 0.29% and 97.9% variation in GDP, MCAP, ASI and TVT. Variation in ASI for the second period is attributed 0.91%, 14.6%, 58.3% and 26.6% variation in GDP, MCAP, ASI and TVT. Variation in ASI for the third period is attributed 30.6%, 24.2% and 45.1% variation in GDP, MCAP, ASI and TVT. Variation in ASI for the fourth period is attributed 34.1%, 22.4% and 43.5% variation in GDP, MCAP, ASI and TVT.

Granger Causality Test

Table 6: Causality Test

Null Hypothesis (H0)	Chi-Square	Probability	Decision
MCAP does nocause GDP	12.80996	0.0000	Reject Ho
GDP does not cause MCAP	32.74877	0.0000	Reject Ho
ASI does not cause GDP	14.45966	0.0000	Reject Ho
GDP does not cause ASI	112.8433	0.0000	Reject Ho
TVT does not cause GDP	0.409001	0.9887	Accept Ho
GDP does not cause TVT	1.765888	0.7787	Accept Ho
MCAP does not cause ASI	645.3037	0.0000	Reject Ho
ASI does not cause MCAP	112.8433	0.0000	Reject Ho
MCAP does not cause TVT	1.030625	0.9051	Accept Ho
TVT does not cause MCAP	200.8433	0.0000	Reject Ho
ASI does not cause TVT	0.453536	0.9887	Accept Ho
TVT does not cause ASI	152.1505	0.0000	Reject Ho

Source: Authors' Computation, 2024

From the Table 6, there is bi-causality between GDP and MCAP. The causality flows from GDP to MCAP and MCAP to GDP.

There is bi-causality between GDP and ASI. The causality flows from GDP to ASI and ASI to GDP.

There is no causality between GDP and TVT. There is two ways causality between MCAP and ASI. The causality flows from MCAP to ASI and ASI to MCAP.

There is only one way causality between MCAP and TVT and it flows from TVT to MCAP.

There is also one way causality between ASI and TVT and it flows from TVT to ASI.

5. DISCUSSIONS

The summary of the findings from the study is that the stock exchange increased economic growth in Nigeria within the period the study covered. This finding supports the theoretical framework of the study; the Endogenous Growth Theory states that states that continuous progression can be achieved endogenously through organizations such as capital market. The finding is equally consistent with the empirical findings of Eze, Ezenwa and Chikezie (2020), Aibe (2019); Araoye, *et al.,* (2018); Okonkwo, Ogwuru and. Ajudua (2014); and Nurudeen, Wafure and Auta (2011). The finding does not corroborates Adigwe, Nwanna and Amala (2015) finding that the stock market only had growth inducing potential, nor Olaidipo, *et al.,* (2017) finding that the stock market had a negative impact on economic growth in Nigeria.

6. CONCLUSION

From the findings, it is very evident that the capital market activities affect economic growth significantly. Capital market information is essential to the growth of any nation as it exposed and brings the notice of the public the possible investment opportunity that potential investors can invest in. This study reveals that there is a linkage between capital market and economic growth vis-à-vis market capitalization, total value of transaction and all share index. As it can be observed that market capitalization, value of transaction, total new issue, number of deals are influenced by external polices from the government in attempt to achieve economics goals such as resources re-distribution, increase in per capital income and reduction in unemployment, among others.

The study recommends that, Government should improve dealing in the market capitalization by encouraging more foreign investors to participate in the market. Government should restore confidence to the market through regulatory authorities which will portray transparency, fair trading transactions and dealing in the stock exchange. Also there is also need to check and regulate the operators and all activities of the market through code of conduct of the market.

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