Effect of Market Capitalization on Nigerian Economic Growth

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Abstract

The recent financial crisis has shown that there is a severe economic impact of the financial system. The financial market in any country remains one of the most important pillars for long-term economic growth and development. This study investigates the effect of stock market capitalization on Nigerian economic growth. Gross Domestic Product was used as proxy for economic growth and was expressed as a function of Stock Market Capitalization (SMcap). This study employed Quantitative research design through the use of time series data. This includes a descriptive analysis and econometric analysis of secondary data covering the period of 22 years from 1998 to 2019 obtained from Central Bank of Nigeria Annual Statistical Bulletin, Central Bank of Nigeria Annual Report and Statement of Accounts (various issues), NSE books, and SEC Market Bulletins. Augmented Dickey Fuller (ADF) unit root test, Co-integration test and Vector Error Correction Model (VECM) were employed in the analysis. From the ADF unit root test conducted, it was revealed that Gross Domestic Product and SMcap were non-stationary in levels but at first differencing; both variables became stationary at 5% level of significance. The results of the VECM model indicated that SMcap has a positive and significant effect on Gross Domestic Product and it is estimated on the average that 1% increase in stock market capitalization will lead Gross Domestic Product to increase by 84%. It was thus concluded that stock market capitalization has a significant effect on Nigerian economic growth measured by Gross Domestic Product. The study recommends that the Nigeria government should place priority on the development of the stock market through formulated effective monetary and fiscal policy management and in fact a stable macroeconomic environment.

Keywords: Stock Market Capitalization, Economic growth, Gross Domestic Product, Central Bank of Nigeria

INTRODUCTION

Accounting for economic growth and development is a major goal for all countries, especially since Smith (1776) published his famous book 'Wealth of Nations' (Aali-Bujari, Venegas-Martínez & Pérez-Lechuga 2017). There have been many lessons on factors affecting economic growth. Economists tend to focus on factors like capital, labor and technology as the only thing that matters in economic growth. As a result of recent developments in economic growth, new forms of economic growth have emerged such as social capital, intellectual events, macroeconomic societies, political stability, economic development rather than cultural factors, capital, labor and technology (Chizea, 2012; Mhadhbi 2014). The recent financial crisis has shown that there is a severe economic impact of the financial system. The financial market in any country remains one of the most important pillars for long-term economic growth and development (Oluwatoyin&Gbadebo 2009;Uwakaeme, 2015). The financial market caters for a wide

range of customers, including different levels of government, corporate bodies and individuals inside and outside the country. The stock market is a financial market, including enterprises that operate cheaply with securities for more than a year. The Nigerian Stock Exchange has an important role to play in the long-term equity market of the Nigerian Stock Market. The main purpose of any financial system is a vision of a conducive environment for transferring funds from the economy to additional security (Maxwell, Happiness, Alice & Chinedu 2018).

Capital is really necessary to stimulate the engine of growth and, consequently to ensure maximum productivity and real economic growth in the economy. An assessment of the entire economic system shows that capital due to nations is not used properly in developing countries due to the presence of weak capital markets and inefficient infrastructure to mobilize affordable capital for economic and productive activities (Nzotta, 2004; Taiwo, Alaka&Afieroho 2016). The stock market has for some time become one of the means by which foreign funds are injected into most economies, and therefore the tendency of the global economy is more feasible / visible there than anywhere else (Nwaolisa, Kasie&Egbunike 2013). Stock markets are not only essential for raising funds for infrastructure and business expansion, they also foster good corporate governance and accountability, promote transparency, enable wealth creation and distribution, foster inclusion, democratize access to prosperity and champion meritocracy (SEC 2016). Market capitalization (also known as market value) is the market price index of the number of shares (including their particular classes) of listed domestic companies. Investment, unit trusts, and companies whose sole purpose for the business is to hold shares of other listed companies is excluded (Taiwo, Alaka&Afieroho 2016). From an economic point of view, market capitalization is the most used indicator for determining the size of a capital market. In a bear market, market capitalization falls, and in a bullish market, vice versa. Market capitalization reached its highest value in 2007 at ₦13.2294 trillion. But this fell to ₦ 959 trillion in 2008 due to the global financial meltdown. Over the past four years, total market capitalization was ₦17,003 trillion, down 5% to ₦16,185 trillion in 2016. This fell further by 37% to ₦10.17 trillion. A 15% increase was observed from 2017 to 2018 and the total market capitalization was ₦11.73 trillion (Ologunwa & Sadibo 2016).

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 (2014).

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.

Numerous have been conducted in the past to determine the impact of market capitalization on economic growth. Levine and Zervos (1996) and Dabo (2015) stated that stock market has positive effect on economic growth in Nigeria.Boopen, Shalini and Sawkut (2009) find that financial development plays a major role in economic growth. Dorko (2012) finds that there is a link between the level of development and market development. Olowe, Mathew and Fasina (2011) employed OLS method to analyse the efficiency of capital market on the economy between 1979 and 2008. The findings revealed negative relationship between gross domestic product and market capitalization. Sylvester and Enabulu (2011) reported a weak negative correlation between gross domestic product growth and interest rate and stock market returns. Owolabi and Ajayi (2013) explored the relationship between stock market and economic growth between 1971 and 2010 utilizing Ordinary Least Square method and the outcomes showed that there is a positive relationship between economic growth and all the measures of stock market and economic growth.Okonkwo, Ananwude and Echekoba (2015) stated the existence of a unidirectional relationship between stock market development and economic growth which means that the state of development of the economy will determine the development and operations of the stock market.This indicates that the relationship between market capitalization and economic growth remains unsettled, especially for an emerging economy like Nigeria, thus the need to investigate the effect of Stock Market Capitalization on economic growth in Nigeria. The basic hypothesis underlying this study is stated thus:

H_{O1}: Market capitalization has no significant effect on Nigerian economic growth.

LITERATURE REVIEW

Conceptual Framework

StockMarket capitalization

Market capitalization refers to the market value of trading shares or quantities in the traded item. It also means the value of all the securities secured in relation to their market prices (Nzotta, 2004).Market capitalisation refers to the overall value of a company's shares. It can be determined by multiplying the price of a stock by its total number of outstanding shares. For instance, if it sells $50 per share, the market cap for a 20 million share company is $1 billion. It makes it possible for investors to understand the relative dimensions of one company versus another. Market cap measures what an open market company is worth and the market perception of its future prospects because it reflects what investors are prepared to pay for their stocks.It can be used as a social media platform to consider company value and is a choice in other ways of looking at sales. Pavone (2019) citing Dias (2013) stated that market capitalization is an important market indicator of the value of shares and the value of companies in general.

Concept of 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. Through assets with attractive yields, liquidity and risk characteristics, it encourages savings in financial form. This is very essential for government and other institutions in need of long term funds (Nwankwo, 2011).

Ekezie (2002) noted that capital market is the market for dealings (i.e. lending and borrowing) in longer-term loanable funds. Mbat (2001) described it as a forum through which long-term funds are made available by the surplus to the deficit economic units. Nyong (1997) 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 (2009), 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) stated that capital market provides facilities for transfer of medium and long term funds to various economic units.

The capital market began operations in Nigeria on June 5, 1961 in accordance with the provisions of the Lagos Stock Exchange Act of 1961, which was transformed into the Nigerian Stock Exchange into December 1977 as a result of a review of the financial system of Nigeria (CBN, 2007). The Securities and Exchange Commission (SEC) was established in 1979 in accordance with the 1979 SEC Law, which was to regulate the capital market, but it began its operations in 1980. It assumed the oversight role of the Finance Committee established in 1973. Since then, a variety of financial instruments have been invested in capital markets by new and existing businesses to support innovation, new projects or industries (Nwaolisa, Kasie&Egbunike 2013).

Economic Growth Conceptualized

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.

Empirical Literature

Araoye, Ajayi and Aruwaji (2018) examined the impact of the Nigerian Stock market development on the nation's economic growth from 1985 to 2014. The 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. The study utilizes the Johansson's co integration test in establishing if a long run relationship does exist between stock market development and economic growth in Nigeria. The empirical results suggest that the stock market is significant in determining economic growth in Nigeria using the error correlation model and it was concluded that the stock market has impacted insignificantly on the economic growth. The study recommended that Small and medium entrepreneurs should be encouraged to access the market for investible funds given their close affinity with the grass root funds mobilization ability. Adigwe, Nwanna and Ananwude (2015),examined the effect of stock market development on Nigeria's economic growth. The objective of the study was to determine if stock market development significantly impact on the country's economic growth. Secondary data were employed for the study covering 1985 to 2014. Ordinary Least Square (OLS) econometric technique was used for the time series analysis in which variations in economic growth was regressed on market capitalisation ratio to GDP, value of stock traded ratio to GDP, trade openness and inflation rate. The analysis revealed that stock market has the potentials of growth inducing and concluded that stock market has not contributed meaningfully to Nigerian economic growth, since only 26.5% of variations in economic growth were explained by the stock market development variables. Based on this, the study suggests for an encouragement of more investors in the market, improvement in the settlement system and ensuring investors' confidence in the market.

Dabo (2015) examined the impact of capitalization of the Nigerian capital market on the growth of the Nigerian economy. The study utilized the annual time series from 2001 to 2012 collected from the Annual Report and the Statement of the Nigerian Stock Exchange and the Central Bank of Nigeria Statistics Bulletin Annual Report in a statement of the Nigerian Stock Exchange. A qualitative study on the calculation of the relationship between Nigerian capital and economic development in Nigeria was adopted and the results show that, there is a reason for disagreement between the market capitalization and economic growth, ranging from GDP growth (MCAP) at 5 percent significant level. The author concludes that the Nigerian capital market should generate more trust in investors and recommended that more should be done in terms of transparency and accountability which are necessary for key support and growth in economic development in the country. Ogunleye and Adeyemi (2015) examined the impact of stock market development on economic growth between1970 and 2008. Cointegration Analysis and Error Correlation Mechanism were adopted as the estimating techniques to verify the existence of long-run relationship between stock market development and economic growth. Questionnaires were administered to access the investor's confidence in the Nigerian stock exchange and to authenticate the impact of stock market development on economic growth in the period under review. The empirical results revealed that there is existence of long-run relationship between stock market development and economic growth in Nigeria. The findings concluded that there is positive relationship between market capitalization and money supply with economic growth while total value traded, turnover ratio and gross capital formation have inverse relationship with the growth. Also, market capitalization is highly significant and appears to be the major stock market indicator. Based on these findings government should address the shortage of investment assets through effective policy measures that enhance the performance of stock market in Nigeria and to restore confidence of the investors.

Ali, Rehman and Nasir (2015) investigated the relationship between stock market share and economic growth in Saudi Arabia. The study included encompasses capital formation in a trivariate system for the period 1985 to 2012. The study employed partial root trials and used the Johansen correlation coefficient to investigate the association between variables under study. The Granger causality test was employed to identify defects of causality among the adaptive variables. Vector Autoregressive Model reveals the relationship between economic growth and capital markets. The results of the Granger causality test showed that capital markets and capital are causing economic growth in Saudi Arabia. Moreover, the tightening of the stock market also creates capital in the economy. Based on these results, the study concluded that development costs of the Saudi stock market will go a long way toward demonstrating the rate of growth of the economy. Churchill, Arhenful and Agbodohuhu (2013) in their own research effort, studied the relationship between capital market and economic growth in Ghana using a four-month periodic time series from 1991 to 2006. The study used Johansen multivariate integration strategies with error correction method to monitor the length of the operation and the relationship with the short-term variability of the variants. However, the Granger-causality standard was used to determine the association between variables. The study found that economic growth, real estate prices, real estate investment has a positive effect on the development of Ghanaian businesses. Economic growth is one of the most important indicators of development of the Ghana Stock Exchange. In contrast, the results show that regional bank developments are negatively correlated with business development and appear to be a substitute for corporate investment in Ghana. The results of the Granger-causality test indicate that economic growth leads to a commodity capitalization (commodity market development) without any response supporting the "following demand" hypothesis. The study concludes that despite Ghana's financial reforms it is new, neglected and with considerable attention, it has the potential to mobilize both domestic stocks and foreign capital for future investment. As a result, it is important for the government to adopt measures to promote economic growth, high commodity prices and domestic investment in order to grow Ghanaian products.

Global marketing opportunities have opened new doors to explore the relationship between financial reform and economic development, with a focus on product marketing results (Arestis, Demetriades&Luintel, 2001; Mhadhbi, 2014). The relationship between financial and economic

development is widely discussed in the literature. Some argue that a successful stock market can have a positive effect on economic growth by contributing to overall economic growth as a result of stock growth; thus, promoting the provision of economic resources thus leading to other sectors of the economy in the process of their growth (Enisan&Olufisayo, 2009; Mhadhbi, 2014; Rashti, Araghi&Shayeste, 2014). In contrast, others view the development of the stock market as ineffective in boosting the economy (Aali-Bujari, Venegas-Martínez& Pérez-Lechuga 2017; Maxwell, Happiness, Alice &Chinedu 2018).

Theoretical Discussion

Efficient Market Hypothesis

The efficient markets theory (Malkiel&Fama, 1970) establishes that securities prices in the stock market fully reflect all available information. It is based on the assumptions that information is freely available to all market participants at negligible costs and this information trickles in randomly, thus prices are rightly priced always (where mispricing exists, arbitrage activities quickly adjust the price to the right level). The market players are also assumed to be rational and seek to maximize their returns; thus, the stock markets allocate funds from surplus units to deficit units in an efficient and effective manner. The efficient stock markets theory provides a good explanation on the role stock markets, especially market capitalization, play on promoting economic growth in a country. Since resources are efficiently allocated, wasteful use is minimized in the economy; where such efficient allocation and use of the scarce resources occur, economic growth is positively affected.

Endogenous Growth Theory

The theory of endogenous development was propounded by Romer, (1986) and it suggests that the development of money is caused by factors that enter the economy, not external forces. Factors of production, such as the labor factor, can be managed internally and the economy can be improved to ensure economic growth. The theory is thus based on a closed market economy. According to the endogenous theory of growth, the development of the stock market, and hence capitalization, leads to a high level of economic growth by affecting the level of investment and productivity. According to the theory, stock market helps to mobilize savings and stimulate investment and thus improve economic growth (Dorco, 2012). The stock market, being part of the overall financial system, helps to mobilize and increase financial resources from surplus units in the economy, and then such funds are efficiently and effectively directed to the supply units of the deficit. Thus, resources are efficiently allocated to many areas of production, and over time, such efficiency has a positive impact on economic growth.

METHODOLOGY

The research paper is predicated on an effort to investigate the assessment of capital market on the Nigerian economic growth. Quantitative research design was adopted through the use of time series data. This includes a descriptive analysis and econometric analysis of secondary data which was used in order to establish the findings of the study. This approach was adopted because it enables the study to obtain data-driven and evidence-based findings which enabled the research objectives to be achieved. The study used stock market capitalization (SMcap) as the independent variable while GDP was used to measure the economic growth. The study adopts the use of secondary data collected on each of the stated variables, covering the period of 22 years from 1998 to 2019. The choice of this period is to make room for a broad coverage of the stock market indicators, as well as the investigation of both the short run and long run relationship between stock market development and economic growth in Nigeria. These annual data series were collected majorly from CBN Statistical Bulletin, CBN Annual Report and Statement of Accounts (various issues), NSE books, and SEC Market Bulletins.
The Data set on Gross Democratic Products and Market Capitalization is presented thus:

year	GDP	MCAP

1998	3,884,681.00	262,600.00
1999	4,679,212.00	300,000.00
2000	6,713,574.00	472,300.00
2001	6,895,198.00	662,500.00
2002	7,795,758.00	764,900.00
2003	9,913,518.00	1,359,300.00
2004	11,411,066.00	2,112,500.00
2005	14,610,881.00	2,900,100.00
2006	18,564,594.00	5,120,900.00
2007	20,657,317.00	13,181,700.00
2008	24,296,329.00	9,563,000.00
2009	24,794,238.00	7,030,800.00
2010	54,612,264.00	9,918,200.00
2011	62,980,397.00	10,275,300.00
2012	71,713,935.00	14,800,900.00
2013	80,092,563.00	19,077,400.00
2014	89,043,615.00	16,875,100.00
2015	94,144,960.00	17,003,400.00
2016	101,489,492.00	16,185,700.00
2017	113,711,634.00	21,128,900.00
2018	127,736,827.00	31,520,550.00
2019*	104,633,152.00	12,900,000.00

* Note: GDP for 2019 is at the end of 3rd Quarter; Source: Researcher's Compilation (2020)

The data obtained was analysed using descriptive and inferential analysis. Descriptive analysis is the presentation of summary of the important statistics in a data set. Opara, Emenike and Ani (2015) conclude that researchers that are studying financial markets should start by describing their variables before delving into the inferential analysis. The regression analysis, on the other hand, was conducted using ordinary least square (OLS) method which is based on the modification of the empirical models of Abu (2009), Adenuga (2010) and Aigbovo and Izekor, (2015). The OLS enables the measure of the impact of independent variable(s) (X) on the dependent variable (Y). It is specified as follows:

GDP = f (SMcap)

and can be express in its econometric form as follows:

GDP = α + β_1SMcap + μ

Where:

GDP = Gross domestic product
SMcap = Stock Market capitalization
α = the constant of the equation
β_1 = the coefficient associated with the independent variable

μ = The Error Term

The methods of estimating this empirical study are based on co-integration analysis and the Error Correction Model. In order to decide on this technique, the time series characteristics of the variables used in this study must be determined. The first step is the determination and testing of the data's stationarity using Augmented Dickey Fuller (ADF) unit root test. The second step is to establish a long time relationship between the variables after stationary testing. After the integration order of the variables is determined, the long-lasting relationship between the variables can be established. Co-integration and Error Correction Model (ECM) would therefore be defined and estimated.

RESULTS AND DISCUSSION

Descriptive Statistics

Here the descriptive statistics and graphical representation of the variables employed in this study is presented. It shows the number of observation, minimum, maximum, mean, standard deviations, skewness, kurtosis and Jarque-Bera statistics of the variables used and it is as presented in table 1 below.

**Table 1: Descriptive Statistics for the variables**

	GDP	SMcap
Mean	47,926.146	9,700,729
Median	24,545,283,	9,740,600
Maximum	113,711.634	31,520.550
Minimum	3,884,681	262,600
Std. Dev.	41 489 681	8 300 911
Skewness	0.487536	0.682522
Kurtosis	1.676711	2.934173
Jarque-Bera	2.476704	1.712038
Probability	0.289862	0.424850
Sum	1.05E+15	2.13E+14
Sum Sq. Dev.	3.79E+28	1.52E+27
Observations	22	22

EVIEWS Result, 2020

From table 1, GDP has a minimum value of ₦3,884.681 billion and maximum value of ₦113,711.634, billion with a mean and standard deviation of ₦47,926.146 billion and ₦41,489.681 billion respectively. SMcap has a minimum value of ₦262.600 billion and maximum value of ₦31,520.550 billion with a mean and standard deviation of ₦9,700.729 billion and ₦8,300.911 billion respectively. The skewness shows that the series for both variables are positively skewed while the kurtosis shows that GDP and SMcap is leptokurtic. The Jarque-Berra statistics further validates that the variables are normally distributed.

Figure 1 shows the relationship between market capitalization (SMcap) and Gross Domestic Product (GDP) for the period under study (1998 – 2019).
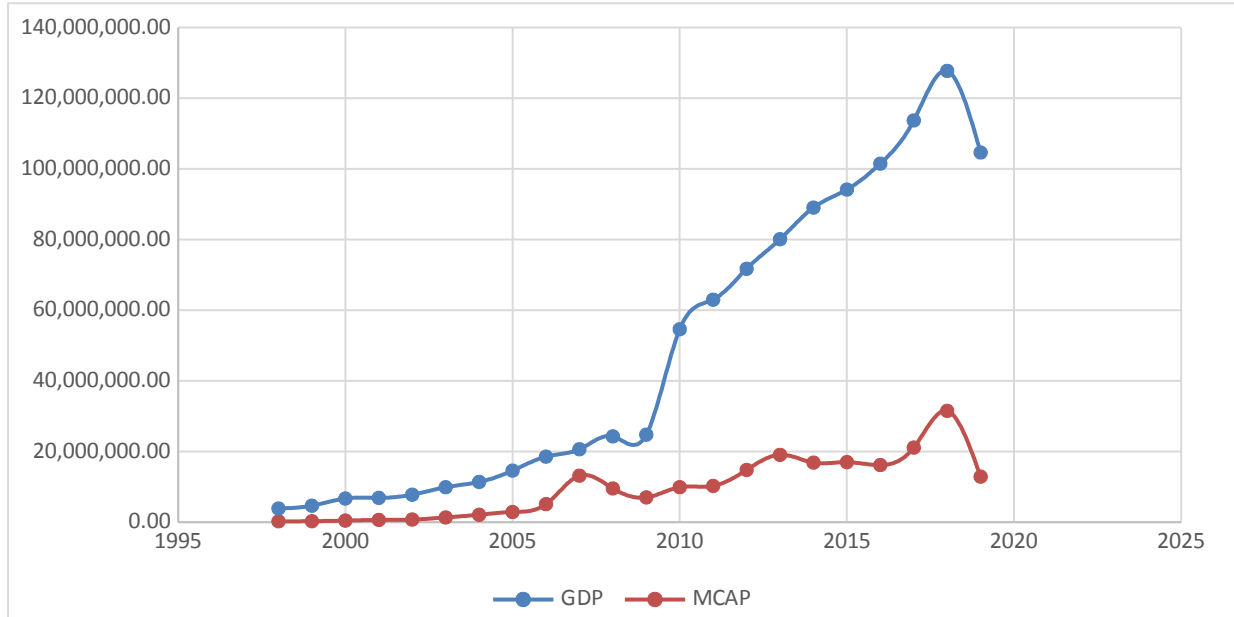
Figure 1: The relationship between Stock market capitalization (SMcap) and Gross Domestic Product (GDP) from 1998 – 2019
* Note: GDP for 2019 is at the end of 3rd Quarter; Source: Researcher's Computation (2020)*

As shown, there was a steady increase in SMcap and a corresponding increase in GDP until 2007 when SMcap began to decline. This could be associated with the global recession that was reported to commence in 2007 and lasted till 2009 which affected the economy of so many countries including Nigeria (Shomali & Giblin 2010; Abina & Maria 2019). However, the decrease in SMcap at this time did not affect the GDP of the country as shown in the figure above. The SMcap gained momentum in 2009 and began to increase leading to a sharp increase in the GDP of the country between 2009 and 2010. This could be attributed to a lot of measures put in place to combat the recession at that time resulting in increased SMcap.

The results of the correlation analysis between variables are provided to determine whether there are bivariate links between each of them. Table 2 presents the results of the correlation analysis of the considered variables.

Table 2: Correlation analysis

Covariance Analysis: Ordinary
Date: 07/14/20   Time: 10:43
Sample: 1998 2019
Included observations: 22

Correlation t-Statistic Probability	GDP	SMcap
GDP	1.000000	

MCAP	0.916592	1.000000
	10.25235	-----
	0.0000	-----

EVIEWS Result, 2020

The results demonstrated that there exist a positive and highly statistically significant (at 1% significant level) relationship between market capitalization and GDP (r = 0.916).

Time Series properties of the Variables

The analysis will start by examining the time-series properties of the variables used in the work of research, so as to avoid the problem of false regression results. In literature, the majority of time series are non-stationary and the use of a non-stationary model variable may lead to falsified regression coefficient estimates. The Augmented Dickey Fuller (ADF) unit root test unit was used to determine whether or not the variables are stationary and also to detect order(s) of integration of the variables.

Table 3: Augmented Dickey Fuller (ADF) unit root test

| Variable | ADF Statistics | | Order of Integration |
	At Level	At 1st Diff.	
Gross Domestic Product (GDP)	-0.108022 (0.9364)	-3.334892 (0.0268)	I(1)
Stock Market Capitalization (SMcap)	-1.695986 (0.4187)	-4.865949 (0.0010)	I(1)

Author's computation, 2020

The results of the ADF test reported in table 3 indicate that all the series are non-stationary in their respective levels. After first differencing the variables, the null hypothesis of a unit root in the ADF tests was rejected at 5% for GDP and at 1% significance level for SMcap. The economic consequences of non-stationary time series are that of a continuous shock that causes disturbance on a variable. The result shows that the variables can withstand shock in great measure and the unit root test shows that all the series are integrated of order one, i.e. I(1).That is, they become stationary after first differencing. This property exhibited by the series created a necessary condition for co-integration.

The results emanating from the unit root test indicate that none of the variables is stationary at level but only at first differences. This means that depending on parameter estimates using ordinary least square regression estimates may be misleading and not meaningful. This necessitates the use of co-integration analysis in order to determine the long run relationship among the series. In the Johansen co-integration test, the likelihood ratio is compared with the McKinnon critical value in order to determine the number of co-integrating vector(s) in the model. If the test establishes, at least, one co-integrating vector amongst the series under investigation then, it is concluded that there exists a long run equilibrium relationship in the model.

Table 4: Co-integration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.413560	12.36917	12.32090	0.0491
At most 1*	0.081280	1.695477	4.129906	0.0266

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None*	0.413560	10.67369	11.22480	0.0424
At most 1*	0.081280	1.695477	4.129906	0.0266

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

EVIEWS Result, 2020

An examination of the co-integration test results in table 4 reveals that both trace and maximum Eigen value statistics indicate 2 co-integrating equation (s)at 5% significance level. This is because both the Trace statistic and Maximum-Eigen value statistics are at this level greater than the 5% critical value respectively. Thus, the results indicate the existence of co-integration among the variables, and as such, a long run equilibrium relationship exists among them. This implies that stock market capitalization and GDP have long-term relationship. The positive long-run relationship between the stock market development and GDP is consistent with the results reported by El-Wassal (2005), Levine and Zervos (1996), Yartey and Adjasi (2007), gare, Nyamongo and Misati (2014)and Ogunleye and Adeyemi (2015). The results show that the GDP has the strongest significant linkage with the stock market capitalization.

The fact that the variables are co-integrated suggests that a VECM can be estimated to assess the linkages between the variables. The output of the Error Correction Model (ECM) estimates is presented in table 5 below:

Table 5: Error Correction Model Estimates (ECM):

Dependent Variable: GDP
Method: Least Squares
Date: 07/14/20   Time: 11:05
Sample: 1998 2019
Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.48E+12	5.71E+12	0.610669	0.5483
SMcap	4.581319	0.446856	10.25235	0.0000

R-squared	0.840141	Mean dependent var	4.79E+13
Adjusted R-squared	0.832149	S.D. dependent var	4.25E+13
S.E. of regression	1.74E+13	Akaike info criterion	63.89916
Sum squared resid	6.05E+27	Schwarz criterion	63.99835
Log likelihood	-700.8908	Hannan-Quinn criter.	63.92253
F-statistic	105.1106	Durbin-Watson stat	1.824125
Prob(F-statistic)	0.000000		

EVIEWS Result, 2020

The error correction mechanism has demonstrated from Table 4.5 above that in the long run SMcap accounts for around 84 percent of the GDP changes, in an attempt to evaluate the speed of adjustment between short and long term estimates. This demonstrates how the model is suitable and provides evidence of the substantial growth in Nigeria's economic output as a result of the stock market capitalisation in Nigeria. The long run coefficients of the explanatory variable is significant at 0.01 level and the probability of the f-statistics (105.1106) is 0.0000, indicating a good fit, while the Durbin-Watson

Statistics value of 1.824125 is close to 2 and suggest the absence of positive serial correlation. All these imply that the model is a good one, well fitted and highly predictive.

To test for the direction of the relationship between the correlates, granger causality test was utilized and presented in table 6 below:

Table 6: Granger Causality Test

Pairwise Granger Causality Tests
Date: 07/14/20   Time: 11:08
Sample: 1998 2019
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
SMcap does not Granger Cause GDP	20	2.20111	0.1451
GDP does not Granger Cause SMcap		2.39693	0.0249

The results of Granger Causality test as shown in table 6 above provide evidence of two significant unidirectional causal relationships. These are between total market capitalization (SMcap) and gross domestic product (GDP). The result showed that there is no significant bi-directional relationship, however GDP does Granger Cause SMcap. This suggest that a rapid growth in the output level of goods and service in the economy could make the economy active, stimulate investmentsand enlarging the size of the country's capital market through increased stock market capitalization. The stock market capitalization does not granger-cause gross domestic product in Nigeria. This may be as a result of low level of financial development of the capital market evidence by poor participation and inclusion in the market in Nigeria.

Hypotheses Testing

From the ECM output in Table 5, the coefficient of SMcap is 4.581319 which is positive at a probability level of 0.0000 which is less than the 0.05 (5%) significant level. This implies that the null hypothesis cannot be accepted, thus the alternative hypothesis is accepted stating that stock market capitalization has a significant effect on Nigerian economic growth measured by GDP.

Discussion of Findings

The study examined the influence of stock market capitalization on Nigerian economic growth from 1998 to 2019. The study revealed a steady increase in SMcap and a corresponding increase in GDP until 2007 when SMcap began to decline. Global financial crisis in 2007 had contributed greatly to this loss; however, it did not affect the GDP at that time. The recovery strategies taken by the government in 2009 to overcome the recession gave rise to a sharp increase in GDP which was evident in 2010. Co-integration test and Vector Error Correction Model were employed in the analysis. Time series data obtained from the statistical bulletin of the Central Bank of Nigeria (CBN) on gross domestic product and stock market capitalization were analyzed in the research. From the ADF unit root test conducted, it was revealed that GDP and SMcap were non-stationary in levels but at first differencing; both variables became stationary at 5% level of significance. The results of the VECM model indicated that SMcap has a positive and significant effect on GDP and it is estimated on the average that 1% increase in stock market capitalization will lead GDP to increase by 84%.

CONCLUSION AND RECOMMENDATION

From all the analysis above, this study concludes that stock market capitalization has a significant effect on Nigerian economic growth measured by Gross Domestic Product. Thus, the study recommends that government should, as a matter of fact, formulate appropriate economic policies that would ensure the stability share prices which encourage nationals' and foreigners' participation in the capital market in the

country. In so doing, market capitalization will improve leading to improved growth in the domestic economy, as 1% rise in the market capitalization will result to 84% improve in GDP. There is an urgency and rising need to improve investor confidence to break stock market profits by creating conducive environment that will enhance the confidence of investors, operators and all users of stock market. Again, these capital market regulations must be fair, with meaningful rules that are clear and enforceable. Unstable and inconsistent policies can undermine investor confidence. Therefore, the Nigeria government should place priority on the development of the stock market through formulated effective monetary and fiscal policy management and in fact a stable macroeconomic environment. The dissemination of market information is another integral part of stock market development. Since the competition between developing countries to attract foreign capital is quite intensive there is a need to make relentless efforts to disseminate information to potential investors abroad.

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