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Abstract

Purpose: The study examines the effect of capital market operations on economic growth with emphasis in Nigeria. The market capitalization, value of stock traded and All-Share-Index were used as proxy of the developments of the Nigerian capital market, while real Gross Domestic Product (GDP) was used as the proxy for economic growth.

Design/Methodology/Approach: The Auto-Regressive Distributed Lags (ARDL) bounds approach to co-integration was employed on a quarterly time-series data from Q1 2009 to Q4 2018. Augmented dickey fuller was used to test for unit root/stationarity of the data, while Pearson correlation method was adopted to ascertain the co-movement/association in the variables. The study measures the relationship and contribution of capital market on economic growth in Nigeria based on the data obtained from the 2019 fact book issued by security and exchange commission in Nigeria and the Federal Office of Statistics.

Findings: We found that development in the Nigerian capital market impact positively on the economic growth over the period of this study. As the results suggested, in the long run with every trillion increase in market capitalization it will result to an increase of 145.92 million Naira. The All share index and value of stock traded will increase the GDP by 0.58 and 74.26 million, respectively. The control variable, banking system credit to the economy also has positive impact on GDP, for every additional increase it will boost GDP by 0.00035 million naira.

Practical Implications: The offers insight that the regulatory institutions should ensure adequate oversight on the activities of the capital market and continue to introduce programs that will better reposition the market as a major player in the Nigerian economy. Also, government to step up to ensure the demutualization of the Nigerian Stock Exchange (NSE) to free floor activities that would consequently expand the capacity of the exchange in terms of both operations and structure. The government should enhance key legislation to cover for security trading, investment, robust payments system, taxation, in order to bring about favorable and broader investment.

Keywords: Capital Market, Gross Domestic Product (GDP), Economic Growth, Market Capitalization, All-Share-Index.

I. Introduction

Most of the developing countries have continued to look for ways to resolve the major economic issue of capital resources inadequacy to enhance economic growth. While economists have argued on the existing relationship between the financial development and country's economic growth, studies suggest the theoretical and empirical links between the performance of the financial market and the growth of GDP still result in contradictory findings. The issue remains whether financial factors and in particular the capital market empirically have any significant impact on economic growth. Diverse opinion existed among scholars on the debate, from the earliest studies in this area by Schumpeter (1912), Robinson (1952) and Goldsmith (1969) up to recent empirical works by Noruwa and Aguda (2015), Taiwo, Alaka, and Afieroko (2016) and Umar, Ismail, and Solung (2015). Everyone acknowledged that countries need capital to drive the apparatus of growth.

Empirical studies in developing countries revealed that the capital-based were not properly harnessed because of the presence of weak capital markets and inadequate and inefficient infrastructure that would mobilize funds into productive and economic activities (Nzotta, 2004). Economic growth in our context is the ability of a country to increase the production of goods and services, in the comparison between a particular to another period. This further centers on the effectiveness and efficient nature of the financial sector positioned to warehouse savings and organize funds for productive means. This is because a growth in output that transforms into improvement in the overall welfare of the citizens leads to economic development. Most of the nation's

objectives are to be able to realize a considerable increase in the level of economic activities that could lead to or enhance economic growth.

It is crucial that for a country to achieve significant economic progress, the acceleration of the level of investors' confidence is the cornerstone of market development, which offers a greater chance in the realization of and the distribution of surplus savings to various investment opportunities. Consequently, this leads to increasing capital market indicators such as the number of companies listed, volume and values of shares traded together with the total market capitalization (Menasseh et al. 2012). In some African countries, there is a suggestion that the capital market contributed significantly in the funding of many investment organization (Yartey & Adasi, 2007). This underlies the fact that, whatever is the level of the argument that subsisted, on the principal feature of the capital market, there is settled view it stimulates growth and improves the contribution of the financial sector in the economy.

Several studies indicate the absence of empirical evidence that will give policymakers and researchers information on the detailed connecting relationship between the capital market development and the real GDP. Furthermore, some views dispute the positive influence of the capital market on economic growth in an oil-dependent country like Nigeria. Most of the reasons advanced are market inefficiencies in developing economies, which results in looking at the capital market like a gaming house than institutions devoted to marshalling saving rates and improving investment decisions, technical innovation and long-term economic growth.

Empirically, this study acknowledged the contribution of previous studies on the capital market development and economic growth relationship for developing countries. But in both cases, they showed a lack of clarity, as literature reports mixed results on whether there is a relationship between capital market development and economic growth (Nwani and Ori 2016, Afolabi 2015, Jibril et. al 2015). Secondly, it is not very clear about the exact nature of the causal relationship between capital market development and economic growth for developing countries and even less clear on the causal relationship (Karim and Chaudary, 2017), Okoro (2016), Ujuwua and Salami (2010). This suggests that the current realities existing in most of the capital markets in Africa today leave some significant gap in the debate of the impact of capital market development on economic growth. In the case of Nigeria, for instance, the capital market indicators have declined very rapidly as a result of the recent economic recession. For example, the percentage value of stock traded/GDP and percentage of total market capitalization /GDP were 2.90 and 23.51 in 2013 but dropped to 0.60 and 16.00, respectively in 2016 and that affected the financial system of Nigeria. The activities of the investors engaging in capital flight and profit-taking on the capital market could impact on the economy over time with the volatility in the market. Therefore, the study of the Nigerian capital market is apt in view of the fluctuating market capitalization and movement in the key market indicators such as volume and value of traded securities as well as All-share-Index and their relationship with economic growth using real GDP. This reason triggers the need to investigate the situation bearing in mind that the most accurate measurement of growth is real GDP as it removes the effect of inflation. Secondly, even though an attempt had been made by Osakwe and Ananwude (2017), but their studies were limited to 2015 thus, excluding the critical period of the Nigerian economic recession of 2016 and the period after the recession to date. Hence, this research was designed to examine the influence of the capital market on economic growth using real GDP in Nigeria covering the period 2009 to 2018 based on capital market aggregate data.

1.2 Objectives of the study

The main objective is to assess the influence of the capital market on economic growth in Nigeria. However, the specific objectives are to:

a. Examine the effect of capital market capitalization on Gross Domestic Product (GDP) in Nigeria
b. Determine the impact of value of stock traded on Gross Domestic Product in Nigeria.
c. Assess the impact of All-Share-Index on Gross Domestic Product in Nigeria.

To achieve these objectives, the research work was designed to address the following questions.

1.3 Research questions:

a. To what extent does market capitalization affect the Gross Domestic Product in Nigeria?
b. Is there any effect of the value of stock traded on the Gross Domestic Product in Nigeria?
c. How does All-Share-Index in the capital market contribute to the Gross Domestic Product in Nigeria?

1.4 Research Hypothesis

Based on the questions raised the following null hypotheses have been formulated:

H01: Market capitalization has no significant effect on the Gross Domestic Product in Nigeria.
H02: The value of stocks traded has no significant influence on the Gross Domestic Product in Nigeria.
H03: All-Share-Index has no significant impact on the Gross Domestic Product in Nigeria.

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II. Literature Review

2.1 Concept of Capital Market

Capital market is a market or place precisely set out for the exchange of securities (Hafer & Hein, 2007). It is also an important portion of the financial system, which provides an effective, and efficient distribution mechanism for deployment and allocation, management and delivery of long-term funds for investment (Ali & Anao, 1990). Capital market is identified as one of the main sources of income generation for the family and an important instrument for sourcing of financing for businesses in an economy. The accessibility of the capital market and well-developed financial structure provide the possibility for business growth and, subsequently, growth in the economy. The capital market is viewed to consists of institutions established for smooth formation and trading of both medium and long-term financial instruments. It makes arrangement for floating equity and debt financing. It comprises institutions which casessisuance and secondary trading of financial securities designed for long term financing. The market makes available funds to businesses and governments considering accessing long-term financing to meet up with capital requirements (CBN, Briefs, 2012 - 2013).

2.1.1 The Nigerian Capital Market

The Nigerian capital market changed from the early Lagos Stock Exchange. The exchange began operations in 1961, trading with 19 listed securities. Presently, it has 261 and 167 listed securities and companies, respectively. The securities on the capital market are made up of 172, 80 and 9 for equities, bonds, and Exchange Traded Funds, respectively (SEC 2017). The exchange serves as the focal point of the Nigerian capital market. It enclosesinstruments for managingsavings for both private and the public to ensure that such capital is channeled into productive purposes. The market also facilitates the trading of issued securities. In addition, it makes provision for businesses to have access to a public listing in the market. The capital market's main window is operated largely, by the big enterprises, while the second-tier securities that involve less rigorous listing requirements are operated in the market for small and medium enterprises (Noruwa & Aguda, 2015).

The activities of the Nigerian capital market have been developing at a healthy ratertiary to its functionsof stimulating economic growth. Even though the volume and value of securities traded in the market from 2008 to 2011 declined due largely to the collectivemagnitude of numerous macroeconomic impacts and stable divestment by foreigners from the market as a resultof an increase in currency risk. The All Share Index (ASI)in 2012 and 2013 increased by 35.5 and 47.2 percent, respectively. This increase was driven largely to the blue-chip company’s solid corporate earnings and increased capital inflow, as well as portfolio investment. Conversely, the All-Share Index declined in 2014, 2015 and 2016 by 16.1, 17.4, and 6.2 percent, respectively. The change was a result of several factors including, prices declineof crude oil, depreciation, and unpredictability of the naira exchange rate and absence of clear direction of the economy. But in 2017 impressive increases and returns were achieved in the various sectors and classes of asset, attributed to continuousstrongexpectation in the market. The ASI, which serves as the main indicator of the Nigerian capital market, at the end of 2017 closed at 38,243.19 from 26,874.62 at the end of 2016, indicating an increase of 42.3 percent. While, the Premium Board Indexat end of 2017 close at 2,564.13, representing an increase of 51.2 percent. The rise portrayed the attraction of investors to the Premium Board listed companies. Equally, the Main Board Index rose by 42.4 percent to close at 1,713.69 in 2017 from 1,203.79 in 2016. The developments generally, showedthe optimism of the investors on the prospectsof the Nigerian economy (CBN Economic Report 2008 - 2017).

The developments in the second segment of the Nigerian capital market were strong as major market indicators trended upward as a result of the significant rebound in investment activities on account of the steady recovery in the domestic economy, including the return to encouraging output growth, declining inflation, growing external reserves and improving in foreign exchange supply. Thus, in 2017 majority of the transactions was in equities, which accounted for 99.9 percent of the turnover volume and 99.8 percent of the total value of traded securities. Transactions in the financial services sector accounted for the major part of the activities, with the volume of traded stocks at 66.2 billion shares (66.0 %), valued at N488.7 billion (38.4 %) in 508,042 deals (CBN, Annual Economic Report, 2017). Meanwhile, the capital market usually functions within the macroeconomic conditions, hence it is essential to have an enabling environment for it to achieve its full potentials (Sikiru, 2017).

Capital markets, similar to all financial institutions, its activities have bearing on economic growth due to its capability to enhance liquidity. In this regard, liquiditydenotes the amount of ease to convert investment easily by agents into cash. Liquidity of capital market liquidity has a significant influence on economic growth through the provision of a means that facilitate the financing of capital intensive long-term projects, as well as while adequately providing the short-term requirements needs of investors. In effect, as pointed out by Boyd and Smith (1998), the presence of liquidity in the capital market allows the engagement of further long-term
developed productive systems of production, which permit better economies of scale and subsequently boost economic growth. The capital market role of improving liquidity is much recognized in the theoretical literature. Accordingly, Yartey and Adjasi (2007), posited that the liquidity of the capital market is germane to economic growth, as its liquidity can trigger an improved motivation to obtain information about companies and contribute to the improvement of corporate governance.

2.1.2 Capital Market Variables
In the quest to establish the relationship of the capital market and economic growth, market capitalization, value of stock traded and All-Share-Index variables were used.

Market Capitalization
Market capitalization describes the total value of the size of the stock (Adewoyin, 2004). Market capitalization is the measurement of the size of businesses and corporations which is equivalent to the price of market share times the total number of shares, that is shares that have been authorized, issued, and purchased by shareholders of a publicly-traded company (Al-Faki, 2006). Market capitalization is also computed by multiplying the price per share and the number of shares of the company. Investors use the figure to ascertain the size and worth of the company, as against to total assets or sales figures (Olowe, 1997).

Precisely, market capitalization means the company’s total number of shares multiplied by the market share price. It is also, generally considered as representing the company’s value used by the public investors to ascertain the credit value of a company in cognizance to investment in such firms.

Value of Stocks Traded
The value of the transaction has to do with the total value of stocks traded in the capital market in a particular period. It is the total value of all shares that were exchanged between buyers and sellers (Mbat, 2001). The value of the transaction is the total value of shares traded in the capital market of a given country at a particular period (Adebiye, 2005). The value of the transaction is a significant pointer in the practical analysis as it is being used to measure the liquidity of the capital market.

All-Share-Index
This is a market index measures or used to quickly evaluate the general direction of the market and its movements. A market index is a statistical boundary that mirrors the multiple values of market features. There is a price index, which tends to represent statistically the performance of the general level of price of the capital market, the index value. Therefore, the index is computed in such a method that makes it representative of the market. The all shares index of the Nigerian stock market was established in 1985, to estimate the activities of the market. It has grown immensely, from 5,266.4 in 1999 to 20,827.2 in 2009, then to 38,243.2 in 2017 (CBN, 2017).

2.1.3 Concept of Economic Growth:
Economic growth refers to the increase in the production of goods and services over a specific period of time and measured in terms of removing the inflationary effect and creates more profit for businesses. As a result, thus giving more funds to invest and create more employment business, such as stock price rise that lead to more reinvestment opportunities and employment. Consequently, all countries target positive economic growth, and this what makes economic growth becomes the most examined economic indicator. Most countries measure economic growth each quarter using the real domestic product (GDP) (Vasila, 2003). Analysts monitored economic growth to determine what stage of the business cycle the economy is in, especially to know whether it is at the phase of expansion. This is when the economy is growing sustainably.

When the economy is not endowed with the factors of production, the country must find other ways to improve growth. Most Governments target increase growth as it increases tax revenue. However, if the economy is witnessing growth, the government should decrease spending and raise taxes. This constrictive fiscal policy measure ensures the sustainability of economic growth.

2.2 Effect of capital markets on economic growth
According to Viney (2003) capital market serves as the primary market over which shares are issued in the first instance to source funding for the development and growth of an investment. The transaction in the market raised new finances for an organization and provides improved investment in productive capital and economic growth.

The capital market is seen as a platform that enables the encouragement of domestic savings through the provision of individuals and businesses with some additional financial instruments, which are suitable in achieving their objective of risk preference, and liquidity needs (Levine and Zervos 1998). Recent studies in business progress and growth have increasingly concentrated on the influence of the capital markets in
stirulating economic growth. The issue has become noticeable in the program of many academic scholars and decision-makers. There has been an increase in theoretical literature which suggests that well-functioning capital markets can play an important role in economic growth and development by undertaking the following functions within an economy.

Liquidity creation

Capital markets have an impact on economic growth through the provision of liquidity to businesses. Liquidity in this regard means the amount of ease of exercise by agents to easily convert investments into cash. According to Levine (1997), those capital markets in a liquid position provide the ability to offer certainty to investors on transaction settlement and timing at a relatively low-cost. The liquidity of the capital market has an impact on economic growth through the provision a measure that facilitates the financing of high earning long-term projects and achieving the investor's requirements needs in the short-term. Fundamentally, as pointed out by Boyd and Smith (1998) that the presence of a liquid capital market facilitates the channeling of more long-term advance productive techniques of production, which offer better economies of scale and subsequently improve economic growth. The ability of the capital market to provide liquidity has been considered in much theoretical literature. Yartey and Adjasi (2007) stated that the liquidity of the capital market is not much relevant to economic growth since the capital market that is liquid provides an increased drive to get information about companies and aid better corporate governance.

Yartey and Adjasi (2007) also argue that capital markets create financial liquidity and that the creation of liquidity is important for economic growth. Stock market liquidity is expected to decrease the hazard of risk and help provide finance for projects which require a long time to mature. The investor maintains access to the initial investment at every stage of the project with a liquid stock market, as the sale of their shares in the firm is possible at little or no cost to recoup their initial investments. In essence, a capital market with high liquidity may enhance investment in long-term projects, which have a potentially higher rate of return and consequently impact on economic growth.

Risk Diversification

The diversification of capital market risk could mitigate the risks connected with investment by ensuring the grouping of risk among different investors over numerous projects. Levine (1991) intensified on two categories of risk that could impact economic growth, liquidity and productivity risk. Equally, Baele et al. (2007) posited that through the enhancement of risk sharing that paved way for risk diversification and efficient resource allocation in the economy, capital markets can be said to promote long-term economic growth. Thus, with the existence of capital market liquidity, securities can be sold easily and quickly, anytime the stockholder requires the immediate use of the savings. Moreover, the capital markets reduce investor's risks who have a portfolio of investment in different projects and companies by diversifying risk. Investing in a particular project or firms is riskier than investing in many projects from different sectors.

Provision of Information

The ability of capital markets information production facilitates ways of evaluating, collecting and distributing information through the process of pricing, which in turn enhances the process of efficient resource allocation of companies in different ways. Basically, any companies that require to raise capital have the opportunity of doing that through the capital market. As pointed out by Yartey and Adjasi (2007) that there is resource allocation efficiency since investors obtain information about the companies from the capital market and take the decision to invest or not based on the assessment of the market valuation. Capital markets promote investments by providing cheaper, available and dependable information to individual investors about the projected returns on many projects, hence driving productivity. It also, permit investors the comfort to undertake investment without having to partake on the time consuming and costly process of researching, analyzing and evaluating individual companies.

Capital Resources Mobilization

Stulz (2000) stated that financial institutions capital markets inclusive, partake in the course of capital mobilization; that pool the savings of various investors from different sectors and make it available for efficient use in projects of various magnitude by businesses. Levine (1997) ascertains that the most important function undertakes by the capital market is the mobilization of savings. An individual investor may not be interested or willing to fund a business or a borrower. Conversely, he prefers to invest his fund in the form of payment for security and profit reasons. Capital markets and other financial intermediaries gather the savings from different individuals and make them available for borrowing to investors or companies to finance their businesses, thus encouraging public and private investments and promoting economic growth.
Provision of Monetary Policy Transmission Mechanism

Monetary policy is concerned with controlling the rate of inflation, interest rate and price stability. The inter-connectivity of monetary policy to the capital market is the effect of monetary policy has on inflation. Yartey and Adjasi (2007) show the effect inflation has on household equity as a result of a transmission mechanism provided by capital markets. Inflation has an effect on the shareholder's expected rate of return, as the required rates of return changes, it also causes price volatility of shares traded. Companies usually act in reaction to these changes in prices by revising their production and investment plans which turn help to enhance productivity and eventually grow. Moreover, the capital market provides a transmission mechanism when returns for holding cash is reduced by monetary policy, through the decrease of the interest rate, the capital market, therefore, provides an alternative investment option, which in turn stimulates higher economic growth.

2.3 Theoretical Framework

Neo-Keynesian, Neo-classical and Endogenous growth theories were considered to be the major theories of growth that were developed and commonly used. We employed Endogenous growth theory, which is found in the work of Romer (1986), Lucas (1988), Rebelo (1991), who have contributed to its growth and development over the years. The authors examined the proposition that the stable growth rate is dependent in the long term on the levels of accretion of capital.

The recent interest in the relationship between financial development and economic growth springs largely from the insights and techniques of endogenous growth models. These have established that self-sustaining economic growth can exist without exogenous technical progress and that growth may be linked to technology, preferences, the distribution of income, and institutional systems (Pagano, 1993). “This has also rekindled attention among theorists about the relation between stock market development and economic growth and has occasioned in the development of several models suggesting possible links” (Gronski, 2001). There is a substantial literature on endogenous growth models. Their objective is to resolve some of the problems in neo-classical growth models, such as the assumption that the economy will cease growing at some point if it is not stimulated by exogenous technological progress (McCallum, 1996).

Although endogenous, neo-classical and neo-Keynesian growth models provide diverse clarifications for the process of growth, total factor productivity growth is a crucial factor of economic growth. Yet, the neo-Keynesian and neo-classical growth theories placed added importance on the basic factors (physical capital stock, labor, human capital) and completely overlook the part played by institutions, such as capital markets, banks, and government, in contrast to the theory of endogenous growth. The conceivable impact of capital market development on economic growth over the years has engendered much attention. Although there has been a reasonably limited effort at exhibiting the relationship, especially for developing economies. Enisian and Olufisayo (2009) in their studies examined the relationship between capital market performance and economic growth by selecting seven countries from Sub-Saharan Africa. They used an endogenous growth model and discovered that the influence of the capital market on economic growth can be due to the general quality of the economic and social environment apart from the impact of factors like comparative efficiency, size, and liquidity of the capital market.

2.4 Empirical review

Many researchers on the effect of capital market development on economic growth undertook several empirical studies. In the study conducted by “Levine and Zervos (1996), employing a cross-country pooled time series regression to assess the relationship between capital market performance and economic growth comprising forty-one countries for the period 1976-1993, discovered that capital market performance is positively correlated with events of financial institutions development. overall, the data advocates that capital market performance is positively connected with economic growth.” Furthermore, they established that the active variable procedures show a strong link between the programme component of the development of the capital market and growth in the long run.

Levine and Zervos (1996) outcomes agree with the discoveries of Dermirguc-Kunt and Levine (1996) that individual measures of capital market performance are positively correlated with individual indicators of financial institution's development of the forty-one countries. "They establish that size of the capital market measured by market capitalization and liquidity measured by total value traded/GDP ratio is positively correlated with all indicators of financial intermediary development in these countries.” The financial institution's development measures used were the ratio of liquid liabilities to GDP and the ratio of credit to the private sector to GDP (Karim and Chaudhary, 2017).Jibiril et al. (2015) said, “Tuncer and Al.ovast (2010) also examined the capital market performance and discovered that there is a positive correlation “between stock market performance and economic activities”. In the study conducted by Agarwal (2007) on capital market performance and economic growth in countries within Africa showed a positive relationship between capital market performance indicators and economic growth.” In their research, Ujunwa and Salami (2010) established that the relationship exists between financial market and economic growth used ordinary least square

technique. The study used annual data from 1986 to 2006. Market capitalization ratio, the value of the share traded and rate of turnover was employed to represent the stock market development variables while the dependent variable is represented by per capita gross domestic product. The result indicated that market capitalization and rate of turnover are positively correlated with economic growth. While the stock market liquidity is negatively connected with economic growth.

Alajekwu and Achugbu (2012) conducted a fifteen-year time series analysis. The study research examined the relationship between the stock market and economic growth. Stock market capitalization was used as a proxy for market size, the value of traded ratio and turnover ratio was used as a proxy for market liquidity. The result indicates that market capitalization and value of traded stock have an insignificant and negative relationship with economic growth. But, stock market capitalization has a strong positive correlation with stock turnover. They concluded that liquidity has a propensity to incentivized economic growth. Therefore, the government should encourage domestic investors to invest by providing an enabling environment and policies to promote the capital market.

Although, Bashorun and Bakare-Aremu (2013) investigated the link between the performance of the capital market and economic growth in Nigeria. The authors use annual data for 30 years (1981-2011). The variables used are all-share index, market capitalization and numbers of deals. The authors employ the vector autoregressive model and Granger causality technique. The result of the study indicates that market capitalization, All-shares index, and numbers of deals have an individual positive and significant effect. The pairwise Granger causality test shows that there is a unidirectional causality running from the capital market for economic development and response causality between market capitalization and economic growth, therefore, the results support the endogenous growth theory (Umar et. al. 2015)

However, Yadirichukwu and Chigbu (2014) in their study empirically examined the impact of the capital market on economic growth in Nigeria. The study employed annual data from 1985 to 2012. They used regression analysis where multivariate and error correction is put in place to observe four formulated hypotheses. The result of the study shows that there is an inverse relationship between the stock market capitalization ratio and long-run economic growth. But it also shows a long-run relationship between the value of the total transaction and economic growth.

The study empirically discovered the influence of capital market performance in the region on economic growth to be negative if liquid liabilities are used to capture banking sector performance and is positive if banking sector development is taken utilizing domestic credit to the private sector. Generally, the results showed the insignificant influence of capital market and banking sector performance on economic growth in the MENA region. The impact of the oil price on economic growth in the region is discovered to be considered positive, which suggests that economic growth in the region is compelled by the oil sector.

Even though, many studies have been undertaken to investigate the relationship between capital market development and economic growth in different countries. The long-run relationship between stock market development (measured by market capitalization, volume and value of stock traded and a number of listed shares) and has generated different conclusions. more so the studies are not up to date as the one with the most recent data was Osakwe & Ananwude (2017). This study will take it further by using data covering up to 2018 and taking the stock market indicators of market capitalization, All-Share-Index, and value of stock traded. Gross Domestic Product (GDP) will serve as the proxy of economic growth, while banking system credit to the economy will serve as the control variable as it a stimulant to both the capital market and economic growth.

III. Methodology

The study was conducted based on Ex post factor research design, which helps to reveal the possible relationship through the observation of existing conditions and search back in time for plausible contributing factors (Kerlinger and Rent, 1986). As (Kerlinger, 1964) stated, it facilitates the independent variable or variables to be studied in consideration for their possible relation to, and effects on dependent variables. The population of the study comprises all the activities of the quoted companies on the Nigerian Stock Exchange, The activities of the Central Bank of Nigeria and the real GDP indices from the National Bureau of Statistics. However, the study sample consists of data of three capital market indicators of market capitalization, All-Share-Index, and value of stock traded of all quoted companies on the Nigerian Stock Exchange from 2009 – 2018. Also, included in the data on Gross Domestic Product (GDP) from 2009 – 2018. Convenient sampling technique was adopted, in which case the contribution of all quoted companies from 2009 – 2018 was taken into consideration.

3.1 Data Analysis

The data collected for the study were analyzed carrying out descriptive statistics of the variables under study to detect the normality of the data. Augmented dickey fuller was used to test for unit root/ stationarity of the data. Pearson correlation method was adopted to ascertain the co-movement/association in the variables.
The Auto-Regressive Distributed Lags (ARDL) bounds approach to co-integration was employed on a quarterly time-series data from Q1 2009 to Q4 2018 to test the causal relationship between Capital market and economic growth in Nigeria. It has been confirmed that using time series data is more productive in testing finance-growth causal relationships than the cross-sectional method which has been more common in some studies (Arestis & Demetriades, 1997). This informed the choice for the use of the time series data for the study. Therefore, careful steps had been taken to specify an appropriate econometric model as follows:

**Model Specification**

The model specified to test the hypotheses of the study is presented below:

\[ Y = a + bx \]

\[ GDP_t = a_0 + a_1MCAP_t + a_2VALT_t + a_3ASI_t + a_4BSC_t + e_t \]

Where:
- GDP = Gross Domestic Product
- \( a_0 \) = Regression Constant
- \( a_1 \) – \( a_4 \) = Coefficient of independent variables.
- MCAP = Market Capitalization
- VALT = Total Value of Transactions
- ASI = All-Share-Index
- BSC = Banking system credit
- \( e_t \) = Stochastic Error term (Disturbance term)
- \( t \) = Time series

3.2 Variable Measurement

The two variables involved in this research work are dependent and independent variables. The dependent variable is the economic growth which is proxied by Gross Domestic Product (GDP) while the independent variable is concerned with the following indices: Market Capitalization, All-Share-Index, and value of stock traded.

The following table 1 presents the variables used in the model above and their measurements.

<table>
<thead>
<tr>
<th>S/NO.</th>
<th>VARIABLES</th>
<th>SYMBOL</th>
<th>MEASUREMENT OF VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gross Domestic Product</td>
<td>GDP</td>
<td>( C + G + I + X - M )</td>
</tr>
<tr>
<td>2.</td>
<td>Market Capitalization</td>
<td>MCAP</td>
<td>(Cost per share) x (Number of shares)</td>
</tr>
<tr>
<td>3.</td>
<td>Value of Transactions</td>
<td>VALT</td>
<td>Total value of all stock traded</td>
</tr>
<tr>
<td>4.</td>
<td>All-Share-Index</td>
<td>ASI</td>
<td>number of stock # 1 + number of stock # 2 + ... = All share index</td>
</tr>
</tbody>
</table>

The definitions of the variables that are used in the model are based on the regression model developed in the study. The four Variables MCAP, VALT and ASI represent Capital Market performance, while the variable GDP represents economic growth.

3.3 Descriptive Statistics

The analysis from Table 3.2 below shows that the mean of GDP is 17632.05, with 0.253 coefficient skewness and a standard deviation of 9346.44. The mean of market capitalization is 15.073 and a standard deviation of 4.9 with -0.03 coefficient skewness. The mean of All-share index is 30637.51 and a standard deviation of 6742.767 with a 0.44 coefficient of skewness. Value of stock traded and banking system credit have of 226.469 and 50021196 respectively, all variables except the value of stock traded follow a normal distribution with non-significant Jarque-Bera value. Also, the Kurtosis of all the variables revolves around a benchmark of 3 for standard normal distribution.
Table 3.2: Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>MARKET CAPITALIZATION</th>
<th>ALL_SHARE_INDEX</th>
<th>VALUE_OF_STOCK_TRADED</th>
<th>BANKING_SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>17632.05</td>
<td>15.073</td>
<td>30637.51</td>
<td>220.4698</td>
<td>50021196</td>
</tr>
<tr>
<td>Median</td>
<td>15850.95</td>
<td>16.25</td>
<td>29598.7</td>
<td>207.35</td>
<td>45811732</td>
</tr>
<tr>
<td>Maximum</td>
<td>35230.61</td>
<td>24.87</td>
<td>44504.5</td>
<td>441.3</td>
<td>81840137</td>
</tr>
<tr>
<td>Minimum</td>
<td>5460.71</td>
<td>7.0</td>
<td>19851.9</td>
<td>108.2</td>
<td>13947025</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>9346.47</td>
<td>4.91</td>
<td>6742.76</td>
<td>82.96</td>
<td>22500279</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.25241</td>
<td>-0.03256</td>
<td>0.437723</td>
<td>0.94547</td>
<td>0.084338</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.93175</td>
<td>2.82148</td>
<td>2.911971</td>
<td>3.31233</td>
<td>2.886016</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>4.01763</td>
<td>1.2934</td>
<td>2.312325</td>
<td>6.122013</td>
<td>3.379672</td>
</tr>
<tr>
<td>Probability</td>
<td>0.13414</td>
<td>0.525771</td>
<td>0.314691</td>
<td>0.046841</td>
<td>0.18455</td>
</tr>
</tbody>
</table>

Table 3.3: correlation analysis table

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>MARKET CAPITALIZATION</th>
<th>ALL_SHARE_INDEX</th>
<th>VALUE_OF_STOCK_TRADED</th>
<th>BANKING_SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>1</td>
<td>0.846901812</td>
<td>0.51513809</td>
<td>0.415363652</td>
<td>0.960029406</td>
</tr>
<tr>
<td>MARKET CAPITALIZATION</td>
<td>0.846902</td>
<td>1</td>
<td>0.793193395</td>
<td>0.604333794</td>
<td>0.857597459</td>
</tr>
<tr>
<td>ALL_SHARE_INDEX</td>
<td>0.515138</td>
<td>0.793193395</td>
<td>1</td>
<td>0.790139369</td>
<td>0.498884857</td>
</tr>
<tr>
<td>VALUE_OF_STOCK_TRADED</td>
<td>0.415364</td>
<td>0.604333794</td>
<td>0.790139369</td>
<td>1</td>
<td>0.371461945</td>
</tr>
<tr>
<td>BANKING_SYSTEM</td>
<td>0.960029</td>
<td>0.857597459</td>
<td>0.498884857</td>
<td>0.371461945</td>
<td>1</td>
</tr>
</tbody>
</table>

From table 3.3 above, the degree of correlation between GDP and market Capitalization is 0.85 highly positively correlated. The degree of correlation between GDP and all share index is 0.51 positively moderate correlation. The coefficient between GDP and value of stock traded is 0.41 positively correlated. The coefficient of correlation between GDP and banking system credit is 0.96. banking system credit also shows a positive correlation with all capital market development variables. It implies that banking system credit is positively related to both capital market development and economic growth.

**Time Plots**

From figure 3.1 above, the plot shows that the series is not stationary because it seems that the variation is not constant over time.
Figure 3.2: All share index time plot
All share index plot above shows upward and downward movement, therefore no constant variation in the series.

Figure 3.3: Market capitalization time plot
The time-plot of market capitalization in figure 3.3 above shows that as years increase market capitalization also increases and decreases in the fourth quarter of 2013, 2014, and the first quarter of 2016. There are upward and downward movements in the series exhibit seasonal variation.

Figure 3.4: the value of stock traded time plot
The value of stock traded time plot in figure 3.4 above shows upward and downward movement, therefore no constant variation in the series.
3.4 Stationarity test

The seasonal pattern in the above graphs revealed the evidence of non-stationarity in the data. Consequently, based on graphical analysis and the Dickey-Fuller test, the conclusion is that for the quarterly periods of 2009 to 2018, GDP, market capitalization, All-share-index, the value of stock traded and banking system credit time series were nonstationary; i.e., they contained a unit root. Therefore, the data were different. After the first difference, the data were found to be stationary at 10%, 5% and 1% using Augmented Dickey-Fuller critical value.

<table>
<thead>
<tr>
<th>Table 3.4: ADF tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>t-stat (0)</td>
</tr>
<tr>
<td>t-stat (1)</td>
</tr>
<tr>
<td>GDP</td>
</tr>
<tr>
<td>Market Cap</td>
</tr>
<tr>
<td>All Share Index</td>
</tr>
<tr>
<td>Value of Traded Stock</td>
</tr>
<tr>
<td>Banking System Credit</td>
</tr>
</tbody>
</table>

**Note:** CV = Critical Value; FTR – Fail to reject = unit root; Reject = no unit root.

3.5 Auto-Regressive Distributed Lags (ARDL) Bounds Test

The ARDL bounds estimation tests the null hypothesis that no long-run relationship exists. From Table 3.5, it is observed that the estimated F-statistic is greater than the upper bounds critical values at conventional levels of significance at 1%, 5%, and 10%. This indicates the existence of a long-run relationship between economic growth and capital market development.

<table>
<thead>
<tr>
<th>Table 3.5: Bounds test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV 10%</td>
</tr>
<tr>
<td>t-statistic</td>
</tr>
<tr>
<td>model</td>
</tr>
</tbody>
</table>

**Note:** CV = Critical Value at 6 lags; FTR – Fail to reject = no cointegration; Reject = cointegration.

3.6 Regression Results and Test of Hypothesis

Long-run estimates

The long-run estimates are shown in Table 3.6 below. The market capitalization coefficient shows a positive relationship with GDP in the long run, i.e. with every trillion increase in market capitalization increasing 145.92 million Naira in GDP. All share index will increase in GDP by 0.58 in the long run. The value
of the stock traded will also increase GDP by 74.26 million in the long run. The control variable, banking system credit also has a positive impact on GDP, for every additional increase in banking system credit will boost GDP by 0.00035 million nairas in the long run. Therefore, capital market development variables have a significant long-run impact on economic growth.

### Table 3.6: Long run coefficients

<table>
<thead>
<tr>
<th>variable</th>
<th>coefficient</th>
<th>Std. Error</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market cap</td>
<td>145.92</td>
<td>53.74</td>
<td>22.53</td>
<td>0.000***</td>
</tr>
<tr>
<td>All share inde</td>
<td>0.58</td>
<td>0.04</td>
<td>14.307</td>
<td>0.000***</td>
</tr>
<tr>
<td>Value of st</td>
<td>74.26</td>
<td>45.80</td>
<td>12.79</td>
<td>0.000***</td>
</tr>
<tr>
<td>Banking sys</td>
<td>0.00035</td>
<td>0.00008</td>
<td>44.779</td>
<td>0.000***</td>
</tr>
<tr>
<td>constant</td>
<td>-2848</td>
<td>1032.33</td>
<td>-2.243</td>
<td>0.03**</td>
</tr>
</tbody>
</table>

Notes: **&*** denotes significance at 5% & 1% respectively.

### Short-run estimates and diagnostics

The result of the short-run error correction terms was shown in Table 3.7 below, which shows in the short run, a trillion increase in market capitalization reduces GDP by 104.61 million Naira, it seems not too significant at short run. All share index will increase GDP by 0.146 in the short run. However, it seemed not to have any significant impact in the short run except at 10% level of significance. The co-integration term, CointEq(-1), is observed to be -0.2482 and significant at 5%. This implies that about 24.82% of any movements into disequilibrium are corrected for within one period and suggests a slower speed of adjustment of disequilibrium correction in reaching long-run equilibrium steady-state position.

### Table 3.7: Short-run estimates and diagnostics

<table>
<thead>
<tr>
<th>MODEL</th>
<th>T</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(market cap)</td>
<td>-104.61</td>
<td>0.611</td>
</tr>
<tr>
<td>D(All share index)</td>
<td>0.1458</td>
<td>0.076*</td>
</tr>
<tr>
<td>D(Value of stock trade) Banking system c</td>
<td>-4.001</td>
<td>0.662</td>
</tr>
<tr>
<td>contEq(-1)</td>
<td>0.00011</td>
<td>2.012</td>
</tr>
<tr>
<td>R²</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>DW</td>
<td>1.98</td>
<td></td>
</tr>
</tbody>
</table>

Notes: *, **&*** denotes significance at 10%, 5% & 1% respectively

### Diagnostics

The results from table 3.8 below show that residual serial correlation using Lagrange Multiplier (LM) test was not significant which implies that, there was no serial correlation in the residuals of the model.

### Table 3.8: Residual autocorrelation test

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>0.296349</th>
<th>Prob. F(2,30)</th>
<th>0.7457</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs*R-squared</td>
<td>0.755579</td>
<td>Prob. Chi-Square(2)</td>
<td>0.6854</td>
</tr>
</tbody>
</table>
CUSUM Tests

CUSUM test was used to check if the parameters in the analysis were stable over time, among other basic tests performed in conjunction thereto. Figure 3.6 below is the plot for CUSUM tests where stability was indicated by the plot falling within the critical bands at the 5% level of significance. The results obtained indicated the absence of any instability of the coefficients.

![CUSUM Graph](image)

**Figure 3.6: CUSUM graph for stability**

3.7 Granger causality test

The granger causality test in table 3.9 showed that market capitalization and banking system credit do cause GDP, conversely, GDP did not cause any capital market variables and banking system credit. The tests show a unilateral relationship.

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>F-Statistic</th>
<th>P value.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKET_CAPITALIZATION__N does not Granger Cause GDP</td>
<td>3.34981</td>
<td>0.0474</td>
</tr>
<tr>
<td>GDP does not Granger Cause MARKET_CAPITALIZATION__N</td>
<td>0.34193</td>
<td>0.7129</td>
</tr>
<tr>
<td>ALL_SHARE_INDEX does not Granger Cause GDP</td>
<td>2.04532</td>
<td>0.1454</td>
</tr>
<tr>
<td>GDP does not Granger Cause ALL_SHARE_INDEX</td>
<td>0.05333</td>
<td>0.9481</td>
</tr>
<tr>
<td>VALUE_OF_STOCK_TRADED__N does not Granger Cause GDP</td>
<td>1.14281</td>
<td>0.3312</td>
</tr>
<tr>
<td>GDP does not Granger Cause VALUE_OF_STOCK_TRADED__N</td>
<td>0.55504</td>
<td>0.5793</td>
</tr>
<tr>
<td>BANKING_SYSTEM does not Granger Cause GDP</td>
<td>4.78590</td>
<td>0.0335</td>
</tr>
<tr>
<td>GDP does not Granger Cause BANKING_SYSTEM</td>
<td>0.96303</td>
<td>0.3922</td>
</tr>
<tr>
<td>ALL_SHARE_INDEX does not Granger Cause MARKET_CAPITALIZATION__N</td>
<td>0.41087</td>
<td>0.6664</td>
</tr>
<tr>
<td>MARKET_CAPITALIZATION__N does not Granger Cause ALL_SHARE_INDEX</td>
<td>2.08287</td>
<td>0.1406</td>
</tr>
<tr>
<td>VALUE_OF_STOCK_TRADED__N does not Granger Cause MARKET_CAPITALIZATION__N</td>
<td>0.30156</td>
<td>0.7417</td>
</tr>
<tr>
<td>MARKET_CAPITALIZATION__N does not Granger Cause VALUE_OF_STOCK_TRADED__N</td>
<td>7.17526</td>
<td>0.0026</td>
</tr>
<tr>
<td>BANKING_SYSTEM does not Granger Cause MARKET_CAPITALIZATION__N</td>
<td>1.83824</td>
<td>0.175</td>
</tr>
<tr>
<td>MARKET_CAPITALIZATION__N does not Granger Cause BANKING_SYSTEM</td>
<td>1.54881</td>
<td>0.2276</td>
</tr>
<tr>
<td>VALUE_OF_STOCK_TRADED__N does not Granger Cause ALL_SHARE_INDEX</td>
<td>1.62294</td>
<td>0.2127</td>
</tr>
<tr>
<td>ALL_SHARE_INDEX does not Granger Cause VALUE_OF_STOCK_TRADED__N</td>
<td>4.66942</td>
<td>0.0164</td>
</tr>
<tr>
<td>BANKING_SYSTEM does not Granger Cause ALL_SHARE_INDEX</td>
<td>0.36122</td>
<td>0.6995</td>
</tr>
<tr>
<td>ALL_SHARE_INDEX does not Granger Cause BANKING_SYSTEM</td>
<td>0.43281</td>
<td>0.6523</td>
</tr>
<tr>
<td>BANKING_SYSTEM does not Granger Cause VALUE_OF_STOCK_TRADED__N</td>
<td>0.70483</td>
<td>0.5015</td>
</tr>
<tr>
<td>VALUE_OF_STOCK_TRADED__N does not Granger Cause BANKING_SYSTEM</td>
<td>0.83357</td>
<td>0.4351</td>
</tr>
</tbody>
</table>

IV. Discussion of Findings

The results of the findings indicated that in the long-run market capitalization has a positive relationship with GDP, as in every trillion increase in market capitalization it will increase to 145.92 million Naira in GDP. All share index will increase the GDP by 0.58 in the long run. The value of the stock traded will also increase GDP by 74.26 million on the same line. The control variable, banking system credit also has a positive impact on GDP, for every additional increase in banking system credit, it will boost GDP by 0.00035 million Naira in the long run. While in the short run, a trillion increase in the market capitalization reduces GDP by 104.61 million Naira, it seems there is no significant relationship between the two variables in the short run. Therefore, based on the findings of the results, it showed that capital market development variables have a significant long-run impact on economic growth. The findings corroborated with the empirical findings of Agarwal (2001), Adenuga (2010), Tuncer and Alovast (2010), Ujunwa and Salami (2010) and Jibril et al (2015).

V. Conclusion

This research work investigated the impact of capital market on economic growth in Nigeria, using time series data. During this study, the endogenous growth theory was re-examined. The study applied the Auto-Regressive Distributed Lag model (ARDL) co-integration technique to evaluate the impact of the capital market and economic growth long-run relationship and causal relationship based on the three (3) set out questions in carrying out the study. For clarity and robustness, the study used three measures of capital market development, market capitalization to GDP, the value of stock traded to GDP and All-Share-Index to GDP. The study established the existence of co-integration for all the capital market development indicators. Consequently, the result obtained for all three measures of capital market indicators used in this study demonstrates the existence of a significant impact of the capital market on economic growth. The findings from the Granger Causality suggest the existence of a unidirectional relationship between capital market and economic growth in Nigeria. This affirms that the capital market impact economic growth in Nigeria and there is a significant long-run relationship between capital market and economic growth in Nigeria.

VI. Recommendation

Based on the findings from the study, it is recommended that the Government of Nigeria should provide enabling environment, which would involve, amongst other things, enacting key legislation that will cover for security trading, investment, robust payments system, taxiation, to bring about a favorable atmosphere that would pave way for enhanced domestic and foreign direct investment (FDI); The Government through the Security and Exchange Commission should as a matter of urgency step up and ensure the demutualization of the Nigerian Stock Exchange (NSE), as that would promote equity, justice, transparency in the activities of the exchange and would encourage seamless and free floor of activities and it will ultimately expand the capacity of the exchange in terms of both operations and structure; and The regulatory agencies should ensure adequate oversight supervision on the activities of the Nigerian Stock Exchange which is the umbrella of the Nigerian capital market, as such regulatory oversight will ensure compliance of the exchange with all the stipulated operational rules and guidelines and would engender public confidence, which in turn will lead to increase in the activities of the capital market activities and invariably the economic growth.

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