

CAPITAL MARKET PERFORMANCE AND ECONOMIC GROWTH IN NIGERIA (1984-2016)

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Abstract

The study examined the contributions of capital market performance to economic growth in Nigeria; essentially, it was anchored on endogenous growth theory. Time-series data, covering 1984 to 2016, were sourced from the capital market bulletins of the Nigerian Securities and Exchange Commission and the statistical bulletins of the Central Bank of Nigeria. From these records, economic growth was proxied by gross domestic product, while capital market performance indicators employed are market capitalisation, all-share index, number of listed equities, number of deals, value of deals, value of transactions, and stock market turnover. Ordinary Least Squares (OLS) was the major estimation technique employed; however, for robustness, Auto Regressive Distributed Lag (ARDL) coefficients and Vector Auto Regression (VAR) coefficients were used to confirm the OLS results. It was found that, three capital market performance indicators (market capitalization, number of listed equities, and value of transactions) positively contributed to economic growth in Nigeria; and four others (stock market turnover, all-share index, number of deals, and value of deals) negatively contributed to economic growth in Nigeria. Therefore, the study concluded that, capital market performance could contribute positively or negatively to economic growth in Nigeria. So, to this extent, capital market performance has heterogeneous effects on economic growth, depending on the level of efficiency and discipline of the market as well as the conduciveness of the macroeconomic environment. This poses a resolution to the conflict between the positive-link and the negative-link schools. It was therefore recommended, that, capital market deregulation policy should be pursued by the national government to influence positive all-share index. Also, capital market regulators should instil market discipline to discourage market infractions, and restore investors' confidence for increased activities of the capital market, thus leading to improved stock market turnover. Not only that, government should make the macroeconomic environment conducive by putting inflation rate, exchange rate, tax rate and interest rates under check, so that both the number and value of deals can be enhanced.

Keywords: Capital market, economic growth, endogenous growth, market turnover

1. Introduction

A major macroeconomic objective of a nation is to achieve economic growth. As such, one of the focus areas of a central government is economic growth in order to improve the living standard of its people. The four major parameters used in measuring economic growth are Gross Domestic Product (GDP), Gross National Product (GNP),

Net National Product (NNP), and Per Capita Income (PCI). However, the commonest of the four is GDP, as GNP is obtained from GDP by adding net income abroad to it; NNP is derived by subtracting depreciation from GNP; and per capita income is GDP divided by total population.

To achieve economic growth, several internal factors are said to be responsible. Ac-

cordingly, Levine (1991) asserted that, economic growth is self-sustaining without exogenous technical progress, and is influenced by the various initial attributes of the economy. These initial attributes or internal factors, as noted by Ishola (2011), are conducive political environment, manpower development and allocation, mobilization and use of capital, resources endowment and rate of capital formation, capital-output ratio, population policy, and economic and social infrastructures. Notable among these internal factors is the mobilisation and use of capital, which, is committed into manpower development, induces rate of capital formation, enhances capital-output ratio, funds economic and social infrastructures, and influences development of endowed resources. This portends that, economic growth requires effective and efficient mobilization of capital funds. Capital, in this sense, is medium to long-term fund that would yield benefit in future.

Essentially, the forum for mobilising medium to long-term funds for economic growth and development purposes, within the framework of financial intermediation, is capital market. Thus, the ultimate objective of establishing a capital market in any national economy is to achieve economic growth and development (Alile, 1984; Osaze, 2000; Ewah, Bassey&Essang, 2009). As such, the performance of a capital market is expected to engender economic growth, for capital market performance is the expression of efficiency in the functioning capacity of a capital market in mobilizing medium to long-term funds from the surplus sector to the deficit sector of the economy for economic growth and development purposes.

The theoretical link, for this expectation, between capital market performance and economic growth is provided for by endogenous growth theoretical model, which states, among other things, that, financial markets are vehicles for achieving long-run economic growth, whose basic proxy is GDP. Hence, there is the need for measuring capital market performance against the economic growth index. Consequently, economists and finance experts alike started developing various parameters and indices with which to measure the performance of a capital market. Over the years,

in literature, several parameters have been suggested and developed; the key ones among them are seven; these are: market capitalization, all-share index, number of listed securities, number of deals, value of deals, value of transactions, and stock market turnover. A close look at the various editions of the annual capital market bulletins of the Nigerian Securities and Exchange Commission, annual reports and accounts of the Nigerian Stock Exchange, and the statistical bulletins of the Central Bank of Nigeria reveals that, the Nigerian capital market performance has been measured based on the afore-mentioned parameters. With these, there are high expectations of the people as to the ability of the Nigerian capital market to engender economic growth.

Extracts from the above-mentioned reports (Appendix 1) show that, output growth from 2007 to 2016 has been on the increase, for GDP figures within this period are as follows: 20,657.32 (2007), 24,296.33 (2008), 24,794.24 (2009), 54,612.26 (2010), 62,980.40 (2011), 71,713.94 (2012), 80,092.56 (2013), 89,043.62 (2014), 94,144.96 (2015) and 101,489.49 (2016). However, All Share Index (ASI) increased from 48,773.31 in 2007 to 50,424.70 in 2008, but fell to 23,091.55 in 2009 and rose to 24,775.51 in 2010. It later fell to 23,393.64 in 2011, slightly rose to 23,432.62 in 2012, and appreciably rose to 36,207.08 in 2013 and 39,409.82 in 2014. Afterwards, it fell to 30,867.20 and 26,624.08 in 2015 and 2016 respectively. The implication of this situation is that, ASI has been fluctuating and nose-diving despite increases in GDP. As a corollary, market capitalisation figure stood at 13,181.69 in 2007, but fell significantly to 9,562.97 and 7,030.84 in 2008 and 2009 respectively. The situation improved between 2010 and 2013 to 9,918.21, 10,275.34, 14,800.94 and 19,077.42 respectively. It, then, fell to 16,875.10 in 2014, rose to 17,003.39 in 2015, but fell to 16,185.75 in 2016.

From the foregoing, despite output growth, which was supposed to be influenced by capital market performance, as provided for by theories, the key capital market indicators have been fluctuating and nose-diving. This poses a worry, as there was apparent growth without increasing

capital market performance; and as such, there was the need to investigate whether there can be growth without capital market performance. Much more, in recent time, many research studies have been conducted on this subject, but there are controversies emanating therefrom, which are yet unresolved, and the debate is still ongoing, for there are opposing findings from previous studies, culminating in the positive-link and the negative-link schools, respectively supporting a positive-link and a negative-link (or no-link) between capital market performance and economic growth (Okodua&Ewetan, 2013). As such, there is yet unresolved statistical link between capital market performance and economic growth.

Arising from these continued controversies, this study discovered that, existing models did not explore some relevant variables in the consideration of the contributions of capital market performance to economic growth, as considerable research attention has only been given to three out of the seven key proxies of capital market performance against GDP. The three capital market performance indicators on which there is concentration, in extant literature, are: stock market capitalization, all-share index, and value of transactions, thus neglecting other indicators, which are: number of listed equities, number of deals, value of deals, and stock market turnover.

It was against the above backdrop that, this study was initiated to assess the relative contributions of capital market performance indicators to economic growth in Nigeria. As such, the research hypothesis tested in this study is 'capital market performance indicators have no relative contributions to economic growth in Nigeria'. The temporal scope of this study covers a period beginning from 1984 to 2016, which is a period of thirty-three (33) years. The selection of 1984 is justified on the ground that, all-share index, which is acclaimed to be the most important capital market performance indicator, was introduced, in the Nigerian capital market, in January, 1984 (Adepoju, 2013; Zubar, 2013; Akinde, 2015), and this period is taken as the base year for the calculation of all-share index. The assumption of this study is that, the Nigerian stock market perfor-

mance will answer for the Nigerian capital market performance; much more that, the Nigerian bond market, which is the second of the two divisions of the capital market, is not well-pronounced.

2. Literature Review

2.1. Conceptual Clarification

Akingbohunge (1996) simply defined capital market as the market where medium to long-term finance can be raised. A critical consideration of this short definition suggests the following: First, as a market, capital market does not necessarily imply a fixed place; it could be seen as a means, medium, mechanism, forum or facility through which medium to long-term finance can be raised as opposed to short-term finance, which is raised in the money market. Second, this definition captures the fact that, funds, whose tenor is more than one year could be raised in a capital market.

To portray the nature of capital market as not necessarily a fixed place, Mbat (2001) described it as a forum through which long-term funds are made available by the surplus units to the deficit units. However, this description is bereft of the fact that, medium-term funds are also mobilised through the capital market. At any rate, it considers the financial intermediation function of capital market, which is the pooling of funds from the surplus sector to the deficit sector of the economy. The deficit sector comprises companies, which require funds for capital projects, and governments, which require funds for development purposes, so that both are end users of capital market funds. However, the surplus sector consists of individuals, firms and governments, who have idle (i.e. spare) capital funds at their disposal, and are ready to invest them.

To Al-Faki (2006), 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. This position considers the role of financial intermediaries in the medium to long-term financial intermediation process. These fi-

nancial intermediaries are specialised, and the ultimate purpose of establishing a capital market is to fund investments in capital or development projects. It is, also, worth noting that, this definition sees capital market as a system, which is an interaction (a network) of specialised financial institutions, which facilitate the mobilization of medium to long-term funds for achieving the socio-economic objectives of the nation.

In the foregoing line of thought, the Institute of Chartered Accountants of Nigeria (2006) posited that, capital markets are the institutions, structures, and mechanisms whereby medium-term (loans of up to 10 years maturity) and long-term funds (longer-maturity loans and corporate stocks) are pooled and made available to businesses, governments and individuals. It is in the capital markets that instruments which are already outstanding are transferred. Thus, the ingredients of this posit, in clear terms, are: combination of institutions; formal or organised nature of a capital market ('structures'); medium and long-term nature of capital market funds; primary financial intermediation function of a capital market ('funds are pooled and made available to businesses, governments and individuals'); and secondary distribution of securities ('instruments which are already outstanding are transferred'). Essentially, the beauty of this posit is that, it rightly pointed out the secondary segment of the capital market, where existing securities are traded, so that there can be effective re-allocation of capital funds among investors. However, it is disregarding of the fact that, individuals cannot raise funds from the primary segment of the capital market, as only listed companies and governments can do so, through the issuance of financial instruments (i.e. securities).

Bearing in mind the socio-economic development of the nation, Ndako (2010) viewed capital 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 governments, are mobilized, harnessed and made available to various sectors of the economy. A critical analysis of this view shows that, the capital market is an insti-

tution on its own within which other financial institutions operate to mobilise funds from the surplus units of the economy, which are meant for developing the various sectors of the economy (i.e. commerce, industry, mines and agriculture). Other financial institutions are issuing houses, underwriting firms, stockbroking firms, registrars, stock exchanges, and firms of investment advisors.

Similarly, Ayodeji (2011) defined capital market as a type of domestic financial market whereby medium to long-term loanable funds are traded in the form of medium to long-term securities or debt instruments. These securities are the medium to long-term instruments of governments and corporate entities, issued to investors in the capital market, to borrow from them (i.e. investors) for the purposes of commitment of funds into development projects or capital projects: From the capital markets, governments obtain loanable funds for developmental purposes while corporate entities obtain loanable or investible funds for capital projects. In the same vein, Alajekwu and Achugbu (2011) noted that, capital market is a collection of financial institutions set up for the granting of medium and long-term loans. It is a market for government securities, for corporate bonds, for the mobilization and utilization of long-term funds for development- the long-term end of the financial system.

Notably, Okonkwo, Ogwuru and Ajudua (2014) asserted that, capital market is an organised market, which provides facilities to the government and private investors to raise long-term loans to finance expenditures, and for expansion and modernisation of industries. It also exists to offer platform, where suppliers of capital can quickly and easily restore their liquidity. The capital market serves the purpose of capital mobilisation and allocation of the nation's capital resources among various competing or alternative uses. This assertion, therefore, sees capital market as a means for re-allocating the nation's wealth, in the hands of the surplus spending units, to the deficit units at an opportunity cost. However, it does not consider the fact that, medium-term funds are also raised from the capital market.

However, capital market performance defines

the functioning and efficiency of the capital market in playing its traditional roles of medium to long term mobilization of funds, creating liquidity of capital investments, and moving the surplus and deficit sectors close to utility maximization. In economics and finance literature, several models have been provided by scholars for measuring performance of the capital market; each model, however, contains performance indicators, which capture different aspects of capital market performance. Moreover, it is expected that a model should measure the performance of the three traditional roles of the capital market and the efficiency with which these roles are performed. These three traditional roles are capital-funds mobilization, liquidity, and wealth creation, whilst efficiency of the capital market is embodied in pricing efficiency.

This accounts for why Anyanwu (1998) asserted that, efficiently functioning capital market affects liquidity, acquisition of information about firms, risk diversification, savings mobilization, and corporate control. Accordingly, capital-funds mobilization can be measured using market capitalisation and number of listed equities; liquidity can be measured using number of deals, volume of transactions, and stock market turnover; and wealth creation can be measured using value of deals, value of transactions, or stock market return. The general market efficiency can be measured using all-share index, which indicates the overall direction of the market and the scope of its price movements.

Out of the seven key parameters by which capital market performance can be measured, Goddy (2008) noted four as capital market indices. These are equity market capitalization, trading value and liquidity, all-share index, and market infrastructure. These parameters, however, measure different aspects of capital market performance, such as the size of the stock market, the trading performance, the general market performance, and operational efficiency respectively. Accordingly, equity market capitalization measures the size of the stock market, as it is the total market value of stocks of all companies in the equity market. The trading value is a measure

of wealth creation in gross and absolute terms, as it is the total number of shares traded on the stock exchange multiplied by their respective market prices. All-share index, however, measures the general performance and efficiency of the capital market, as it tracks the general market movement of all listed equities on the stock exchange. It is an index, which is a representative of the entire market or a section of the market. Consequently, an important proxy for the performance of a capital market is the all-share index. Market infrastructure, essentially, measures the operational efficiency of the market in terms of payment system, securities settlement system, securities depository system and securities repository system.

According to Cambridge Business English Dictionary (2011), all-share index is a series of numbers which shows the changing average value of the share prices of all companies on a stock exchange, and which is used as a measure of how well a market is performing. As a corollary, Akpan and Chukwudum (2014) asserted that, a stock market index is a statistical parameter to reflect the composite value of a market characteristic. It is a quick measure to judge the overall direction of the market and the scope of its movement. Agreeably, Ajakaye and Fakiyesi (2009) noted that, all-share index and market capitalization capture activities and performance of Nigerian Stock Exchange. The introduction of all-share index, in the Nigerian capital market, in January, 1984, was done twenty-three years after the establishment of Nigerian Stock Exchange, a key player in the Nigerian capital market (Adepoju, 2013; Zubar, 2013; Akinde, 2015).

To conceptualize economic growth, Onipede and Ayodeji (2005) opined that, the concept is a process by which there is a sustained increase in the real per capita income (from the standpoint of output of goods and services) over a period of time. Where there is economic growth, the rate of national income or total volume of goods and services produced expands. An indicator of economic growth is a rise in per capita income or GNP and GDP. A critical analysis of this assertion reflects that, it views economic growth from the initial point of gross domestic product (GDP)

and the end point of real per capita income. However, it provides three proxies or measures of economic growth; these are: gross domestic product, gross national product, and per capita income. Implicitly, it considers national income concept from the output approach, that is, the standpoint of output of goods and services, which is more of industrial production, so that, expansion in industrial production capacity will answer for economic growth.

As a mark of his share from the foregoing view, Anyanwuocha (2008) posited that, economic growth is the process by which national income or output is increased. An economy is said to be growing if there is a sustained increase in the actual output of goods and services per head. The rate of economic growth, therefore, measures increase in real national income during a given period of time, usually a year. This assertion, therefore, emphasises expansion in national output, leading to sustained increase in per capita income as economic growth. Emphasizing the precondition for effective economic growth, Surridge and Gillespie (2014) argued that, sustainable economic growth means that, the value of the economy's entire production of goods and services should increase overtime. However, this should be at a rate, which is sustainable. This means that, it can be maintained over time while minimising the damage to the environment. This argument is in strong support of the position taken by Anyanwuocha.

Furthermore, Surridge and Gillespie (2014) explained that, fluctuations, in the rate of economic growth, result in business cycle. If the rate of economic growth is negative (i.e. if the economy is getting smaller) for successive six months, then, it is said to be in recession. Economic growth is normally measured by an increase in gross domestic product (GDP). Most countries' economies experience economic growth over a period of time; though, in the short-term, economies may stagnate or even decline in size. A recession is characterised by falling levels of demand and declining levels of output and employment over at least a six-month period. A slump takes place when production is at its lowest, unemployment is high and

there are many business failures.

2.2. Theoretical Framework

The theoretical basis for this study is the endogenous growth theory, credited to Levine (1991) and Bencivenga and Smith (1991), which provides, among other things, that, financial markets are vehicles for achieving long-run economic growth in an economy. On this theoretical threshold, Mishra, Mishra, Mishra and Mishra (2010) hypothesized that, there is linkage between capital market performance and economic growth, and that this nexus is established through high rate of market capitalization and total market turnover. This is an aspect of the finance-growth theory within the endogenous growth model, which was supported by Oke (2013), whose study found and noted that, the large size of capital market as measured by greater market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy-wide basis. We advanced this postulation as capital market economic significance theorem, stating that, all-share index, market capitalization, value of transactions and stock market turnover would exert significant positive effects on economic growth, as they respectively measure efficiency, funds-mobilization, liquidity and wealth creation capacity of the capital market.

2.3. Empirical Review

Mishra et al (2010) evaluated the effects of capital market efficiency on economic growth of India within a time dimension, starting from the first quarter of 1991 to the first quarter of 2010. Time-series data were employed in relation to market capitalization, total market turnover and stock price index, which were taken as proxies for capital market performance, and gross domestic product, which was taken as the proxy for economic growth. The study employed ordinary least squares method of analysis, and found a positive linkage between capital market efficiency and economic growth in India. It also found that, capital market, in India, could contribute to the economic growth of the country as a direct consequence of

high market capitalization and market liquidity (which is represented by total market turnover).

In the same jurisdiction, Karim and Chaudhary (2017) examined the effect of stock market development on economic growth of two Asian regions, namely South Asia and East Asia within a time frame of 1996-2015. The study adopted linear panel data methodology, and employed market capitalization, total value traded ratio and turnover ratio as proxies for stock market development; and gross domestic product was used as the proxy for economic growth. It estimated data, using panel regression analysis, and found that, stock market development contributes, to some extent, to economic growth of South Asian region, but its impact on East Asian region was found to be insignificant.

Chinwuba and Amos (2011) investigated the impact of capital market performance on economic development in Nigeria. The study developed two models, having the same independent variables, which were: market capitalization, all-share index, value of transactions, volume of transactions, and number of listed companies. However, the dependent variable, in the first, was gross domestic product, and, in the second, was gross fixed capital formation. It employed Ordinary Least Squares (OLS) regression model as the estimation technique, and found that, the performance of the Nigerian capital market has a significant positive impact on the nation's economic growth. Specifically, the study found that, while gross domestic product was positively influenced by market capitalization, all-share index, and number of listed companies, gross fixed capital formation was positively influenced by volume of transactions and market capitalization, though insignificantly. However, neither of gross domestic product and gross fixed capital formation was influenced by value of transactions.

However, Olawoye (2011) evaluated the impact of capital market on economic growth in Nigeria within a time range of 1980 to 2009. The study proxied economic growth by gross domestic product, and capital market by market capitalization, total new issues, value of transactions, and total listed equities and government stocks. It em-

ployed ordinary least squares method to analyse the time-series data on those proxies, which were sourced from Central Bank of Nigeria (CBN) statistical bulletins, Nigerian Stock Exchange (NSE) fact books, and Securities and Exchange Commission (SEC) market bulletins. It, then, found that, value of transactions and total listed equities and government stocks exerted significant positive influence on the economy while market capitalization exerted significant negative influence on it. On the whole, the study found that, capital market exerts significant positive influence on economic growth in Nigeria, as the whole model was statistically significant.

Similarly, Osho (2014) examined the role of stock market in Nigeria's economic development within a time coverage of 1980 to 2010. The study proxied economic development by gross domestic product; and capital market was proxied by market capitalization ratio, value traded ratio, turnover ratio, and stock market capitalization. It sourced time-series data, with respect to those proxies, from annual reports and accounts of Nigerian Stock Exchange (NSE) and Securities and Exchange Commission (SEC), Central Bank of Nigeria (CBN) statistical bulletins, and National Bureau of Statistics (NBS) reports. To analyse those data, it employed correlation and regression methods, and found that, turnover ratio and market capitalization ratio had significant positive relationship with gross domestic product, while stock market capitalization and value traded ratio had insignificant negative relationship with it. The study, also, found that, the overall model was statistically significant. It concluded that, stock market development exerts significant positive influence on economic growth in Nigeria.

Nevertheless, Ewahet al (2009) evaluated the impact of capital market efficiency on economic growth in Nigeria within a time dimension of 1962 to 2004. The study employed time-series data on gross domestic product, which was used as the proxy for economic growth, and also on market capitalisation, money supply, interest rate, total market transactions and government stocks, which were employed as the proxies for capital

market efficiency. It estimated data, using ordinary least squares method, and found that, the capital market, in Nigeria, has potential of growth inducing, but it has not contributed meaningfully to the economic growth of the country because of low market capitalization, illiquidity, and misappropriation of funds.

Not only that, Adigwe, Nwanna and Ananwude (2015) investigated the effects of stock market development on economic growth in Nigeria within the temporal scope 1985-2014. The study employed secondary data with respect to gross domestic product (proxy for economic growth) and stock market indices, that is, market capitalization ratio to GDP, and value of stock traded to GDP; however, trade openness and inflation rate were used as control variables. It analysed data using ordinary least squares method, and found that, stock market has potentials of growth inducing, but it has not contributed meaningfully to economic growth in Nigeria.

Also, Obiakor (2016) examined capital market-economic growth nexus in Nigeria- Africa's largest economy within the time frame 1985-2015. The study proxied economic growth by gross domestic product (GDP), while capital market indices employed were market capitalisation, value of transactions, and all-share index. It employed ordinary least squares method to estimate the time-series data, and found that, market indices had heterogeneous effects on economic growth in Nigeria. It, also, found, on the aggregate that, capital market development significantly induced economic growth in Nigeria within the study period, as the overall model was statistically significant.

3. Methodology

The study adopted ex-post facto research design, and sourced time-series data, covering 1984 to 2016, from the capital market bulletins of the Nigerian Securities and Exchange Commission, the annual reports and accounts of the Nigerian Stock Exchange, the statistical bulletins of the Central Bank of Nigeria, and reports of the National Bureau of Statistics. In measuring the

effects of the capital market performance on economic growth in Nigeria, the conventional method of using their proxies was adopted.

Thus, economic growth was proxied by gross domestic product; and capital market performance was proxied by its seven key performance indicators, which are: market capitalisation, all-share index, number of listed equities, number of deals, value of deals, value of transactions, and stock market turnover. On these, preliminary test of stationarity was conducted, using Augmented Dickey Fuller (ADF) technique; and then, the major estimation technique used was Ordinary Least Squares (OLS). However, for robustness, coefficients of Auto Regressive Distributed Lag (ARDL) and Vector Auto Regression (VAR) models were employed to confirm OLS results. For, these coefficients of ARDL and VAR rank paripassu with those of OLS without considering the bounds test in ARDL, and the impulse response function cum variance decomposition error in VAR. The statistical model of multiple regression approach, which was applied by Obiakor (2016), was adopted. It infers that, economic growth is significantly influenced by capital market indices. Thus:

$$GDP_t = \beta_0 + \beta_1 MCAP_{t-1} + \beta_2 VST_{t-1} + \beta_3 ASI_{t-1} + \mu_{t-1}$$

This model portends that, economic growth is a function of Market Capitalisation (MCAP), Value of Transactions (VST) and All-Share Index (ASI).

However, this study expanded Obiakor's model by incorporating four other capital market performance indicators into the model. Thus the functional relationship of the model, for this study, is given by:

$$GDP = f (MCAP, ASI, NLE, NOD, VOD, VTRAN, SMT) \dots 1$$

This signifies that, gross domestic product is a function of (or is dependent on) the proxies of capital market performance. This is econometrically presented thus:

$$GDP = \beta_0 + \beta_1 MCAP + \beta_2 ASI + \beta_3 NLE + \beta_4 NOD + \beta_5 VOD + \beta_6 VTRAN + \beta_7 SMT + \mu \dots 2$$

Where: GDP = Gross Domestic Product, MCAP = Market Capitalisation, ASI = All Share

Index, NLE = Number of Listed Equities, NOD =Number of Deals, VOD =Value of Deals, VTRAN =Value of Transactions, SMT = Stock Market Turnover

Owing to the theoretical basis of this study (endogenous growth model), the following relationship between economic growth proxy (GDP) and capital market performance indices are expected: $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 > 0$. Alternatively,

GDP f(MCAP) > 0; GDP f(ASI) > 0; GDP f(NLE) > 0; GDP f(NOD) > 0;

GDP f(VOD) > 0; GDP f(VTRAN) > 0; GDP f(SMT) > 0.

This implies that, a positive relationship is expected between economic growth (GDP) and market capitalisation, as a rising stock market capitalisation is an increasing public capital for medium to long-term investments, which is expected to translate to a rising economic performance. Secondly, the relationship between all-share index and GDP is expected to be positive, for an increasing ASI implies an increasing capital market efficiency, which is expected to translate to economic growth. Thirdly, a positive relationship is expected of number of listed equities and GDP, as the higher the number of listed equities, the more the activities and performance of the capital market in both primary and secondary markets, thus leading to increased output growth.

Fourthly, number of deals is expected to be positively related to GDP, as the more the number of deals, the more the activities and performance of the capital market, thus leading to growth of output and vice-versa. Fifthly, a positive relationship is expected of the interaction of value of deals and GDP, as an increase in value of deals will encourage more investments in the capital market, which will in turn lead to GDP growth and vice-versa. Sixthly, value of transactions is also expected to have a positive relationship with GDP, as a rising value of transactions is suggestive of a rising capital market performance and increased wealth creation, leading to growth of output and vice-versa. Finally, stock market turnover is expected to be positively related to GDP, as this is a reflection of the liquidity and increased activities in the

secondary market, thus leading to output growth.

4. Results and Findings

This section presents the results of the preliminary test of stationarity using Augmented Dickey Fuller (ADF) technique, and the results and findings from test of hypothesis using Ordinary Least Squares (OLS) method, ARDL coefficients, and VAR coefficients

Augmented Dickey Fuller (ADF) Test for Stationarity

The study employed Augmented Dickey Fuller (ADF) test to check for the order of integration of the variables. The test was employed to investigate if the series, under investigation, suffered from unit roots or not. Table 1, below, presents the results of ADF test both at level and first difference. The study obtained that, at level, all the variables in the series had unit roots; but all became stationary at first difference, when their respective p-values are less than 0.05(i.e. 5% level of significance); hence, the series was stationary at first difference.

However, the null hypothesis of the ADF test states that, the series is non-stationary, having unit roots, while its alternate hypothesis states that, the series is stationary, having no unit roots. Since all the variables in the series became stationary at first difference, the ADF null hypothesis was rejected, and its alternate hypothesis was accepted. The rejection of the ADF null hypothesis was based on MacKinnon (1996) critical values. The lag length was selected based on Schwartz Information Criterion (SIC), which ranges from lag 0 to lag 2.

Ordinary Least Squares (OLS)

Table 2, below, shows the regression output between capital market performance indicators and economic growth in Nigeria. The coefficient of determination (R^2) is 0.997295, which implies that, about 99.73% of the variations in the dependent variable, economic growth, is accounted for or explained by the variations in the independent variable, which is the joint effect of the variations in capital market performance indicators. However, the remaining 0.002705, that is, 0.27%, is

Table 1: Summary of Augmented Dickey Fuller Test Results

Var	At level				1st Difference				
	ADF	Critical-t	Lag	P-Value	ADF	Critical- V	Lag	P-Value	Comment
LGDP	-1.316	-2.9571	2	0.6099	-5.2781	-2.9604	2	0.0001	I(1)
LMCAP	-1.4799	-2.9639	2	0.5298	-4.064	-2.9677	2	0.0039	I(1)
LASI	-2.5204	-2.9571	2	0.1202	-3.9423	-2.9604	2	0.005	I(1)
LVOD	-9.722	-2.6174	2	0.7511	-4.4893	-2.9604	2	0.0012	I(1)
LVTRAN	-1.6042	-2.9571	2	0.4689	-5.8938	-2.9604	2	0.0000	I(1)
LNLE	-2.4425	-2.9604	2	0.139	-4.0391	-3.5628	2	0.017	I(1)
SMT	-2.01476	-2.9604	2	0.2793	-5.7035	-2.9604	2	0.0001	I(1)
NOD	-2.1507	-2.9762	2	0.2276	-6.6632	-2.9762	2	0.0000	I(1)

Source: Author's Computation, 2018

accounted for by other variables not captured in the model. This is supported by the adjusted R-squared of 0.996393, that is, 99.64%, indicating the goodness of fit of the model. The implication of R-squared 99.73% is that, the capital market indicators are reliable inducers (i.e. drivers or causes) of economic growth in Nigeria. This result is even very close to unity (0.997295 is almost 1); alternatively, 99.73% is almost 100%; hence, we can safely say that, capital market performance indicators are reliable inducers (i.e. the causes) of economic growth (the effect) in Nigeria.

Results, from Table 2 below, also reveal that, market capitalization (MCAP) and stock market turnover (SMT) had significant effects on economic growth, which was proxied by gross domestic product, at 5% level of significance, since their respective p-values are 0.0000 and 0.0000, which are less than 0.05. The coefficient of MCAP was positive while that of SMT was negative. These imply that, market capitalization had a positive effect on economic growth in Nigeria while stock market turnover had a negative effect on it. However, number of listed equities had insignificant positive effect on economic growth in Nigeria with a p-value of 0.7101, which is greater than 0.05, that is, 5% level of significance, and a positive coefficient of 0.138171. Furthermore, all-share index, number of deals, value of deals, and value of transactions had insignificant negative effects on economic growth in Nigeria. This is evidenced by their respective p-values of 0.2003, 0.1736, 0.2256, and 0.7442, which are all greater

than 0.05, that is, 5% level of significance; and their respective negative coefficients of -0.12023, -0.080632, -0.067253, and -0.00998.

The F-statistics test, for the overall significance of the model, showed a calculated F-statistic of 1105.96, which is greater than the F-statistic tabulated value of 2.50; and the p-value of 0.0000, which is less than 0.05, that is, 5% level of significance. The decision rule is that, if the F-calculated value is greater than F-tabulated value, the null hypothesis of 'no significant relationship' is rejected, and the alternate hypothesis of 'a significant relationship' is accepted and vice versa. Also, for the p-value criterion, the decision rule is that, if the p-value is less than 0.05, the relationship is significant, therefore, the null hypothesis of 'no significant relationship' is rejected, and the alternate hypothesis of 'a significant relationship' is accepted and vice versa. Since the F-calculated value is greater than the F-tabulated value, and the p-value is less than 0.05, then, the overall model is statistically significant.

Auto Regressive Distributed Lag (ARDL) Coefficients

Table 3, below, summarizes the output of long-run coefficients of the variables of interest with the use of auto-regressive distributed lag model. The results show positive long-run coefficients with economic growth for market capitalization, number of listed equities and value of transactions at 0.82002, 0.546054 and 0.065623 respectively, and negative coefficients with economic growth for all-share index, number of deals, value of deals, and-

Table 2: Summary of Regression Output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LMCAP	1.006651	0.055347	18.18816	0.0000
LASI	-0.12023	0.090918	-1.322401	0.2003
LNLE	0.138171	0.366673	0.376823	0.7101
LNOD	-0.080632	0.057241	-1.408641	0.1736
LVOD	-0.067253	0.053863	-1.248589	0.2256
LVTRAN	-0.00998	0.030188	-0.330593	0.7442
SMT	-0.026286	0.002804	-9.373196	0.0000
C	4.770385	1.466188	3.253598	0.0038
R-squared	0.997295	Mean dependent var		8.961566
Adjusted R-squared	0.996393	S.D. dependent var		1.810718
S.E. of regression	0.108748	Akaike info criterion		-1.370613
Sum squared resid	0.24835	Schwarz criterion		-0.993428
Log likelihood	27.87388	Hannan-Quinn criter.		-1.252483
F-statistic	1105.964	Durbin-Watson stat		1.738861
Prob(F-statistic)	0.0000			

Source: Author's Computation, 2018

stock market turnover at -0.120936, -0.123222, -0.182497, and -0.021093 respectively.

Further to these, it is obtainable that, market capitalization and stock market turnover had p-values, that are less than 0.05, that is, 5% level of significance, of 0.0072 and 0.0103 respectively, while all-share index, number of listed equities, number of deals, value of deals and value of transactions had p-values, that are greater than 0.05, that is, 5% level of significance, of 0.4699, 0.1511, 0.1619, 0.0993 and 0.1741 respectively. The implication of these is that, while market capitalization and stock market turnover had significant effect on economic growth in Nigeria, other capital market performance indicators, had insignificant effect on it. Thus, market capitalization had significant positive effect on economic growth while stock market turnover had a significant negative effect on it. Also, number of listed equities and value of transactions had insignificant positive effect on economic growth, all-share index, number of deals, and value of deals had insignificant negative effects on it.

The co-efficient of determination (R^2) of 0.9706

implies that, 97.06% variations in economic growth was explained or accounted for by capital market performance indicators employed in the model, while the remaining 2.94% was accounted for by variables not captured in the model. This is confirmed by the adjusted R^2 of 0.8168, that is, 81.68%, which confirms the goodness of fit of the model. The F-statistic value of 6.30 is greater than the F-tabulated value of 2.50, which indicates that, the whole model is statistically significant. This is confirmed by the p-value of 0.043, which is less than 0.05, that is, 5% level of significance.

Vector Auto Regression (VAR) Coefficients

For robustness of the investigation of relative contributions of capital market performance to economic growth, the study also considered the coefficients of vector auto regression. Before estimating Vector Auto Regression (VAR) coefficients, it is necessary to select the optimum lag order that will give good results. This was done by choosing the least results of Akaike Information Criterion (AIC). The thrust behind this is that, the lower the AIC, the better the model. However,

Table 3: Summary of ARDL Coefficients

ARDL Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLMCAP	0.82002	0.162089	5.059065	0.0072
DLASI	-0.120936	0.151672	-0.79735	0.4699
DLNOD	-0.123222	0.071939	-1.71287	0.1619
DLNLE	0.546054	0.30813	1.772155	0.1511
DLVOD	-0.182497	0.085351	-2.13819	0.0993
DLVTRAN	0.065623	0.03975	1.650907	0.1741
DSMT	-0.021093	0.004617	-4.56822	0.0103
C	0.074648	0.02694	2.77089	0.0503
R2=0.9706	ADJ-R2=0.8168	F-STAT=6.30	PROB=0.043	D.W=2.11

Source: Author's Computation, 2018

considering the limited length of the data series, a maximum length, lag of two, was permitted in the selection of the optimum lag length to be used in the estimation of the VAR. The Akaike Information Criterion (AIC) was employed for the VAR lag order selection, as it has the least value at lag two as shown in Table 4, below: This table shows that, the AIC values are: Lag 0 (16.25008), Lag 1 (5.987685), and Lag 2 (2.864908). Since Lag 2 has the least AIC value, it was selected as the optimum lag order for the model.

Table 5, below, shows the summary of the VAR coefficients estimated at lag (-2). From the displayed results, it was discovered that, the dependent variable, gross domestic product, had a negative effect on its own innovation by -1.0258. Also, all-share index, number of deals, and stock market turnover had negative effects on gross domestic product with their respective values of -0.3303, -0.174566 and -0.021371. However, market capitalization, number of listed equities, value of deals, and value of transactions had positive effects on gross domestic product with their respective values of 0.881638, 1.583545, 0.010668 and 0.064313. By implication, a unit increase in market capitalization, number of listed equities, value of deals and value of transactions will bring about an increase in gross domestic product and vice-versa, while a unit increase in all-share index, number of deals and stock market turnover will bring about a decrease in gross domestic product and vice-versa.

4.1. Summary of Findings

From Table 6, below, the three estimation techniques employed, to test the research hypothesis, concur that, market capitalization had significant positive effect while stock market turnover had significant negative effect on economic growth in Nigeria. Also, there is concurrence of the three estimation techniques on the fact that, while number of listed equities exhibited insignificant positive effect on economic growth in Nigeria, all-share index and number of deals exerted insignificant negative influence on it. Despite the fact that, Ordinary Least Squares (OLS) and Auto Regressive Distributed Lag (ARDL) concur that, value of deals displayed insignificant negative influence on economic growth in Nigeria, Vector Auto Regression (VAR) shows that, the effect is positive, though insignificant. Lastly, both ARDL and VAR coefficients show that, value of transactions exhibited insignificant positive effect on economic growth; however, OLS shows that, the effect is negative, though insignificant.

The implication of this is that, capital market performance indicators have relative positive and negative contributions to economic growth in Nigeria with the effect of only market capitalization and stock market turnover being significant. Therefore, the study rejected the null hypothesis, which states that capital market indicators have no relative contributions to economic growth in Nigeria, and accepted the alternate hypothesis.

Table 4: Summary of Lag Order Selection Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-227.6261	NA	0.001576	16.25008	16.62726	16.36820
1	-14.82144	293.5237	6.52e-08	5.987685	9.382351	7.050852
2	94.45884	90.43885*	9.54e-09*	2.864908*	9.277054*	4.873112*

Source: Author's Computation, 2018

Table 5: Summary of Vector Auto Regression Coefficients

	DLGDP	DLM-CAP	DLASI	DLNLE	DLNOD	DLVOD	DLV-TRAN	DSMT
DLGDP (-2)	-1.025803	0.881638	-0.3303	1.583545	-0.174566	0.010668	0.064313	-0.021371

Source: Author's Computation, 2018

Table 6: Summary Table of Tests of Research Hypothesis

	Coefficients Criterion			P-value Criterion		
	Ordinary Least Squares	ARDL Coefficients	Vector Auto Regression	Ordinary Least Squares	ARDL Coefficients	
MCAP +	Positive	Positive	Positive	Significant	Significant	
SMT -	Negative	Negative	Negative	Significant	Significant	
NLE +	Positive	Positive	Positive	Insignificant	Insignificant	
ASI -	Negative	Negative	Negative	Insignificant	Insignificant	
NOD -	Negative	Negative	Negative	Insignificant	Insignificant	
VOD -	Negative	Negative	Positive	Insignificant	Insignificant	
VTRAN +	Negative	Positive	Positive	Insignificant	Insignificant	

Source: Author's Compilation, 2018

5. Discussion of Findings

Having examined the effects of capital market performance on economic growth in Nigeria, it was found that, capital market performance indicators have relative contributions to economic growth in Nigeria, though the findings of this study are mixed, as the study, specifically, found that, while market capitalization, number of listed equities and value of transactions exerted positive effects on economic growth in Nigeria, all-share index, number of deals, value of deals, and stock market turnover, had negative effects on it with different forms of significance. Also, the study found that, while the effects of market capitalization and stock market turnover were significant, on economic growth in Nigeria, the effects of

other capital market performance indicators were insignificant. These findings provides a confirmation and a rational justification for the capital market economic significance theorem, advanced in this study, which states that, the relationship between capital market and economic growth is established through the significance of all-share index, market capitalization, value of transactions and stock market turnover.

The reasons adducible to the dimension of positive contributions of capital market performance to economic growth are that, market capitalization is a reflection of the available public capital for long-term investments in an economy, which is capable of leading to economic growth, as advocated by the finance-growth theory of the en-

ogenous growth model. Also, number of listed equities is a key determinant of available public capital for long-term investments in the domestic economy. Not only that, economic growth index (i.e. gross domestic product) is a reflection of the prices and quantities of goods and services produced in a country within a year; therefore, value of transactions, which is the prices times quantities of traded securities, is mirrored in gross domestic product.

On the other hand, the possible reasons for the dimension of negative contributions of capital market performance to economic growth are that: Firstly, the negative co-efficient of all-share index is a reflection of the level of overall efficiency of Nigeria's capital market, for if this market had been efficient (at least in the semi-strong form), all-share index would have been positively related to economic growth. Much more, for all-share index to have conveyed a negative effect to gross domestic product, it means that, securities prices may have been tampered with, that is, the price system may have been acted upon by not being allowed to freely dictate the prevailing prices. Secondly, the secondary market activities of the Nigerian capital market, which are reflected in its stock market turnover, are not efficient, and there may have been market infractions, indiscipline and abuses, which have resulted in loss of investors' confidence, leading to lower capital market activities. Thirdly, the negative coefficients of both number of deals and value of deals indicate that, the activities that re-allocate or re-mobilize medium to long-term public capital for long-term investments, in the Nigerian capital market, are not efficient. This may be due to harsh and unstable macroeconomic environment. So, to this extent, exchange rate, interest rate, tax rate, and inflation rate may not have been clement.

Accordingly, the findings of this study confirm those of Obiakor (2016), which showed that, capital market performance indicators had heterogeneous effects on economic growth in Nigeria, but, on the whole, capital market significantly induced growth of the economy. Worthy of note is the fact that, this study adapted Obiakor's model. However, it expanded the said model by increasing

the number of capital market performance indicators employed from three (3) to seven (7). Other studies whose findings are similar to Obiakor's are those of Olawoye (2011) and Osho (2014), as they also got mixed results. Furthermore, the findings of this study are in support of those of Mishra et al (2010), for their study found that, capital market efficiency contributes to economic growth, so that inefficient capital market would exert negative influences on economic growth.

Moreover, the findings of this study are in consonance with those of the previous authors, who found positive effects of capital (or stock) market performance on economic growth in Nigeria and the rest of the world. Those studies include the works of Chinwuba and Amos (2011) and Karim and Chaudhary (2017). Still, the findings of this study are not, completely, at variance with those of Ewahet al (2009) and Adigwe et al (2015), who found that capital (or stock) market had potential of growth inducing, but it had not contributed meaningfully to economic growth in Nigeria.

6. Conclusion and Recommendations

The theoretical expectation is that, all the capital market performance indicators should have positive effects on economic growth in Nigeria. However, the findings of the study indicate that, out of these indicators, market capitalization, number of listed equities and value of transaction had positive effects on economic growth in Nigeria, while stock market turnover, all-share index, number of deals and value of deals had negative effects on it. So, to this extent, this study produced mixed results. Also, based on the capital market economic significance theorem, the theoretical expectation is that, all-share index, market capitalization, value of transactions and stock market turnover would exert significant positive effects on economic growth. However, this study found significant effects of market capitalization and stock market turnover on economic growth in Nigeria, it also found positive effects of market capitalisation number of listed equities, and value of transactions out of the seven key capital market performance indicators. Therefore, it

was concluded that, capital market performance could contribute positively or negatively to economic growth in Nigeria. So, to this extent, capital market performance has heterogeneous effects on economic growth, depending on the level of efficiency and discipline of the market as well as the conduciveness of the macroeconomic environment. This poses a resolution to the conflict between the positive-link and the negative-link schools of thought.

As a direct consequence of the findings emanating from this study and the conclusions drawn therefrom, it was recommended that, capital market deregulation policy should be pursued by the national government to influence positive all-share index. This policy initiative is capable of enhancing the efficiency of the Nigerian capital market, as it would enable the market forces of the interactions of demand and supply to freely operate without being acted upon or tampered with. The implication of this is that, efficiency of the capital market has the potential for improved relationship between all-share index and economic growth. Also, capital market regulators should instil market discipline to discourage market infractions, and restore investors' confidence for increased activities of the capital market, thus leading to improved stock market turnover.

Not only that, the activities of the Nigerian capital market should be enhanced by the federal government by making the macro-economic environment an enabling one for the capital market to operate. Thus, inflation rate, exchange rate, tax rate and interest rates should be put under check, as these macroeconomic variables affect the decisions of investors and corporate entities. This has the tendency of enhancing both the number and value of deals. Finally, the legal framework of the Nigerian capital market (the Investment and Securities Act) should be reviewed from time to time to reflect current economic and financial realities, so that the overall significance of the capital market in an economy can be maintained, and sustained.

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APPENDIX I

OutputGrowth and Capital Market Performance in Nigeria, 2007 - 2016

YEAR	GDP	ASI	MCAP
2007	20,657.32	48,773.31	13,181.69
2008	24,296.33	50,424.70	9,562.97
2009	24,794.24	23,091.55	7,030.84
2010	54,612.26	24,775.51	9,918.21
2011	62,980.40	23,393.64	10,275.34
2012	71,713.94	23,432.62	14,800.94
2013	80,092.56	36,207.08	19,077.42
2014	89,043.62	39,409.82	16,875.10
2015	94,144.96	30,867.20	17,003.39
2016	101,489.49	26,624.08	16,185.75

Source: CBN Statistical Bulletins; Securities and Exchange Commission Annual Reports &Accounts

Note: GDP = Gross Domestic Product (in Billion); ASI = All-Share Index

MCAP = Market Capitalization (in Billion)