

CAPITAL MARKET OPERATIONS AND ECONOMIC GROWTH IN NIGERIA: AN EMPIRICAL VERIFICATION

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ABSTRACT

This study empirically investigated the relationship between capital market operations and economic growth in Nigeria using secondary data sourced from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS) for the period 2000 to 2018. The main aim of the study was to establish the relationships between economic growth (dependent variable) and the set of independent variables (market capitalization, total value of transactions, and all-shares index). Both statistical and econometric tools were employed to explore these relationships. The statistical tool used in the study included the descriptive statistics and the Pearson correlation matrix, while the econometric tools deployed in the study included the Ordinary Least Squares (OLS), the heteroskedasticity and Ramsey reset tests. The major findings of the study showed that market capitalization and all shares index exerted a positive but insignificant influence on economic growth in Nigeria, while total value of transactions exhibited a positive and significant influence on economic growth. The study therefore concluded that the relevant authorities in Nigeria should as a matter of urgency and deliberate policy transform the country's capital market as it is generally perceived as the appropriate channel through medium to long term capital is mobilized and on-lent to the investment sector which helps to drive the economy in a unique fashion.

Keywords: Capital Market, Market Capitalization, Total Value of Transactions, All shares Index, Economic Growth

1. Introduction

Fundamentally, all nations of the world strive to achieve rapid and sustainable economic growth on a long term basis. This desire is attributable to the fact that sustainable economic growth enhances the market size of a country, thereby serving to project the economy as a good investment destination. In this sense, economic growth enables a country increase the production of goods and services with the available stock of capital in conjunction with other factors of production within the economy.

Perhaps, it may be important to distinguish between economic growth and economic development at this outset as the two terminologies are often and erroneously used interchangeably. Whereas economic growth simply implies increases in the goods and services produced in the economy within one year, economic development entails the modernization and upgrading of infrastructure facilities, the strengthening of institutions and policies as well as widely sharing the fruits of democracy among the citizenry. In this sense, economic growth could be considered as a strong factor that fuels economic development. However, economic growth constitutes the centerpiece of this study.

There may be no gainsaying the fact that economic growth requires adequate long term capital to finance those activities that bring about rapid and sustainable economic growth. This is where the operations of the capital market come in handy. Conceptually, the capital market represents a network of financial institutions and technological facilities that interact together to mobilize and allocate long-term funds in the economy. Thus, it is a major force that propels a prostrate economy for growth and development. The capital market is therefore a complex institutional arrangement imbued with a mechanism through which long term funds of the surplus economic sector are mobilized, harnessed and made available to the deficit economic sector of the economy for productive activities. This suggest that the capital market is the cornerstone of any financial system as it provides medium to long term funds needed to finance capital projects of both the public and private sectors of the economy. In Nigeria, the institutional framework through which the capital market functions include the Security and Exchange Commission (SEC), the Nigerian Stock Exchange (NSE), stockbrokers, discount houses, development banks, investment banks, building societies, insurance companies, and pension funds as well as quoted companies, government, and high net-worth individuals (Anyanwaokoro, 2008).

Before the 1980s, capital markets in developing countries suffered from the classical defects of bank dominated economies that lacked sufficient equity capital, adequate liquidity, foreign direct/portfolio investments, and these served to erode investors' confidence in the stock market (Adebisi, 2015). The desire of the Nigerian government to develop the capital market was therefore considered to be intrinsically connected with the objective of accelerated industrial and agricultural development which were thought germane to overall economic growth and development (Okoye, Nwisiyeni & Eze, 2013). This idea could have prompted Donwa & Odi (2010) to assert that capital market contributes to the socio-economic growth and development of emerging and developed economies. The indicators commonly employed to assess the contribution of capital market operations to economic growth include market capitalization, all-shares index and total value of transactions. Hence, Solomon (2013) asserts that these indicators are essential in propelling and enhancing the growth and development of the economy.

The capital market in both the developed and developing economies witnessed dramatic growth over the last decades in both relative and absolute terms, with a number of cause and consequences (Orhangazi, 2017). In Nigeria, the late 70s and early 80s witnessed a rapid increase in trading at the stock exchange, with increased participation of both individuals and institutions. At the time, greater emphasis was placed on the market rather than the real sector of

the economy. When the burst came after the boom, the capital market drove down with market activities witnessing considerable fluctuations just like the burst experienced in the real economy (Anyawuokoro 2008). This was synonymous with happenings in other African countries during the period. Equity markets in developing countries until the mid-1980s generally suffered from the classical defects of bank-dominated economies that were short of equity capital, sufficient liquidity, absence of foreign investments, and lack of investors' confidence in the stock market (Adebisi, 2015).

Ariyo and Adelegan (2008) contend that the liberalization of capital market contributed to the growth of the Nigerian capital market, yet its impact at the macro-economy is quite negligible. However, in Nigeria the objective of improving the level of economic development through the credit market is yet to be achieved (Chijioke & Ogbuagu, 2014). Similarly, both theoretical and empirical studies have shown that little emphasis was given to the nature of financial sector development in Nigeria and this led to the recent downturn in the capital market. This scenario affected the real sector of the economy adversely.

Given the forgoing background, the broad objective of this paper is to investigate the influence of capital market operations on economic growth in Nigeria for the period 2000 to 2018. To achieve the objectives of the paper, the following null hypotheses are formulated:

H₀1: Market capitalization has no significant influence on the economic growth in Nigeria.

H₀2: Total value of transactions has no significant effect on the economic growth in Nigeria.

H₀3: All-shares index has no significant effect on the economic growth in Nigeria.

2. Literature Review

This section carries out an in-depth survey of some studies in the extant literature in the areas of conceptual issues, empirical issues and theoretical framework.

2.1 Conceptual Issues

The conceptual issues of the paper are discussed as follows:

2.1.1 Economic Growth

Economic growth refers to the ability of the economy to increase the production of goods and services with the stock of capital and other factors of production within the economy (Nnanna, Englama, & Odoko, 2004). Thus, it entails increases in per capita income that will lead to the attainment of a high standard of living equivalent to that of industrialized countries (Michael & Stephen, 2011). Whereas economic development is a policy intervention endeavor with the aims of economic and social well-being of the people, economic growth is a phenomenon of market productivity and a rise in GDP. Hence, the Organization for Economic Co-operation and Development (OECD)(2014) defined GDP as an aggregate measure of production equal to the sum of the gross values added of all residents, institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). In other words, the GDP being the market value of goods and services produced in the economy over a period of one year should therefore have a link to the capital market activities. Hence, Sen,

(1983) points out that economic growth is one aspect of the process of economic development of any nation of the world.

The extent to which changes or variations in market capitalization, total value of transactions and all shares index have instigated systematic variations in economic growth in Nigeria constitutes an issue for empirical verification in the paper.

2.1.2 Capital Market Operations

The capital market is an organized financial market where medium to long-term financial instruments or securities such as bonds, shares and debentures, mortgages, insurance products, etc., are traded (Onwe, 2015). Capital market operation is the essential part of financial system that is concerned with raising capital by dealing in shares, bonds and other long-term financial instruments or investments. It's a market in which long term debt (over a year) or equity backed securities are bought and sold, it help to channel the wealth of savers to those who can put it to long term productive use, such as company or government making long term investments. Capital market consist the Primary Market where New Securities are issued and sold, while the Secondary Market is where already issued Securities are traded between investors (Solomon, 2013).

2.1.3 Market Capitalization (MCAP)

Market capitalization is one of the major indicators of the capital market in any given economy. According to Osaze (2007) market capitalization is the total value of all equities listed on a stock exchange. Similarly, it is the function of the prevailing market price of quoted equities and the size of the issued and paid up capital. Market capitalization is very crucial in the measurement and assessment of the financial market and it influence on Economic growth. Al- Faki (2006) posits that total market capitalization rose from N10 Billion in 1988 to N2.9 Trillion in 2005, indicating such tremendous increase in market capitalization has enormous effect on the Nigerian economy, denoted as real gross domestic product (RGDP).

Adjasi and Biekpe (2006) study the effect of stock market development on economic growth in 14 countries in a dynamic panel data modeling setting, the results established that market capitalization has positive influence on stock market development and economic growth. Beck and Levine (2004) revealed that with market capitalization, indicating that mere listing of shares will influence resource allocation and economic growth. In the same vein, Levine and Zervos (1998) argue that market capitalization is not a good predictor of economic growth. Meanwhile, Yartey (2008) and Ovat (2012) differ on this issue, and noted that the assumption behind this measure is that market capitalization is positively correlated with the ability to mobilize capital and diversity risk on an economy wide basis. Levine (1997) has observed that different measures of financial market development are highly correlated with economic growth. Ojo (2010) found that market capitalization contributes positively to the growth of any economy. One of the tasks of this study is to verify empirically the influence of market capitalization on the growth of the Nigerian economy from 2000 to 2018.

2.1.4 Total Value of Transactions (TVT)

The total value of transaction is the total value of shares traded on the stock market exchange. It is also the total value traded ratio measures the organized trading of firm equity as a share of national output. The total value traded ratio complements the market capitalization ratio: although a market may be large, there may be little trading. A discussion on value of transaction in relation and economic growth could be based on economic variable such as Gross Domestic Product and capital market activities. According to Okpara (2010), significant changes in the market value of shares traded were expected to have a positive impact on the GDP. This invariably means that significant changes in the market indicators will affects its growth. In analyzing the value of transactions on the Nigeria stock exchange, Al-faki (2006) observed that from 1961-1990, government stock dominated trading value the capital market with a percentage range from 58.91% to 99.5%; and thereafter, industrial securities began to dominate. Al-Faki notes that overall value of transaction from 1961 to 2005 crossed N262.9 Billion which is seen to have significant impact on the gross domestic product (GDP). The extent to which the total value of transactions on the Nigerian Stock Exchange has influenced economic growth in Nigeria remains to be resolved empirically in this study.

2.1.5 All Shares index (ASI)

The ASI is defined as 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. It is a tool used by investors and financial managers, and scholars to describe the market and to compare the return on specific investments. Popoola, Ejemeyonwu, Alege, Adu, and Onabete (2017) assert that ASI is a statistical data computed annually to measure the changes in the value of commodities and securities. According to these authors, the ASI is derived from the price of all or some market constituents, usually expressed in percentages from base periods. The study has as one of its tasks the empirical examination of the contribution of all shares index to the growth of the Nigerian economy from the period 2000 to 2018.

2.2 Empirical Studies

The capital market has been identified as an institution that contributes to the social and economic growth and development of emerging and developed countries (economies). Capital market offers a variety of financial instruments that enable economic agents to pool, price and exchange risk (Kolapo & Adaramola, 2012). Capital Market is a financial market that provides facilities for mobilizing and dealings in medium and long term funds (Onwe, 2015). Schumpeter (1934) emphasized the role of the Capital market development as a financier of productive investments and as an accelerator of economic growth. Capital Market development affects economic growth in form of increases in investment returns, reductions in transaction costs and increased savings (Babantunde, 2007). Oluitan (2009), Onwioduoki; Babatunde (2017) all constructed theoretical models wherein efficient financial markets improved the quality of investments and enhanced economic growth. Also, a number of studies investigated the links between capital market development and growth empirically. Babatunde (2007) examined the

relationship between capital market development and economic growth in Nigeria and concluded that market indicators were robustly correlated with economic growth.

However, Chijioke & Ogbuagu (2014) reporting on their study on the impact of the capital market operations on economic growth in Nigeria revealed that even though the liberalization of the capital market has contributed to the growth of the capital market immensely, such contribution only manifested negligibly at the macroeconomic level. Similarly, Adamu & Sanni (2015), examined the roles of the stock market on Nigeria's economic growth, using Granger-causality test and regression analysis. Their finding showed a one-way causality between GDP growth and market turnover. They also reported that a positive and significant relationship existed between GDP growth and market turnover ratios. Hence, the authors recommended that the Nigerian government should encourage the development of capital market since the market exhibited a positive effect on economic growth in Nigeria.

Ewah, Essang and Bassey (2017) appraised the impact of capital market efficiency on economic growth in Nigeria, using time series data on Capitalization, Money Supply, Interest Rate, Total Transaction and Government Development Stock that ranges between 2000 - 2018. The result of the study shows that the capital market in Nigeria has the potential of growth inducing; but it has not contributed meaningfully to the economic growth of Nigeria. The study attributed the findings to the low market capitalization, low absorptive capitalization, liquidity, misappropriation of funds among others, short term loans or credits Financing long-term projects and corruption in the highest order. Adjasi and Biekpe (2006) study the effect of stock market development on economic growth in 14 countries in a dynamic panel data modeling setting, the results established that market capitalization has positive influence on stock market development and economic growth. Beck and Levine (2004) revealed that with market capitalization, indicating that mere listing of shares will influence resource allocation and economic growth. In the same vein, Levine and Zervos (1998) argue that market capitalization is not a good predictor of economic growth. Meanwhile, Yartey (2008) and Ovat (2012) differ on this issue, and noted that the assumption behind this measure is that market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. Levine (1997) has observed that different measures of financial market development are highly correlated with economic growth. Ojo (2010) found that market capitalization contributes positively to the growth of any economy.

Levine (1997) undertook a comprehensive study on the relationship between capital market development and economic growth. They investigated the compatibility of stock market development with financial intermediaries and economic growth and concluded that stock market development is positively correlated with the development of financial intermediaries and long term economic growth. Levine (1997) also confirms that capital markets can boost economic activity through the creation of liquidity. Conversely, Obstfeld (1995) identified risk diversification through internationally integrated stock markets as another vehicle through which stock markets can raise resources and affect growth. The capital market operations are proxied with market capitalization, all shares index and market

In France, Vazakidis and Adamopoulos, (2009), examined the causal nexus between stock market development and economic growth of the French economy for the period 1965 to 2007 using the co-integration and the Granger causality tests as well as the Vector Error Correction model. They found that there existed a positive and significant association between economic growth and stock markets development. Mishra, Das and Pradhan (2017) examined the impact of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. Their study revealed that there is a linkage between capital market efficiency and economic growth in Indian.

Acemoglu, Johnson and Robinson, (2012) look at the impact of macro variables and institutions on the severity of output contractions, measured by the largest output drop in the sample period, and find that coefficient on institutions is highly significant, while other macro variables, including real M2 to GDP as a measure of financial intermediation, are not significant after taking into account the influence of institutions. Nwaolisa, Ezu and Egbunike (2013) examine the impact of capital market on the growth of the Nigerian economy under a democratic rule. It employed time series data and statistical tool used was multivariate regression method. The result shows that while total market capitalization and all share indexes exert positive influence on the GDP growth rate, the total value of stock has a negative effect on the GDP growth rate, and none is significant.

In Romania, Brasoveanu (2008) studied the correlation between capital market development and economic growth for the period 2000 to 2006. The result indicates that capital market development is positively correlated with economic growth by way of feed-back effect. Bolbol et al (2005) indicates that capital market development has contributed to the economic growth of the African countries. The report found that stock market development does not merely follow economic development but provides the means to predict future rates of growth in capital, productivity and per capita GDP.

Braun and Larrain (2015) hypothesize that if financial conditions play an important role in aggregate cyclical behavior, then one should expect a firm's response to negative shocks to vary with its reliance on financial markets. When investment is primarily financed with internal funds, then worsening conditions should not have as large an impact as in the case when external funds account for the bulk of financing. Since such disparate responses depend on financial market imperfections, the differential impact should be stronger when financing frictions are more prevalent. The authors tested these conjectures with a cross-country panel of yearly production growth rates for several manufacturing industries. They found that industries that are more dependent on external finance are hit harder during recessions.

3. Theoretical Framework and Model Specification

3.1 Theoretical framework

The following theories constitute the foundation of this paper:

3.1.1 The Economic Base Theory is one of economic growth theories, which viewed economic development as equivalent to the rate of local economic growth measured in terms of changes in the local levels of output, income, or employment. The basic assumption of the economic-base theory is that the rate of economic growth of a nation is determined by the amount of increase in the country's exports. Economic-base concepts originated with the need to predict the effects of new economic activity on cities and regions (Schaffer, 2010). As the ability of the economy is to increase production of goods and service with the stock capital so are other factors of production within the economy. The GDP being the market value of goods and services produced in the economy over a period of one year have a link to the capital market activity known as the total value of transaction. The essential dynamic of the theory is the response of the basic sector to external demand for local exports or creating stock market which, in turn, stimulates local growth. The theory's major strengths are its popularity as a basis for understanding economic development in North America; and its simplicity as a theory or tool for prediction (Malizia & Feser, 1999). Its major weakness is its in-adequacy as a theory for understanding economic development, especially in the long term. Economic base theory strongly supports that with proper utilization of funds generated from the stock market can bring about economic growth of any economy.

3.1.2. In economic growth, the staple theory is a theory of export-led growth based on Canadian experience. The theory "has its origins in research into Canadian social, political, and economic history carried out in Canadian universities...by members of what were then known as departments of political economy. The two most prominent scholars following this approach were Harold Innis and W.A. Mackintosh (Ramesh & Alex, 1999). This theory identifies industrial sector which are quoted the stock exchange and as well as belongs to these basic categories. They define economic growth as sustained growth over the long term (Ray, 1998). The theory's major strengths are its historical relevance to North American economic development and its emphasis on understanding the region's economic history. Its major weakness is that it describes, more than explains, the development process (Hoff & Stiglitz, 1999). The implication of this theory is that proper stock market to stimulate economic growth.

3.1.3. The sector theory was developed as another theory under economic development. The sector theory, also known as the Hoyt theory, is a theory of urban land use proposed in 1939 by economist Homer Hoyt (Hoyt, 1939). It is a modification of the concentric zone model of city development. The benefits of the application of this theory include the fact it allows for an outward progression of growth. The theory uses three aggregate sectors as basic categories namely: the primary, secondary, and tertiary categories (Aghion & Bolton, 1997). The level of development depends on sectoral diversity, emphasizing a prominent tertiary sector, and labor productivity which are harboured in the stock market. Although Sector Theory is attractive because it can be applied and tested empirically, the primary, secondary, and tertiary categories are too crude to be useful in practice (Michael & Stephen, 2009). The overriding application is the need to attend to industries producing income-elastic commodities which are supported by the capital market in order to achieve sustained economic growth. Hence, the implication of the theory is that it aids nation's economic growth. Having examined the various theories of

economic growth, we anchored this study on economic based theory because the theory was able to bring salient issues about the capital market operations that aid economic growth.

3.2. Model Specification

The mathematical version of the model specified for this study is given as:

$$RGDP = f(MCAP, TVT, ASI) \quad \dots \quad \dots \quad (1) \quad .$$

Where,

RGDP = Real Gross Domestic Product

MCAP = Market Capitalization

TVT = Total Value of Transactions

ASI = All Shares Index

Expressing equation (1) in an econometrics form yields:

$$RGDP = \beta_0 + \beta_1 MCAP + \beta_2 TVT + \beta_3 ASI + \mu_t \quad \dots \quad \dots \quad (2)$$

Where;

β_0 = Constant Term or Intercept

$\beta_1 \dots \beta_3$ = Parameters of Coefficients

μ_t = Stochastic (or Error) Term

3.3. Apriori Expectation: The apriori expectation is expressed as:

$\beta_1 > 0$; $\beta_2 > 0$ and $\beta_3 > 0$;

4. Data Analysis and Interpretation of Results

Here, we show the data set used for the study and carry out an in-depth analysis and interpretation of the results obtained for the study, thus:

4.1 Data for Study

The data utilized in the study is contained in Appendix I to this paper.

4.2 Results

The results obtained from the various estimation procedures using the E-views 8.1 computer software package are analyzed and interpreted chronologically as follows:

4.2.1 Descriptive Statistics Results

The descriptive statistics results obtained for the study are shown in Table 1, thus:

Table 1: Descriptive Statistic

Variables	RGDP	MCAP	TVT	ASI
Mean	289148.7	10018.19	766546.2	324264.9
Maximum	4601252.	21902.04	2350876.	605096.4
Minimum	23688.28	472.3000	28153.10	80414.10
Std. Dev.	1044348.	7450.636	615676.2	142547.7
Skewness	4.005339	0.097244	0.839682	0.288023
Kurtosis	17.04752	1.610676	3.398338	2.624739
Jarque-Bera	207.0238	1.558038	2.358323	0.374182
Probability	0.000000	0.458856	0.307536	0.829368
Observations	19	19	19	19

Source: Authors Computation 2019 (E-Views 8.1) (See appendix section for details)

The descriptive statistics in Table 4.1 above show the profiles of the variables examined in our model as follows:

The RGDP variable appeared with a mean value of ₦289148.7 billion, a maximum value of ₦ 4601252 billion and a minimum value of ₦ 23688 billion, respectively. It also possesses a high standard deviation value of 1044348 units. These statistical results signify that the size of the Nigerian economy proxied as RGDP in this study is low. Although the RGDP has a positive skewness value of 4.005, this statistical result shows that this curve skews towards the right hand side direction, and its corresponding kurtosis value of 17.047 signifies that the curve is positively peaked at leptokurtic level. What these results imply is that RGDP is moving above normal distribution. The value of the Jarque-Bera statistic is 207.023 with a probability value of 0.0.000 (which is less than 5% significance level); these results imply that the data on the RGDP are not normally distributed.

The MCAP variable appeared with maximum and minimum values of ₦21,902 billion and ₦472.3 billion respectively, coupled with mean value of ₦1,0018 billion and low standard deviation of 7450.66. These statistical results imply that the MCAP of the Nigerian capital market moves at an increasing rate over the period under review. In fact, the MCAP appears with positive skewness and kurtosis values of 0.097 and 1.610, respectively. This is coupled with Jacque-Bera value of 1.558 and a probability value of 0.45 (greater than the critical 5% significance level) and it indicates that the MCAP variable is normally distributed.

The TVT variable appeared with a mean value of ₦ 766546 billion, a maximum value of ₦2350876 billion and minimum value of ₦28153.1 billion, respectively. These results showed a high level of TVT in the Nigerian capital market. The value of TVT which indicated a positive skewness value of 0.8396 indicates that it skewed to the right hand side, while the kurtosis value of 3.398338 units showed that its graph is caved at leptokurtosis. Similarly, the TVT variable appeared with a Jarque-Bera value of 2.3583 units and a probability value of 0.307 (which is greater than the 5% significance level. These statistical results suggested that the TVT is normally distributed.

The ASI variable appeared with a mean value of 324264 units, a maximum value of 605096 units, and a minimum value of 80414.1 units, respectively. The implication for these statistical results is that the data on the ASI of the Nigerian capital market are normally distributed. For example, the skewness and kurtosis values of 0.2880 unit (skewed right hand side) and 2.624 units (peaked at Platykurtic level because it is less than the benchmark of 3 units (Mersokurtic)), respectively, uphold these assertions, The outcome of the Jarque-Bera statistic which firmed at 0.3741 with a probability value of 0.829 (83%), that is greater than the critical significance level of 5%), lends credence to these statistical results.

4.2.2 Correlation Statistics

The paper also conducted the degree of relationships among the variables of the study using the Pearson correlations coefficient. The results of the correlations matrix thus obtain are contained in table 4.2, thus:

Table 2: Pearson Correlations

	RGDP	MCAP	TVT	ASI
RGDP	1.000000			
MCAP	-0.000219	1.000000		
TVT	0.369816	0.782118	1.000000	
ASI	0.486194	0.672703	0.813408	1.000000

Source: Authors Computation 2019 (E-Views 8.1)

The correlation matrix showed associations among variables. The correlation coefficient on Table 4.2 revealed mixed coefficients of both positive and negative values. The correlation coefficient (r), between the RGDP and the independent variables of TVT (r=0.3698) and ASI (r=,0.4861) were positively correlated with real RGDP. On the other hand, the value of MCAP (r=-0.0002) was negatively correlated with RGDP. It could be deduced therefore that the highest is between the ASI and the TVT with a positive correlation coefficient value of 0.813. These statistical results showed that the strength of correlations between most variables are high; hence produced a small effect of approximately (±.0002). The associations among other variables produced moderate effect (±.7821) and high effect (±.813) respectively, The correlation coefficients are relatively high, but the associations indicate absence of the problem of

multicollinearity in the regression variables. This showed that the correlation coefficients did not pose any problem of multicollinearity since none of the associated variables was perfectly correlated, that is, above 0.90 (90%) (Meyers, Gamst & Guarino,2006).

4.2.3 Heteroskedasticity Test: Breusch-Pagan-Godfrey

The test of heteroskedasticity was conducted using the Breusch-Pagan-Godfrey test to ascertain if there is no presence of serial correlation as highlighted in Table 4.3:

Table 3: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	18.32753	Prob. F(3,15)	0.0702
Obs*R-squared	18.33267	Prob. Chi-Square(3)	0.0733
Scaled explained SS	19.83125	Prob. Chi-Square(3)	0.0103

Source: Authors Computation 2019 (E-Views 8.1) (See appendix section for details)

The test reported F-statistic of 18.327 and at probability value of 0.0702. The result of the test is statistically insignificant, which by implication there is no evidence for the presence of serial correlation or autocorrelation. Hence, we proceeded to the Ramsey reset test of model specification. The results thus obtained are shown in table 4.4, viz:

Table 4.4 Ramsey RESET Test and

	Value	Df	Probability
t-statistic	2.065059	14	0.0920
F-statistic	2.096042	(1, 14)	0.1558
Likelihood ratio	4.030760	1	0.0740

Source: Authors Computation 2019 (E-Views 8.1) (See appendix section for details)

Table 4.4 shows Ramsey reset test of model specification. The idea here is to test the accuracy of the regression model result with respect to the F-test value of 2.0964 and a probability value of 0.1558. The statistical test results upheld the null hypothesis of the specified model. Hence, there is no evidence of non-linearity in the regression equation, this implies that the linear model is appropriate.

Finally, the ordinary least squares (OLS) was carried and the results thus obtained are shown in Table 4.5, thus:

Table 4.5: Ordinary least square regression

Dependent Variable: RGDP

Method: Least Squares

Variable	Coefficient	t-Statistic	Prob.
C	-716533.2	-1.369334	0.1910
MCAP	112.8606	2.700566	0.0164
TVT	0.819672	1.274164	0.2220
ASI	4.650592	1.987480	0.0447
R-squared	0.687506		
Adjusted R-squared	0.585008		
S.E. of regression	818992.6		
F-statistic	4.756221		
Prob(F-statistic)	0.015932		
Durbin-Watson stat	2.152735		

Source: Authors Computation 2019 using E-Views 8.1

Table 4.5 shows the econometric results of the model that supports the regression analysis in this study. Below the coefficient values are the t-statistics in parentheses respectively with real gross domestic product (RGDP) as a proxy for economic growth (dependent variable). On respective independent variables, TVT appeared with a positive coefficient of 0.819, ASI with a positive coefficient of 4.650. These results imply that a unit increase in each of the coefficients will lead to some increases in RGDP. However, the MCAP variable appeared with a positive coefficient of 112.860 and this implies that a unit increase in MCAP will bring about increases in the RGDP by 112%. The coefficient of determination (R-squared) stood at 0.687 and this implied that about 69% of the systematic variations or changes in the RGDP variable have been explained by changes in MCP, TVT and ASI. However, after adjusting for degree of freedom (df), the adjusted coefficient of determination (\hat{R}^2) firmed at 0.5850, indicating about 59% of the systematic changes in the RGDP variable have been explained changes in theMCAP, TVT and ASI variables. The F-statistic value of 4.7562 and its associated probability value of 0.015 showed that a significant linear relationship existed between the dependent and the independent variables. The value of the DW-statistic stood at 2.152735 and this implied the absence of serial correlation among the variables of the model specified for the study. In other words, the regression results of the study demonstrated a robust linear relationship among the variables; hence these outcomes are thought suitable for decision making.

Test of Hypotheses and Decision Rule

Hypotheses formulated for the study are tested in this subsection using the results of the OLS regression in Table 4.5. The decision rule is to accept hypothesis formulated if calculated probability value is greater than critical probability value at 0.05 (5%) significance level, otherwise we reject it. Subsequently, the results are discussed accordingly.

Test of Hypothesis One

Restatement of Hypothesis: Market capitalization has no significant influence on economic growth in Nigeria ($\beta_1=0$)

Test statistics and Decision

The result of market capitalization variable showed a t-statistic value of 2.7006 and a probability value of 0.02 (2%), which is less than the critical probability value at 0.05 (5%). Based on the decision rule, null hypothesis one is therefore accepted, indicating that market capitalization has no significant influence on economic growth in Nigeria. This is at variance with the a priori expectation which states that market capitalization has significant influence on economic growth in Nigeria. This finding upholds the finding of Zervos (1998) which argued that market capitalization is not a good predictor of economic growth. However, the finding is at variance with Beck & Levine (2004), Yartey (2008), Ojo (2010) and Ovat (2012), who separately found that market capitalization does have an influence on economic growth.

Test of Hypothesis Two

Restatement of Hypothesis: Ho2 : Total value of transactions has no significant effect on the economic growth in Nigeria ($\beta_2=0$).

Test statistics and decision

The TVT variable showed a t-statistic value of 1.2742 and a probability value of 0.2220 (22%), which is greater than the critical value at 0.05 (5%). Following the decision rule, null hypothesis two is therefore rejected and the alternate hypothesis that TVT has a significant influence on economic growth in Nigeria is accepted thereby suggesting that total the value of transactions variable is a strong and powerful predictor of economic growth in Nigeria.

Test of Hypothesis Three

Restatement of Hypothesis Three: All-shares index has no significant influence on the economic growth in Nigeria ($\beta_3=0$).

The ASI variable appeared with a t-statistic value of 1.9875 and a probability value of 0.0447(4%), which is less than the critical value of 0.05 (5%). Following the decision rule, null hypothesis three which states that the ASI variable has no significant influence on economic growth in Nigeria is therefore accepted. The implication for this finding is that the ASI variable is a weak predictor of economic growth in Nigeria and this is at variance with the a-priori expectation that the ASI variable has a significant influence on economic growth in Nigeria.

5. Summary and Concluding Remarks

The paper carried out an in-depth empirical examination of the relationships between economic growth (i.e. RGDP) which served as the dependent variable, and MCAP, TVT and ASI that served as the independent variables of the model specified for the study. Secondary data sourced both the CBN and the NBS and spanning the period 2000 to 2018 were utilized in the paper. Statistical and econometric tools were deployed to analyze the data. The empirical findings/results thus obtained showed:

- (i) That the market capitalization variable exhibited a positive but insignificant influence on economic growth in Nigeria during the period 2000 to 2018.
- (ii) That the total value of transactions variable exerted a positive and significant influence on economic growth during the same period.
- (iii) That the all-shares index variable recorded a positive but a negligible influence on economic growth in Nigeria for the period under review.

Given the foregoing findings, the paper concluded that the capital market regulators in Nigeria should, as a matter of utmost urgency and deliberate policy, initiate those actions that would lead to the attainment of a broad, deep, and efficient capital market capable of playing its role of mobilizing medium- to long-term capital for on-lending to the investment sector to engender the much desired rapid and sustainable economic growth in Nigeria.

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APPENDIX I: DATA

YEAR	RGDP	MCAP	TVT	ASI
2000	23,688.28	472.3	28,153.10	80,414.10
2001	25,267.54	662.5	57,683.80	122,220.90
2002	28,957.71	764.9	59,406.70	139,582.40
2003	31,709.45	1,359.90	120,402.60	186,718.74
2004	35,020.55	2,112.50	225,820.00	296,863.81
2005	37,474.95	2,900.06	262,935.80	274,520.60
2006	39,995.50	5,120.90	470,253.40	304,122.60
2007	42,922.41	13,181.69	1,076,020.40	585,279.70
2008	46,012.52	9,562.97	1,679,143.70	605,096.42
2009	49,856.10	7,030.84	685,717.29	277,098.55
2010	54,612.26	9,918.21	799,910.95	297,307.12
2011	57,511.04	10,275.34	638,925.70	280,723.76
2012	59,929.89	14,800.94	808,994.18	281,191.45
2013	63,218.72	19,077.42	2,350,875.70	434,484.93
2014	67,152.79	16,875.10	1,338,600.65	472,917.88
2015	69,023.93	17,013.39	978,047.07	370,835.27
2016	67,931.24	16,185.73	620,018.05	319,488.92
2017	68,490.98	21,128.90	1,078,491.84	385,933.35
2018	69,810.02	21,902.04	1,284,976.28	446,233.34

Source: Central Bank of Nigeria Statistical Bulletin, 2018 edition.