IMPACT OF CAPITAL MARKET INDICATORS ON ECONOMIC GROWTH IN NIGERIA

Odo Stephen Idenyi, Anoke Charity Ifeyinwa and Uwazie I. Uwazie
Department of Economics, Ebonyi State University, PMB 053,Abakaliki, Ebonyi State.
Odostephen32@mail.com,charify4God@gmail.com,08036794591,08068913764,

ABSTRACT

This study examined the impact of capital market indicators on economic growth in Nigeria from 1986 – 2015. The study adopted co integration, vector error correction mechanism and granger causality econometric tools of estimation to test the variables in the model. The result of the estimation showed a stable long run relationship between the dependent and independent variables as supported by the existence of 3 co integrating equations. The result of the ECM revealed a positive significant relationship among stock traded total value, money supply and economic growth in the long run. In the short run, only STTVGDP maintained a significant positive relationship with the dependent variable. The result of the causality test revealed a unidirectional causality moving from the explanatory variables to the dependent variable and bidirectional causality between economic growth and gross capital formation. The study therefore recommend that capital market development policy should focus on the increase of money supply in the long run as this will stimulate the growth of the capital market especially through increase in the value of shares. More so, there should be deliberate policy to promote development of domestic capital formation through conscious increase in local investment so as to benefit from its positive relationship with economic growth.

Keywords: capital market, capital market indicators, economic growth, co integration, granger causality.

1.1 BACKGROUND

Capital market is the market for buying and selling of medium/long term investment or financial instruments (equities and debt) in form of stocks and bonds of more than one year. Capital markets channels savings and investment from suppliers of capital such as retail investors and institutional investors to users of capital like businesses, government and individuals. Capital markets are vital to the functioning of an economy, since capital is a critical component for generating economic output. Capital markets include primary markets, where new stock and bond issues are sold to investors and secondary markets, which trade existing securities. All these are done through underwriting and computerized trading systems.

The Nigeria capital market is regulated by the Securities and Exchange Commission and central bank of Nigeria (CBN). The size of capital market of the country should be relative to the size of the economy if real economic progress is to be achieved by the operations of the market, since this market moves resources from people who have it to organizations that need it for productive purposes which critically smoothes the growth of the economy. Other financial institutions involved in the capital market include central bank, commercial banks, insurance companies, pension funds, unit trust, issuing houses, merchant banks, etc.

Nigeria capital market dated back to the colonial period during the British government time of searching for fund for running local administration. Most of these funds were derived from agriculture, marketing and solid minerals and mining. It was found that these sources were inadequate in meeting the growing financial obligations of the time, so, the colonial administration decided to expand its revenue base by reforming the system of revenue mobilization through taxation and other revenue sources. There were also the need to raise fund from public sector to cover the shortfall in fund availability for other purposes and this gave rise to the establishment of a financial system like the capital market, (Osaze, 2007).Consequently, in 1946 the British colonial administration floated a N600, 000 local loan stock bearing interest at 3 % for the financing of developmental projects under the ten-years plan local ordinance. The loan stock, which had a maturity of 10-15 years, was oversubscribed by more than N1 million, yet local participation of the issued was terribly poor. As a result of continued poor local participation the federal government over time established several economic programmes with hope to foster economic and financial development, such as Structural Adjustment Programme (SAP) 1986, Vision 2010, Vision 2020, Millennium Development Goal (MDGs), National Economic Empowerment Development Strategy (NEEDS), State Economic Empowerment Development Strategy (SEEDS), and other development plans.

According to Nigeria exchange fact book (1998), NSE was incorporated on 15th September, 1960 as non – profit making organization under the federal government, CBN, industrial development bank and business communities as contained in Lagos stock exchange act of 1961 which opened door to business in August, 1961. In 1977, its name was changed from Lagos stock exchange to the Nigerian Stock Exchange. However, the principal intermediaries between investors and financial market are issuing house, underwriters, brokers/dealers, etc. The Nigeria capital market was deregulated in 1993, thereby allowing for the determination of the prices of new issues by issuing houses and stock brokers.

MEASUREMENT OF CAPITAL MARKET GROWTH IN NIGERIA

Gross Capital Formation: Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." This is a net addition of existing wealth and redistribution of wealth which increases the total stock that promotes the growth of the economy. The stock of capital formation in a progressive economy should reflect the growth and development in the capital market especially in a conducive investment friendly environment. There seems to be a consensus among development experts that the level of domestic capital formation in Nigeria is low due to low level of investment arising from inadequate capital fund.

Market capitalization:

Market capitalization (also known as market value) is the share price times the number of share outstanding. This is a measure of capital market size and is used to ascertain the level of capital market development relative to the growth of the economy.

All share index

A market index is a quick measure to judge the overall direction of the market and the scope of its movement. A market index is a statistical parameter to reflect the composite value of market characteristics. It is an average of share prices of all companies on the stock exchange market, often used as a guide to compare the performance of different companies and industries. Or it 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

Stocks traded, total value

Stocks traded refer to the total value of share traded during the period. This indicator complements the market capitalization ratio by showing whether market size is matched by trading.

Total New issue

A reference to a security that has been registered issued and is being sold on a market to the public for the first time. New issues are sometimes referred to as primary shares/new offerings.
The term does not necessarily refer to newly issued stocks, although initial public offerings are the most commonly known new issues. Securities that can be newly issued include both debt and equity. A company makes a new issue through underwriters who have the responsibility to place the offering with individual and institutional investors. Companies make new issues in order to raise financing for expanded operations. The offerings themselves give investors a portion of ownership in the company issuing them.

Listed Domestic Companies

Listed domestic companies are the domestically incorporated companies listed on the country's stock exchange at the end of the year. The indicator does not include investment companies, mutual funds, or other collective investment vehicles.

Total listed equities

This is the total amount of preferred stock equity added to the amount of common stock equity. When a private company wishes to go public to issue shares, it needs to select an exchange on which to be listed. In this regard, it must be able to meet that exchange's requirements and pay both the exchange's entry and yearly listing fees.

Government stock (bonds)

It is a bond issued by a national government, generally with a promise to pay a periodic interest payment and to repay the face value on the maturity date. Government bonds are usually denominated in the country's own currency. Another term similar to government bond is sovereign bond. Technically any bond issued by a sovereign entity is a sovereign bond but sometimes the term is used to refer to bonds issued in a currency.

The features of the capital market can be summarized as;

Market size of the NSE: The market size can be measured by; the number of listed companies and their growth rate, the size of market capitalization and its growth rates and the market capitalization ratio (i.e. ratio of value of shares listed to GDP).

Market concentration: market concentration refers to the share of market capitalization accounted for by the dominant companies especially the multinational firms as opposed to indigenous firms, eg. ratio of selected largest stock to total capitalization in the market.

Efficiency of the Assets pricing process in the Nigeria securities market

In an efficient market, prices fully and correctly reflect all available and relevant information and security prices adjust instantaneously to new information. Market efficiency operates at three levels;

- Weak market efficiency
- Semi strong market efficiency
- Strong market efficiency

Liquidity of the NSE

In a more general sense, liquidity of a stock market relates to the ease with which shares are traded in the market. This can be measured by the two main indices:

- Ratio of the securities traded to GDP (total value traded/GDP)
- The turnover ratio (ie % value of share traded/market capitalization).

Macroeconomic instability in the country has continued to be a hindrance in the effective operations of the Nigerian capital market indicators and its use to access the market operations at large. Macroeconomic policies that would ensure long-term stability are essential in attracting a sustainable long term investments. Such policies should be conducive to both savings and investment through growth in market size, liquidity, efficiency and market concentration which should stimulate growth in the economy. Policies must ensure an attractive long-term yield for equities in comparison with other domestic and foreign investment alternatives. Frequent fluctuations in exchange rates and negative real rates of return on investments often force investors to move to other investment outlets or out of the economy entirely.

Financial market and by implication financial development according to Odo et al (2016) is essential for the overall growth of an economy and should constitute an important aspect of public policy.

Since the adoption of the Structural Adjustment Programme (SAP) in 1986, in an attempt to quicken the recovery of the economy from its deteriorating conditions, a great deal of interest has been shown in the activities and development in the financial sector. This is so because the restructuring of this sector was a central component of the SAP reform. A growing body of evidence suggests that financial institutions such as banks and insurance companies and financial markets, stock markets, bond markets, derivative markets and so on, exert a powerful influence on economic development, poverty alleviation, and economic stability (Levine 2005).

Evidences of positive effect of capital market development on economic growth have been reported by some researchers. For example, Nazir, Nawaz, & Gilani (2010) report that economic \growth can be attained by increasing the size of the stock market and market capitalization in an emerging market. Similarly, Levine & Zervos (1996) show that stock market development is positively and robustly associated with economic growth and development. Unfortunately, Nuhiu & Hoti (2011) and Osinubi (2003) report that there are evidences that show that the establishment and development of capital markets in developing countries have contributed more negatively to economic growth, because these countries tend to have high rates of volatility in the prices of securities, market illiquidity, less regulated and organized markets, and volatile macroeconomic environments relative to capital markets in most developed countries.

This study therefore seeks to explain the link between capital market indicators and economic growth in Nigeria between 1986 and 2015. Capital markets are significant drivers of economic growth which is measured by the relevant indicators and growth in this market could fuel a long term increase in the growth rate of the economy. Capital market support economic growth by providing new sources of funding for long term investment and facilitates the improvement in corporate governance. More so, the different components of capital markets help to accelerate growth of the economy.

This paper is organized into five sections, section one comprises the introductory background of the study. Section two covers the theoretical framework and literature review. Section three gives information about the research methodology. Section four deals with empirical results and discussion. Section five covers the conclusion of the study.

2.1 THEORETICAL REVIEW

MODERN PORTFOLIO THEORY

Portfolio theory is about finding the balance between maximizing your return and minimizing your risk. The objective is to select your investments in such as way as to diversify your risks while not reducing your expected return. While it does not replace the role of an informed investor, it can provide a powerful tool to complement an actively managed portfolio.
A portfolio probably consists of a number of stocks, bonds and mutual funds. The mix of these assets constitutes portfolio allocation. How a portfolio is allocated determines its performance. During the first quarter of every year, investors typically spend a few hours reallocating their retirement accounts. Most allocation decisions are based on past performance, feelings, or some arbitrary selection process.

ENDOGENOUS GROWTH THEORY

A number of theories and empirical papers such as Levine (1991), Levine and Zervos (1996), Demirguc-Kunt (1994), and Demirguc-Kunt and Levine (1996) have recommended that stock market development affect economic growth in developing countries. It has been a challenge in discussing the channels through which stock markets stimulates economic growth. In traditional growth theory, the growth rate is a positive function of exogenous technical progress. However, financial development is not related to economic growth, but to physical capital per worker (pagano 1993). On the other hand, endogenous growth models show that economic growth performance is related to financial development, technology and income distribution. Greenwood and Jovanovic (1990) argued that income per capita helps determine membership in an information processing intermediacy that in turn improves investment decisions and economic growth. They incorporated the role of financial factors in models of endogenous growth to formalize the interactions between financial markets and economic growth. Due to the advances in the endogenous growth literature, recent models have been trying to identify the mechanism through which financial markets influence economic growth. Various channels have been suggested, firstly, financial markets can affect economic growth through efficient resource allocation. King and Levine (1993) proposed a model in which innovation activities serve as the

engine of growth. A higher rate of successful innovations results in a higher growth rate of productivity.

In the absence of financial markets, one might invest in projects that can be promptly liquidated, instead of investing in assets that are more productive but financially illiquid. Markets can provide individuals with less risky and liquid productive investments. Secondly, financial markets can influence economic growth through the information channel. For example, Holmstrom and Tirole (1993) argue that stock markets function as a monitor of managerial performance because the stock price incorporates performance information that cannot be extracted from a firm's current or future data. In the short run, growth is determined by moving to the new steady state which is created only from the change in the capital investment, labor force growth and depreciation rate. The change in the capital investment is from the change in the savings rate. The Cobb–Douglas production function denoted as $F(K, L) = K^{\alpha}L^{1-\alpha}$ means that the output (the quantity produced) is a function of the inputs capital (*K*) and labor (*L*) and the marginal product of capital is the ratio of capital income to output (that is, GDP). However, economic growth is affected by labor in terms of average hours worked per worker to output and the quality of the labor force (that is, human capital). More so, growth comes through capital stock in terms of investment in the physical stock, growth in capital stock and composition of the physical capital. Technology also affects
both human and physical capital.

FINANCIAL LIBERALIZATION THEORY

The Financial Liberalization hypothesis as developed by Mckinnon and Shaw (1973) sees the role of government intervention in the financial markets as a major constraint to savings mobilization, investment, and growth. Government's role in controlling interest rates and directing credit to priority sectors of the economy in developing countries inhibits savings mobilization and impedes the holding of financial assets, capital formation, and economic growth. Indirectly, ceiling on deposit interest rates discourages financial savings, which leads to excess liquidity outside the banking system. According to Mckinnon and Shaw (1973), pervasive government intervention and involvement in the financial system through the regulatory and supervisory network, particularly in controlling interest rates and the allocation of credit, tends to distort financial markets. Government intervention, thus adversely affect savings and investment decision of market participants and lead to fragmentation of financial mediation. The ultimate result is a financial repressed economy. The central idea of Mckinnon and Shaw (1973) is that financial markets should be liberalized and allocation of credit determinant by the free market. In this case, the real interest rate will adjust to its equilibrium levels and low yielding projects will be eliminated. This will lead to increase in overall efficiency of investment, savings and total real supply of credit would increase. This in turn induces a higher volume of investment which will then lead to economic growth.
The main critique of the financial liberalization theory emanates from the imperfect information Paradigm. This school of thought disagrees with the proposition of these scholars and examines the problem of financial development in the context of information asymmetry and costly information that results in credit rationing. As observed by Stiglitz and Weiss (1981), asymmetric information leads to two serious problems, first, adverse selection and second, moral

hazard. The implication is that the information asymmetries of higher interest rates which actually follow financial reforms and financial liberalization policies in particular exacerbate risk taking throughout the economy and hence threatens the stability of the financial system, which can easily lead to financial crises while the Feedback theory suggests a two–way causality between economic growth and financial development. The analysis is as follows: a country with well – developed financial markets could stimulate and promote high economic growth through technology changes, and product and services innovation (Schumpeter, 1911); this in turn will create high demand in financial arrangements and services. As the financial institutions effectively respond to this demand, higher economic performance is ensured. In this regard, both financial development and economic growth are positively interdependent and their relationship could lead to feed back causality (Khan, 1999).

2.2 EMPIRICAL REVIEW

Adeoye (2015) examined the impact of the Nigerian capital market on the economy, upon which a nations' economic development are dependent. The study believes that the importance of Capital Market as one of the means upon which most underdeveloped economies could grow cannot be overemphasized. The degree to which these economies experience the said growth is quite relative to the level of consciousness and management of the market. Nigeria is not left out in the desire to exploit the gains of the capital market to boost its economy. The Nigerian Capital Market was proxied as Market Capitalization against some variables of the economy such as Gross Domestic Product (GDP), Foreign Direct Investment, Inflation Rates, Total New Issues, Value of Transaction and Total Listing. Using the multiple regression analysis, the study found that Capital Market has an insignificant impact on the Economy within the period under review. The study therefore advised that policies and measures that would boost investors' confidence should be enshrined in the running of Nigerian Capital Market so that it could contribute significantly to the growth of Nigerian economy noting that all elements of the market are vital ingredients to the growth of a nation.

Emeh and chigbu (2014) examined the impact of capital market on economic growth in Nigeria. The study adopts a time-series research design relying extensively on secondary data covering 1985 -2012. The study utilizes regression analysis as data analysis method incorporating multivariate co-integration and error correction to examine characteristics of time series data adopting disaggregate the capital market indices approach. Observation across studies on this subject is the heterogeneity in empirical findings over what may be termed a considerably uniform theoretical framework at least with regards to causality. The finding suggests that two exhibit positive while two exhibit inverse and statistically significant relationship with economic growth. This could stimulate dialogue on the implication for policy simulation. Recommendation is that relevant regulatory agencies should focus on enhancing efficiency and transparency of market to improve investor's confidence. Therefore the need for effective and favourable macroeconomic environment to facilitate economic growth and ensure that channels of capital market induced growth are built around effective systems; and that policy institution are active in making systemic checks and appropriate policy innovations to ensure capital market led economic growth.

Oluwatosin, Adekanye and Yusuf (2013) examined the impact of Nigerian capital market on economic growth and development between 1999 and 2012. Data were sourced from Security

Exchange Commission reports, Nigerian Stock Exchange Review Reports, and Central Bank of Nigeria Statistical Bulletin respectively. Ordinary least square method of regression analysis was used to analyze the data. The result shows that capital market indices have not significantly impacted on the GDP. It was concluded that capital market in Nigeria has the potential of growth inducing but it has not contributed significantly to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization, illiquidity, and misappropriation of funds among others. The study recommends that government should restore confidence to the market through regulatory authorities which will portray transparency, fair trading transactions and dealing in the stock exchange, improve dealing in the market capitalization by encouraging more foreign investors to participate in the market and also to increase investments instruments such as derivatives, convertibles, swap and option in the market.

Popoola (2014) empirically examined whether the stock market promotes economic growth and development in Nigeria. The study posits that stock market is a common feature of a modem economy and it is reputed to perform some necessary functions, which promote the growth and development of the economy. Ordinary Least Squares regression (OLS) was employed using the data from 1984 to 2008. The results indicated that there is a positive relationship between economic growth and the stock market development variables used. With almost 95.77 percent R-squared and 94.92 percent adjusted R-squared, the result showed that economic growth in Nigeria is adequately explained by the model for the periods of 25 years (i.e. from 1984 to 2008). By implications 95.77 percent of the variation in the growth of economic activities is explained by the independent variables. The results of the research, established positive links between the stock market development and economic growth, suggests the pursuit of policies geared towards rapid development of the stock market. Also, all sectors of the economy should act in a collaborative manner such that the optimum benefits of linkages between stock market and economic growth can be realized in Nigeria.

Eze and Nwankwo(2013) examined the impact of capital market reform on the growth of Nigerian economy. The capital market reform was proxied by Market Capitalization, All Share Index and Total Volume of Transaction on the growth of Nigerian economy proxied by gross domestic product (GDP). The study postulates that if capital market reforms are effective, the economy will grow well. The scope of the study spanned from 1990 to 2011. A stationarity test was carried out using the Augmented Dickey-Fuller test (ADF) and Phillip-Perron test (PP) and stationarity found at first difference at 5% level of significance. The Johansen-Juselius co-integration technique employed in this study proved to be superior to the Engle and Granger (1987) approach in assessing the co-integrating properties of variables, especially in a multivariate context. The result of the test indicates 1 co-integration equations at 5 percent level of significance. The study also applied Vector Error Correction Model (VECM) to determine the short-run relationship between capital market reform and economic growth in Nigeria. The result of our analysis shows that capital market reform significantly influences the rate of economic growth in Nigeria. The study also found that long-run relationship exists between capital market reform and economic growth in Nigeria. We therefore recommend that, having seen that there exists a long-run relationship between GDP and explanatory variables (MACP, ALSI and TVT) through the use of co-integration test; it implies that government can adopt policies that will help capital market contribute to the growth of Nigerian economy and lastly, to boost All Share Index

in the Nigerian capital market, there is need for availability of more investment instruments such as derivatives, convertibles, futures, swaps, and options in the market.

Odita and Oghoghomeh (2013) studied resource mobilization for long term economic development, an insight into the role of the Nigerian capital market. The authors modeled the effect and importance of the Nigerian capital market, as a veritable source of medium and long term development. The data collected were from the Central Bank of Nigeria statistical bulletin and the Security and Exchange Commission from the period of 2001 to 2010. The SPSS statistical tool was used to analyze the data. The economic development was proxy by gross domestic product (GDP), while the capital market variables considered included the annual market capitalization (AMe) and the total volume of transactions (TVT). Findings revealed that there was a positive relationship between the capital market activities and gross domestic product, although the relationship was not statistically significant. The study recommended that the more fundamental issue of building investor confidence must be addressed through transparency, fair trading transactions, political stability and social security; stringent requirements for entry into the market should be relaxed and adequate publicity should be given to the activity of the capital market..

METHODOLOGY

3.1 Data and Source

This study employed a time series data from 1986 – 2015 and were sourced from www.worldbankdata.org/indicator. In other to measure the impact of capital market indicators on economic growth off Nigeria, we used their proxies as variables of interest. That is, GDP per capita was used to proxy economic growth, market capitalization percentage of GDP (MCAPGDP), stock traded total value percentage of GDP (STTVGDP) are the selected capital market indicators for this study, while money supply percentage of GDP (M2GDP) and gross capital formation (GCF) are financial indicators as well as control variables.

3.2 MODEL SPECIFICATION

This study adopted a multiple linear regression method which is in use by many authors because it emphasis on specifying more than two different variables for estimation. We therefore specify the model of this study in a functional form using the selected variables as;

$$GDPPC = f(MCAPGDP, STTVGDP, M2GDP, GCF)\ldots\ldots\ldots\ldots\ldots\ldots \quad 1$$

This equation is linearly expressed as;

$$GDPPC_t = \beta_0 + \beta_1 MCAPGDP_{t-1} + \beta_2 STTVGDP_{t-1} + \beta_3 M2GDP_{t-1} + \beta_4 \log GCF_{t-1} + \mu\ldots \quad 2$$

Where: GDPPC = GDP per capita

MCAPGDP = Market capitalization percentage of GDP

STTVGDP = Stock traded total value percentage of GDP

M2GDP = Money supply percentage of GDP

GCF = Gross capital formation

μ = Error term

3.3 METHOD OF DATA ANALYSIS

The estimation procedure for this study is the multivariant regression approach starting from unit root test for stationarity, co integration test for long run verification, vector error correction mechanism for the determination of the speed of adjustment to the correction of disequilibrium in the economy and to check the goodness of fit of the model.

EMPIRICAL RESULTS AND DISCUSSION.

4.1 UNIT ROOT

The study began with the test of unit root to determine the stationarity of all the employed variables using Augmented Dickey Fuller (ADF) unit root test and Philip Peron test. The tests were conducted to avoid spurious regression. The results of the test are presented in table 1 and 2 below.

Table 1: ADF Test

Variables	At levels T – Statistics	Prob. Value	5% crit. Value	10%crit. Value	Remarks
GDPPC	-0.856697	0.9478	-3.574244	-3.221728	Not stationary
MCAPGDP	-3.198623	0.1044	-3.574244	-3.221728	Not stationary
STTVGDP	-2.318649	0.4106	-3.587527	-3.229230	Not stationary
M2GDP	-3.023672	0.1432	-3.574244	-3.221728	Not stationary
GCF	-2.349018	0.3965	-3.574244	-3.221728	Not stationary
	At 1st Diff.				
GDPPC	-5.170366	0.0014	-3.580623	-3.225334	Stationary
MCAPGDP	-6.791245	0.0000	-3.580623	-3.225334	Stationary
STTVGDP	-4.224204	0.0134	-3.595026	-3.233456	Stationary
M2GDP	-4.724891	0.0040	-3.580623	-3.225334	Stationary
GCF	-5.295554	0.0010	-3.580623	-3.225334	Stationary

Table 2: Philip Perron Test

Variables	At levels T– Statistics	Pv	5% crit. Value	10%crit. Value	Remarks
GDPPC	-0.856697	0.9478	-3.574244	-3.221728	Not stationary
MCAPGDP	-3.186623	0.1067	-3.574244	-3.221728	Not stationary
STTVGDP	-2.345204	0.3975	-3.587527	-3.229230	Not stationary
M2GDP	-2.709046	0.2404	-3.574244	-3.221728	Not stationary
GCF	-2.306955	0.4173	-3.574244	-3.221728	Not stationary
	At 1st Diff.				

GDPPC	-5.168842	0.0014	-3.580623	-3.225334	Stationary
MCAPGDP	-7.266317	0.0000	-3.580623	-3.225334	Stationary
STTVGDP	-5.801999	0.0004	-3.595026	-3.233456	Stationary
M2GDP	-8.322325	0.0000	-3.580623	-3.225334	Stationary
GCF	-5.297298	0.0010	-3.580623	-3.225334	Stationary

From the table above, the null hypothesis of unit root is accepted if the calculated T statistics is much less than the critical value at 5 percent level of significance. Since these variables are much less than their respective values as indicated in the tables (1&2) above, the study accept the null hypotheses and conclude that all the variables have unit root or non – stationary at levels. However, at first difference the variables GDPPC, STTVGDP, MCAPGDP, M2GDP and GCF were stationary. This is because their calculated T statistics were much more in negative than their critical values as shown in the ADF and PP tables (1&2) above. This implies that all the variables were integrated to order one, 1(1). Having established that the variables are integrated of the same order after first difference, the study proceeds to determine the evidence of co integration among the variables.

4.2 CO INTEGRATION

The result of the co integration test shown in table 3 below indicates three (3) co integration vectors. This means that the explanatory variables (MCAPGDP, STTVGDP, M2GDP, GCF) has long run relationship with the depended variable (GDPPC), being the proxy for economic growth in this study. This implies that, vector error correction model is the best option for further analysis. It captures both the long run equilibrium and short run dynamic relationships associated with the above results.

Table 3: Co integration Test

Date: 07/02/16 Time: 06:23
Sample (adjusted): 5 30
Included observations: 26 after adjustments
Trend assumption: Linear deterministic trend
Series: GDPPC STTVGDP MCAPGDP M2GDP GCF
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.879972	125.5297	69.81889	0.0000
At most 1 *	0.700953	70.40884	47.85613	0.0001
At most 2 *	0.682202	39.02281	29.79707	0.0033
At most 3	0.296218	9.218004	15.49471	0.3456
At most 4	0.003247	0.084567	3.841466	0.7712

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.879972	55.12085	33.87687	0.0000
At most 1 *	0.700953	31.38603	27.58434	0.0154
At most 2 *	0.682202	29.80480	21.13162	0.0024
At most 3	0.296218	9.133437	14.26460	0.2752
At most 4	0.003247	0.084567	3.841466	0.7712

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

1 Cointegrating Equation(s):	Log likelihood	-662.5114

Normalized cointegrating coefficients (standard error in parentheses)

GDPPC	STTVGDP	MCAPGDP	M2GDP	GCF
1.000000	78305.99	-1740.845	11193.30	-31.36676
	(24164.8)	(5773.57)	(3229.93)	(3.75163)

Adjustment coefficients (standard error in parentheses)

D(GDPPC)	0.149325
	(0.02569)
D(STTVGDP)	-5.50E-06
	(3.0E-06)
D(MCAPGDP)	-2.96E-05
	(1.4E-05)
D(M2GDP)	-1.79E-05
	(5.8E-06)
D(GCF)	0.007794
	(0.00285)

4.3 VECTOR ERROR CORRECTION MECHANISM

This study employed vector error correction model (VECM) methodology since the variables were integrated of the same order and accordingly showed proof of three (3) co integrating equations. The vector error correction result is shown in table 4 below.

Table 4: VECM Test

Predictor	Coefficient	St. Dev	T – statistics	Prob.Value
ECT (-1)	0.149325	0.025685	5.813602	0.0000
GDPPC	0.065147	0.124140	0.524783	0.6058
MCAPGDP	-25674.51	2361.846	-10.87053	0.0000
STTVGDP	4133.738	563.0768	7.341341	0.0000
M2GDP	-1593.276	947.0034	-1.682439	0.1088
GCF	-1.183773	1.519673	-0.778966	0.4456

R^2 = 0.877512, Adj. R^2 = 0.838832, DW = 2.076883, F – stat. = 22.68627, Prob. F – stat. = 0.000000

4.4 GRANGER CAUSALITY

Through this test, the pair-wise associations between the estimated variables are ascertained; hence the table is presented in table 5 below:

Table 5: Pair wise Granger causality Test

Pair wise Granger Causality Tests
Date: 07/02/16 Time: 14:58
Sample: 1 30
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
STTVGDP does not Granger Cause GDPPC	26	10.8675	0.0006
GDPPC does not Granger Cause STTVGDP		0.04922	0.9521
MCAPGDP does not Granger Cause GDPPC	28	0.53760	0.5913
GDPPC does not Granger Cause MCAPGDP		0.10458	0.9011
M2GDP does not Granger Cause GDPPC	28	5.61589	0.0103
GDPPC does not Granger Cause M2GDP		2.71672	0.0873
GCF does not Granger Cause GDPPC	28	10.0539	0.0007
GDPPC does not Granger Cause GCF		5.87349	0.0087
MCAPGDP does not Granger Cause STTVGDP	26	6.15358	0.0079
STTVGDP does not Granger Cause MCAPGDP		1.57741	0.2300
M2GDP does not Granger Cause STTVGDP	26	0.38074	0.6880
STTVGDP does not Granger Cause M2GDP		8.12193	0.0024
GCF does not Granger Cause STTVGDP	26	2.25317	0.1299
STTVGDP does not Granger Cause GCF		5.67124	0.0107

M2GDP does not Granger Cause MCAPGDP	28	1.87855	0.1755
MCAPGDP does not Granger Cause M2GDP		3.11734	0.0634
GCF does not Granger Cause MCAPGDP	28	0.41081	0.6679
MCAPGDP does not Granger Cause GCF		3.82358	0.0368
GCF does not Granger Cause M2GDP	28	0.35673	0.7038
M2GDP does not Granger Cause GCF		3.27638	0.0560

4.5 DISCUSSION OF RESULTS

Based on the results of the estimation above, it was found that a stable long run relationship exist between the dependent and explanatory variables in the model as supported by the presence of three co integrating equations. This means that the result of this finding can be relied upon in taking long run policy decision regarding the operations of the capital market and the growth of the Nigerian economy in the long run.

The nature of the long run equilibrium relationship is found from the normalized co-integrating coefficients and also from the upper chamber of the VECM. Thus, the equation is stated as follows;

GDPPC = -17.17+ 78306 STTVGDP - 1740 MCAPGDP + 11193 M2GDP -31.37 GCF

Where GDPPC is the dependent variable, -117.17 is the constant term, 78306 is the coefficient of STTVGDP, -1740 is the coefficient of MCAPGDP, 11193 is the coefficient of M2GDP and-31.37 is the coefficient of GCF. The signs borne by the coefficient estimate of the variables: STTVGDP and M2GDP have positive relationship with GDPPC while that of MCAPGDP and GCF have negative relationship with GDPPC. This study therefore suggests that capital market development policy should focus on the increase of money supply in the long run as this will stimulate the growth of the capital market especially through increase in the value of shares.

The ECT did not meet the approri expectation of being negatively signed, though it is fractional and statistically significant. The R- square is 0.877512 percent showing that 88 percent variation in the dependent variable is explained by the independent variables while the remaining 12 percent is explained by other variables not captured by the model which is represented by error term (et)

The F – statistics of 22.68627 with p value of 0.000000 which is less than 0.05 shows that the influence of explanatory variables on the dependent variables is statistically significant. This entails that all the capital market variables jointly impact on economic growth in Nigeria. The DW as indicated in the above table has the value of 2.076883 indicating the absence of auto correlation among the residuals**.** In the short run, only STTVGDP maintained a positive significant relationship with the dependent variable. MCAPGDP was found to have a negative significant relationship with GDPPC, while M2GDP and GCF revealed a negative insignificant relationship with GDPPC.

The pair wise granger causality test revealed unilateral causality running from STTVGDP to GDPPC, M2GDP to GDPPC, MCAPGDP to STTVGDP, STTVGDP to M2GDP, STTVGDP to

GCF and a bidirectional causality from GCF to GDPPC and GDPPC to GCF. It is clear from the above that causality runs mostly from the explanatory variables to the dependent variable with the exception of GCF. This implies that capital market development policies should concentrate on increasing money supply which will in turn stimulate the value of stock for the overall growth of the Nigeria capital market. It can also be inferred from the above result that capital market indicators if promoted consciously by policies can stimulate each other. This view is supported by the unidirectional causality stated above.

5.0 CONCLUSION

This study examined the impact of capital market indicators on economic growth in Nigeria from 1986 – 2015. The study adopted co integration, vector error correction mechanism and granger causality econometric tools of estimation to test the variables in the model. The result of the estimation showed a stable long run relationship between the dependent and independent variables as supported by the existence of 3 co integrating equations. The result of the ECM revealed a positive significant relationship among stock traded total value, money supply and economic growth in the long run. In the short run, only STTVGDP maintained a significant positive relationship with the dependent variable. The result of the causality test revealed a unidirectional moving from the explanatory variables to the dependent variable and a bidirectional between economic growth and gross capital formation.

It is the opinion of this study that activities in the Nigeria capital market need to be constantly evaluated using the relevant capital market indicators and making those indicators the focus of policy and investment decision. The study therefore recommend that capital market development policy should focus on the increase of money supply in the long run as this will stimulate the growth of the capital market especially through increase in the value of shares. More so, there should be deliberate policy to promote development of domestic capital formation through conscious increase in local investment so as to benefit from its positive relationship with economic growth.

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