

# The Capital Market and Performance of the Nigerian Economy: A Time Series Analysis

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## Abstract

*A vibrant capital market plays a crucial role in promoting the growth and development of the economy. This study examined the performance of the capital market and its impact on the economic growth of Nigeria. Using a time series data covering a period of 26 years (1985–2010) and employing the econometric tool of co-integration analysis, the study empirically established a strong link between a dynamic capital market and economic development. The result of the study reveals a strong correlation between economic growth and the independent variables. This is clearly shown in the very high  $R^2$ , adjusted  $R^2$ , and F-ratio of 81.7%, 79.3% and 32.95250 respectively. With the exception of All Share Index, the other two regressors do not have significant impact on economic growth of Nigeria within the period of study. On the whole, 81.7% variation in economic growth in Nigeria is explained by the model. The long run relationship showed that only market capitalization impact significantly on the GDP. In the same manner the short run error correction model still indicates that market capitalization impacts positively on the economy. The study therefore recommends the pursuit of policies that would improve the depth and breadth of the Nigerian capital market so as to engender a rapid development of the market that would result in the economic growth and development of the economy.*

**Keywords:** All Share Index, Capital Market, Economic Growth, Cointegration, Unit Root.

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## 1.0 Introduction

Many governments across the globe in recognition of the important role capital markets play in the growth and development of their economies have adopted measures to develop the market. The need for socio-

economic growth, industrialization, research and development is even more imperative in developing countries like Nigeria. Capital accumulation is the key to capital market development. Though a capital

accumulation varies among nations, it largely depends on domestic savings and the inflow of foreign capital to thrive [1][2][3].

To counter the menace of the economic meltdown and its subsequent adverse effects on capital market development able economic growth, efforts must be geared toward effective resource mobilization hence the consideration accorded to the development of the capital market as an institution for the mobilization of funds from the surplus units for lending to the deficit sector of the economy[4][5][6].

Following the recommendations of the Barback Committee the Lagos stock exchange (LSE) was set up in March 1960, and incorporated in September 1961 under section 2 cap 37 through the collaborative effort of Central Bank of Nigeria, the Business Community and the Industrial Development Bank [25]. Initially the growth of equities in the market was not impressive with foreign equities dominating the scene. However, with the Nigerian Enterprise Promotion Acts of 1972 and 1977, the market became more active; with six trading floors (located at Lagos, Kaduna, Port Harcourt, Kano, Ibadan and Onitsha) and a net work of over 2400 branches of commercial and merchant banks which served as receiving centres for all applications for public issues. The Nigerian capital market has acquired a significant status even though it is relatively small in scope and operation within the emerging capital market groups [3]. By the mid 70's the need for an efficient financial system for the whole nation was recognized and a review by the government of the operation of the Lagos Stock Exchange Market was advocated. The review was carried out to devise ways for promoting greater capital formation, to check the large volume of currency in circulation held outside the banking system, to harmonies the operations of commercial bank and the emerging class

of Merchant Banks, and to deepen the extremely shallow capital market.

In fact the colonial history of the Nigerian capital market could be traced to 1946 when the British colonial administration floated an ₦600,000 local loan stock bearing interest at  $3\frac{1}{4}\%$  for the financing of development projects under the Ten Years Plan (SEC, 2005). The loan stock, which had a maturity of 10 – 15 years was oversubscribed by more than ₦1million, yet local participation of the issued loan stock was very poor.

Despite efforts being made by the various tiers of government in developing the nations economy, the dearth of finance to the major sectors of the economy, and the uneven allocation of financial resources has continued to pose serious challenges to the development of the national economy.

Apart from social and institutional factors inhibiting the process of economic development in Nigeria, the bottleneck created by the dearth of finance to the economy constitutes a major set back to the economy. Consequently, it is necessary to recognize the market, institutions and instruments comprising the system to facilitate the efficient production of goods and services for the well being of the society, as well as facilitating the transfer and redistribution of real economic resources from the surplus sector to the deficit sectors.

It is therefore the objective of this paper to examine the contributions and performance of the capital market the Nigerian economy.

## **2.0 Literature Review**

This section reviews the related literature on the capital market development and is sub-divided into the following part;

### **2.1 Empirical Evidence**

Barro and Romer [7] using cross country data spanning several years indicated very

significant relationship between per capita output, growth rate and financial market development. According to [16] the stock market accelerates growth by allowing investors to hold diversified portfolios and also facilitate the ability to trade ownership of firms without disrupting the productive process occurring within those firms.

Ekundayo [13] argued that in the developing countries, only very few companies are quoted as their owners would like to remain private in order not to dilute the ownership structure. This problem has continued to limit the number of quoted companies and the development of these markets generally.

A comparative analysis of the stock market capitalization of the Nigerian capital market with those of major emerging markets of Asia, Europe and Latin America depicts the Nigerian market as relatively small but when compared to other African capital markets Nigeria is the fourth largest, after South Africa, Egypt and Morocco as at 1999 [12]

From 1986 after the commencement of structural Adjustment programme (SAP), the government made attempts to beef up the level of equities in Nigeria. For example in 1988 the Federal Government set up a programme of privatization as part of policy measures to restructure the economy and achieve higher degree of efficiency, and by the end of 1998 the Technical Committee on Privatization and Commercialization had transferred 159.1 million ordinary shares from twenty one companies to private investors, a deal in which over five hundred thousand Nigerians participated [10].

Okereke-Onyiuke [23][24] asserted that equity sector of the Nigerian security market is bedeviled by poor participation as the market is dominated by only twenty companies of which twelve are manufacturing companies and contributes 75% of total market capitalization.

Akinsola [3] in a study of the capital market opined that the effect of gross fixed capital formation on economic growth in Nigeria was insignificant and the nation's capital market was illiquid.

Olowooke [25] in his study of the Nigerian capital market revealed that the relationship between economic growth and capital market in Nigeria through positive was very weak as at the time.

Olisaemeka [24] noted that the international the meltdown impacted adversely on the Nigerian capital market the current crash of the Nigerian capital market, was unprecedented, from its historic evolution in 1960 to date. Its market capitalization has nose – dived from an all time high of N13.5 trillion in March 2008 to less than N4.6 trillion by the second week of January 2009. Besides, the All – Share Index (a measure of the magnitude and direction of general price movement) has also plummeted.

### **2.2.1 Capital Market and Economic Growth**

In recent times there has been a growing concern over the role of the capital market in economic growth. Okereke-Onyiuke [22][23] argued that in the absence of domestic savings, the main source of needed capital it would be difficult to attract foreign capital inflows in the quantity that would have a positive influence on the Nigerian capital market.

This is in line with assertion of [2] that financing the savings – investment gap, especially in the less developed economies where savings mobilization could not keep pace with the level of investment has necessitated the need to encourage foreign capital inflows to bridge the gap and thus promote economic growth, if the economic environment is not unduly harsh as has been the case in Nigeria until recently.

Dailami and Atkin [11] opined that at every stage of a nation's development, both the government and private sectors would require long-term capital. In the words of Iheji [14] companies would need to build new factories expand existing ones, or buy new machines; government would also need funds for the provision of infrastructures. All these activities require long-term capital, which is provided by a vibrant capital market. Ndanusa [17][18] observed that funding economic development requires a continues flow of long-term capital in large volumes; the period required for the development is often longer than most owners of capital can bear, but the capital market satisfies all these; the capital market mobilizes and allocates the needed funds and at the same time affords the owners the opportunity to divest without affecting the operations of the enterprises.

Onosode [26] asserted that at equity market assets can be sold or purchased at any moment during the trading hours of the stock market. Thus equity market makes investment less risky and more attractive. Such investments help in capital formation and growth of firms. Also stock markets can affect economic growth when they are internationally integrated; this enables greater economic risk sharing. Obstfeld had maintained that because high return, projects also tend to be comparatively risky, stock markets that facilitate risk diversification encourage a shift to higher return projects. The theory demonstrated that portfolio diversification is the best means to minimize risk. By pooling the savings of individuals together the stock market are able to diversify across a range of investments thereby minimizing risk to returns.

Pardy [28] observed that stock market plays important role in financial liberalization and deepening. Indeed an

efficient capital market contributes to long – term economic growth.

### **2.2.2 Nigeria Capital Market and Economic Development**

Economic development involves the process of integration of capital entrepreneurship and labour to grow the economy and raise the rate of growth to of GDP. Economic activities can be classified into production; consumption and exchange. Although these three are related, at the heart of these is finance [1]. Production needs funding, while consumption requires finance for it to be effective. The long time nature of the funds required for production is provided by the capital market. The Nigeria economy, in recent times, has been growing but still far behind in terms of development. The slow pace of development is indicted by the rising level of unemployment, poverty and the low standard of living. However, a major panacea that can take Nigeria out of this predicament is promotion of a vibrant capital market.

A virile capital market influences economic development because of the interrelationship between macroeconomic stability and the soundness of the financial system. The stability of a nation's economy is measured by the condition of its capital market because the market is a major indicator of the state of health of the national economy.

The most important function of the capital market is in its capacity to provide long-term debt in the form of bonds issued by the government and corporations and as well as equities. Corporation while raise funds through equities or bonds do not have to lose sleep about maturity date particularly when the instruments are in perpetuities, and the repayment of funds through bonds is over a long period. Intermediation between the needs of firms and investors signifies the core function of capital markets.

The level of national economic development and the extent to which most economic activities can efficiently rely on the capital market are major indicators of a healthy balance between a sound financial system and macroeconomic stability ([39]. There are empirical findings supporting the view that a well functioning capital market is crucial to sustainable economic growth [15].

Atje and Jovanovic (1993) as cited in and Mokolu (2005) found significant correlations between economic growth and the value of stock market trading divided by GDP for 40 countries over the period 1980 – 1999. Levine and Zervous as cited in Babatunde and Mokolu [6] also found that stock market development is positively correlated with long run economic growth by using a sample of 41 countries over a period 1976 – 1993. The capital market is the most credible source of medium and long – term financing and a base for sustainable development.

### **2.3 Recent Development in the Capital Market**

The Nigerian Capital Market in recent times has witnessed a lot of development such as the introduction of automated trading system (ATS) in 1999. Transactions in securities on the floor of the stock exchange are now executed electronically by brokers trading on work stations (computers), which are linked to a central server at the data centre or control room of the Exchange. The ATS allows traders to view entire market on their computers at a glance as they make their offers and bids. This has increased transparency in the market. Before the introduction of the ATS, transactions on the floor of the exchange were done manually through the open call over system.

### **Introduction of the Central Securities Clearing System (CSCS), a subsidiary of the NSE in 1997.**

The CSCS facilitates an efficient, faster and more secured process of purchase and sale of securities in the market. Traders are now cleared and settled on the transaction day plus (3) three days (T+3) basis, as against T+14 which existed before the introduction of the CSCS [8][9][10][12].

Introduction of floorless (remote) trading system is an improvement to the Automated Trading system ATS which requires no physical trading floor. The securities dealers simply trade through computer systems mounted in their offices but linked to a Central System on the Stock Exchange.

### **Introduction of Trade Alert by NSE/CSCS**

It works through a software device programmed into the main computer system of the CSCS which alerts subscribers whenever there are transactions on their accounts. A message is sent to a subscriber's mobile phone to notify him or her of such transaction. The subscriber either Okays or aborts the transaction.

The establishment of the Abuja Securities and Commodities Exchange (ASCE)[29][30] is a significant development. It is an organized market that provides facilities for trading in commodities and securities. Commodities are products or raw materials such as petroleum, cocoa, rubber, palm oil, palm kernel, cotton, groundnut, soybeans, and solid minerals. Transactions in commodities are to be made through contracts, which have finite lives and delivery dates. The ASCE was established to deepen the Nigerian capital market.

The introduction of Capital Trade Points (CTPs) is another major development. These are mini-exchanges in tended to provide market places for the buying and selling of securities of small enterprises that cannot

meet the more stringent listing requirements of the stock exchanges. The amount of funds that can be raised at CTPs are also limited. The major objective of CTPs is to attract local and small companies to the market and to provide them the opportunity to raise funds from the market at relatively low cost, to simplify the process of raising funds and to bring capital market activities closer to the grassroots.

The Nigerian Capital Market Institute (NCMI) was established to bridge the knowledge gap in the capital market by providing specialized courses to stakeholders. Without a crop of highly professional operators and regulators, the capital market objectives of contributing to the development of the Nigerian economy will be an impossible task. With the establishment of the NCMI, the knowledge base of stakeholders in the capital market has definitely been enhanced to enable them confront present and future challenges.

The code of corporate governance for public companies which was introduced in 2003 essentially provides for the conduct of the affairs of companies. It deals with issues concerning Board of Directors, shareholders, Audit committees etc, the code is expected to enhance corporate discipline, transparency and accountability. The code is currently of persuasive nature. However, appropriate sanctions are meted when necessary. In the spirit of the NEEDS programme of the Federal Government, all public companies have been directed to report their level of compliance with the code in their annual reports and accounts, and prospectuses (whenever issued). The Security and Exchange Commission (SEC) has dedicated a department (Office of the Chief Accountant), that will among other things monitor public companies compliance with the code.

The SEC set up industry committees on pension funds, bond market and unclaimed

dividends years back. The work of the committees contributed to the pension reform programme and to the executive bill on the unclaimed trust fund which if passed into law is expected to make dividends available to investors when ever they show up instead of the preset situation where dividends are statute barred after twelve years.

## **2.4 Prospects of the Nigerian Capital Market**

The Nigerian stock market has the capacity to provide channels for government and corporate entities to raise new funds and for deepening or broadening existing capital base. Such sound financial services will no doubt serve as hedge against the vagaries of business and economic cycles which have in recent time shaken the basic fabrics of the national economy.

The capital market as the citadel of the private sector, is a network of institutions that can render financial services capable of revamping a nations economy. But for it to render such services with optimal efficiency, the assistance of government is needed in the area of fiscal policies and in the provision of efficient infrastructure, telecommunications and investment incentives. No capital market institution works in isolation, if the entire system is to function properly [[19][20][21]

Capital market instruments and institutions help to support national growth and development. Capital markets should therefore be accorded pride of place in national economic development programmes.

## **2.5 Challenges of the Nigerian Capital Market**

The level of capital market awareness in the country is low as many Nigerians are still very much unformed about this arm of the financial market. SEC has been marking

a lot of efforts in this regard through its series of investor education programs such as state enlightenment programs, specialized seminars, workshops and conferences. Nevertheless all hands must be on deck in ensuring that the awareness level is greatly improved. It will require the use of Government machinery and Non-Governmental Organisations (NGOs) to carry out the awareness campaign to the desired level required. State Chambers of Commerce, in collaboration with their respective Ministry of Commerce and Industry should collaborate to design programmes that will be specifically tailored to encourage their respect communities to be active participants in the capital market.

The reform of the Nigerian economy will be predicated on a number of factors, among which are the formulation of capital market friendly policies that include tax and other incentives to investors and other operators in the market. These will help promote a strong private sector economy as envisaged by NEEDS contribute to high employment level, low inflation rate and stable exchange rate.

Capital flight endangers the growth of the capital market and is an indication of a vote of no confidence in an economy. Capital knows no boundary”, and will flow only to an economy which offers certain attractions including safety of investment, and attractive return on investment. Foreign investors and Nigerians in the Diaspora should be encouraged to invest in the Nigerian Capital Market. Information on the Nigerian Capital Market should be made available on a regular basis to the above groups to stimulate their interest and propel them to invest. Deepening of the market and the introduction of new products such as derivatives and better legal framework are bound to encourage foreign investors

Among the biggest challenges of the Nigerian Capital Market is the creation of a

highly liquid market in which investors can buy and sell with relative ease (the free entry free exit maxim) and large transactions are consumed without significant changes in prices. This becomes necessary given the backdrop that well informed investors generally consider the level of market liquidity before investing in such market. They will only consider a market which provides ease of entry and exit. To a large extent, the changes that have taken place in the stock market in recent years have improved the standing of the capital market.

### 3.0 Methodology

In order to achieve the objective of this study, we adopt the seven step cointegration approach of econometric time series data.

1. We carried out a log transformation of the original data.
2. Ran a simple linear regression to test for serial correlation in the data set.
3. Conducted the unit root test for stationarity in the variables.
4. Test for cointegration amongst the variables.
5. Ran the error correction model for short run co-movement.
6. Finally tested for causality using the granger pairwise causality model

### 3.1 Model Specification

We specified a growth model using the linear specifications and a single equation form is assumed. The model is specified as:

#### 1. Durbin-Watson Statistic

The Durbin-Watson statistic measures the serial correlation in the residuals. The statistic is computed as:

$$DW = \frac{\sum_{t=1}^n (\epsilon_t - \epsilon_{t-1})^2}{\sum_{t=1}^n \epsilon_t^2}$$

$$t=1 \quad t=1$$

As a rule of thumb, if the DW is less than 2, there is evidence of positive serial correlation. A DW statistic output that is very close to one indicates the presence of serial correlation in the residuals.

Ordinary Linear Specification:

$$RGDP = b_0 + b_1mcp + b_2ASI + b_3INF + \varepsilon_t$$

Where  $b_1 > 0$ ,  $b_2 > 0$ ,  $b_3 < 0$ ,

RGDP=Real gross domestic product (proxy for Economics growth)

MCP = Market Capitalization

ASI = All share index

INF = inflation rate

$\varepsilon_t$  = Error term at time

## 2. Unit Root specification

The simple unit root model can be specified as:

$$Y_t = Y_{t-1} + \xi_t$$

$$Y - Y_{t-1} = (1-L)Y_t = \xi_t$$

Having tested the stationarity of each of the series, two cointegration regressions (direct and reverse) between variables  $Y_t$  and  $X_t$  are estimated using the Johansen cointegration To accomplish performing the unit root test using the Augmented Dickey-Fuller (ADF) test which is based on the regression equation with the inclusion of a constant is of the form:

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \sum \Omega \beta_j \Delta X_{t-j} + \xi_t \quad (1)$$

Where  $\Delta X_t = X_t - X_{t-1}$  and  $X$  is the variable under consideration.  $\Omega$  is the number of lags in the dependent variable and  $\xi_t$  is the stochastic error term. the stationarity of the variable is tested using the null hypothesis of  $|\beta_1| = 1$  against the alternative hypothesis of  $|\beta_1| < 1$ . The

critical value of ADF statistic as reported in Engle and Yoo (1987) can be used to test this hypothesis. If the null hypothesis cannot be rejected, it implies that the time series is non-stationary at the level and therefore it requires taking first or higher order differencing of the level data to establish stationarity. Engle and Granger (1987) prefer the ADF test due to stability of its critical values as well as its power over different sampling experiments. The optimum lag length ( $\Omega$ ) in the ADF regression is selected using the minimum final prediction error (FPE) criterion developed by Akaike and then the results were confirmed by the Schwarz criterion.

## 3.0 Co-integration equation

Having tested the stationarity of each of the series, two cointegration regressions (direct and reverse) between variables  $Y_t$  and  $X_t$  are estimated using the Johansen cointegration test. Johansen [194] and Johansen and Juselius [194] have developed a maximum-likelihood testing procedure for linear restrictions on the cointegrating parameters, for any set of  $I(1)$  variables. Two test statistics that are used to identify the number of cointegrating vectors, namely trace test statistic and the maximum eigenvalue test statistic, are given here.

The trace test statistic for the null hypothesis that there are at most \* distinct cointegrating vectors is:

$$\lambda_{\text{trace}} = T \sum_{j=r+1}^n \ln(1-L_j), \quad (2)$$

Where  $\lambda_j$ 's are the  $N-\alpha$  smallest squared canonical correlations between  $X_{t-k}$  and  $dX_t$  (where  $X_t = (\ln gdp_t, \ln i_t, \ln asi_t, \ln mcp_t)$  and where all variables entering  $X_t$  are assumed  $I(1)$ , corrected for the effects of lagged differences of the  $X_t$  process.

The maximum likelihood ratio statistic for testing the null hypothesis of at most  $\alpha$  cointegrating vectors against the alternative hypothesis of  $\alpha + 1$  cointegrating vectors,

i.e., the maximum eigenvalue statistic, is given by:

$$\lambda_{max} = -T \ln(1 - \lambda_{r+1}) \quad (3)$$

#### 4.0 Error Correction Model

If the variables are cointegrated there must exist an error-correction representation that may take the following form:

$$\Delta \ln \text{RGDP}_t = \theta_0 + g\delta_{t-1} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{RGDP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{MCP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{ASIt}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{INF}_{t-j} + \xi_t \quad (4)$$

$$\Delta \ln \text{MCP}_t = \theta_0 + g\delta_{t-1} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{MCP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{RGDP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{ASIt}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{INF}_{t-j} + \xi_t \quad (5)$$

$$\Delta \ln \text{ASIt} = \theta_0 + g\delta_{t-1} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{ASIt}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{MCP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{RGDP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{INF}_{t-j} + \xi_t \quad (6)$$

$$\Delta \ln \text{INF}_t = \theta_0 + g\delta_{t-1} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{INF}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{ASIt}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{MCP}_{t-j} + \sum \theta_{ij} \beta_{ij} \Delta \ln \text{RGDP}_{t-j} + \xi_t \quad (7)$$

Where  $\delta_{t-1}$  are the error correction terms.

#### 5.0 Granger Causality Model

The study tries to find the causality direction between the two variables by using Granger type causality methodology. Based on the result of the stationarity and cointegration tests we are able to choose the appropriate granger pairwise causality tests. If the data used in this study are stationary series,  $I(0)$ , a series would be stationary if it had a tendency to move to a fixed mean over time. We can use the standard Granger

causality test (Granger, 1969), using the following equation:

$$r_t = \mu_r + \sum_{t=1}^n \beta_{rr,t} r_{t-1} + \sum_{t=1}^n \beta_{rx,t} x_{t-1} + \xi_{rt}$$

$$x_t = \mu_x + \sum_{t=1}^n \beta_{xx,t} x_{t-1} + \sum_{t=1}^n \beta_{xr,t} r_{t-1} + \xi_{xt}$$

#### Data Presentation And Analysis

Table 4.1 below presents the data. Table 4.2 presents the results obtained from our estimated models applying the OLS procedure.

**Table 4.1 Annual Data of Real Gdp And Other Macroeconomic Variables**

YEAR	RGDP	ASI	MCP	INF
1985	201036	127.3	6.6	5.5
1986	205971	163.8	6.8	5.4
1987	204807	190.9	8.2	10.2
1988	219876	233.6	10	38.3
1989	236730	325.4	12.8	40.9
1990	267550	513.8	16.3	7.5
1991	265379	783	23.3	13
1992	271366	1107.6	31.2	14.5

1993	274833	1543.8	47.5	57.2
1994	275451	2205	66.3	57
1995	281407	5092.2	180.4	72.8
1996	293745	6992.1	285.8	29.3
1997	302023	6440.5	281.9	8.5
1998	310890	5672.7	262.6	10
1999	312184	5266.4	300	6.6
2000	329179	8111	472.3	6.9
2001	356994	10963.1	662.5	18.9
2002	433204	12137.7	764.9	15.73
2003	477533	20128.9	1359.3	11.33
2004	527576	23844.5	2112.5	15
2005	561931	33189.3	2900.1	17.6
2006	595822	33189.3	5121	8.2
2007	634251	57990.2	13294.6	5.38
2008	674889	51450.78	9516.2	11.6
2009	716,949.70	23091.55	7,030.8	12.41
2010	655,477.90	24770.52	9,918.2	13.70

**SOURCE: CBN Statistical Bulletin Various Issues**

#### 4.1 Analysis of Regression Result

We tried the linear specification on the argument in the model, and that appeared to be better in terms of goodness of fit as well as the significance of the regression coefficients. The signs obtained were checked against the expected signs of theoretical hypotheses.

##### Summary of result

R <sup>2</sup>	=	0.817967
Adjusted R <sup>2</sup>	=	0.793145
F-Statistic	=	32.95250
DW	=	1.252010
S.E.	=	75520.95

From the regression result in table 4.2 R<sup>2</sup> of 0.817967 indicates that the explanatory power of the model is about 81.7 percent;

implying that about 81.7 percent variation in economic growth (proxied by RGDP) in the Nigerian economy is explained by the model, during the period 1985-2010. The remaining 18.3 percent variation could be explained by other variables not included in the model; this claim is further supported by the adjusted R<sup>2</sup> of 79.3 percent. Hence variations in the level of economic growth in Nigeria are greatly explained by the variations in each of the regressors. Again, the very high F-ratio of 32.95250 as compared to the theoretical value of F in the table (3.10) further confirms the strong fitness of the model. The high F-ratio of 32.95250 indicates that the entire model is significant in explaining variations in economic growth in Nigeria within the reference period. The Durbin Watson (DW)

statistic of 1.252010 shows the absence of serial correlation in the model meaning that the regression result will not suffer the problem of spuriousness.

All the regression coefficients appeared with their correct signs. Although, it is only all share index (ASI) that is statistically significant in explaining the variations in the economic growth of Nigeria during the period studied. The result revealed a positive relationship between economic growth and market capitalization which conforms to a priori; however the conformity implies that the level of market capitalization in the Nigerian economy within the period of study is propitious to engender growth. Again, as expected, All Share – Index showed a positive and statistically significant relationship with economic growth in Nigeria. Similarly inflation exhibited a negative relationship with economic growth since after liberalization or deregulation policy in Nigeria.

The result of the study confirms that though there exist a positive relationship between the economic growth and the measures of capital market development of Nigeria’s economy is still weak and not very

significant, this conforms to Osinubi [27] and Olowokere [25] that effect of stock market on economic growth in Nigeria is weak and minimal.

The result is also a reflection of the structural rigidities prevailing in the economy which makes the stock market more of an appendage at the government institutions rather than a market driven by efficiency through the inter play of the forces of demand and supply. During the period of study there continued to be the need for improvement in the operating environment at the Nigeria stock exchange because the tight liquidity situation in the economy engendered a disposition by the investors to sell, which further put a downward pressure on equity prices.

Another major outcome of the study was the fact that the stock market during the period was faced with legislation and political instability, thus the enabling environment was not so conducive and this partly affected the activity of the market as witnessed in its slow development during the period under study, the alternatives of the stock market as a veritable source of funds was therefore jeopardized.

### Unit Root Test Result

#### Augmented Dickey-Fuller Unit Root Test

variables	Levels	Results	1 <sup>st</sup> difference	Results
LMCP	-0.242469 (-2.986225)	I(0)	-4.400200 (-2.998064)	I(1)
LASI	-1.926130 (-2.986225)	I(0)	-3.549328 (-2.991878)	I(1)
LINF	-2.761496 (-2.986225)	I(0)	-4.516754 (-2.991878)	I(1)
LRGDP	0.1190500 (-2.986225)	I(0)	-5.551030 (-2.998064)	I(2)

Source: E-VIEWS 7.0

The result of the augmented Dickey Fuller test at their levels were all I(0) that is to say that they are non stationary at levels hence we proceeded the test the first difference and

find that all variables were integrate of order I(1) indicating stationarity except for LRGDP that was stationary at 2<sup>nd</sup> difference. Since the data are integrated in the same

order we can proceed to test for cointegration among the variables

**Johansen Cointegration Test  
Results of Trace And Max-Eigen Values**

No. of CE(s)	Trace Stat	0.05% C.V	No. of CE(s)	Max-Eigen Stat	0.05% C.V
NONE*	66.61807	47.85613	NONE*	33.72139	27.58434
AT MOST 1*	32.89668	29.79707	AT MOST 1	19.60454	21.13162
AT MOST 2	13.29214	15.49471	AT MOST 2	11.07675	14.26460
AT MOST 3	2.215384	3.841466	AT MOST 3	2.215384	3.841466

At the 5% level of significance, the trace statistic indicates two cointegrating equations while the Max-Eigen statistics indicates one cointegrating equations.

**Normalized Cointegrating Coefficients**

LRGDP	LASI	LINF	LMCP
1.000000	0.299274 (0.18368)	0.133479 (0.08630)	-0.567989 (0.15425)

(Standard errors are in parenthesis)

The normalized cointegrating equation can be restated as a normal regression equation where we transfer the independent variables to the right hand side so that the equation is:

$$\text{Lrgdp} = -0.299274\text{lasi} - 0.133479\text{linf} + 0.567989\text{lmcp}$$

**Error Correction Model**

The error correction model is specified as:

Error correction	D(LRGDP)	D(LASI)	D(LINF)	D(LMCP)
CoIntEq1	-0.358915	0.165844	-1.859251	0.711901

This normalized cointegrating equation is the long run co-movement between real GDP and the three independent variables.

The All share index has a negative relationship with the gross domestic product. This is implicated by the result that showed that in the long run a one percent increase in the stock market prices will lead to a reduction in the gross domestic product with about 29.9%. Inflation rate also has a negative impact on the economy since a 1% increase in inflation rate will bring a corresponding decrease of 13.3% on the gross domestic product. The market capitalization however is the only variable with a positive influence on the gross domestic product as it can explain 56.8% of what happens to the gross domestic product.

**Short Run Ecm Model**

$$\text{Lrgdp} = 13.08253 - 0.158051\text{lasi} - 0.161905\text{linf} + 0.262748\text{lmcp}$$

This is the short run cointegration equation of the specified model with an intercept of 13.08. The model further explains that for every 1% increase in the All Share Index there will be an associated decrease of 15.81% in the real gross domestic product. Inflation rate also exert a negative impact in the economy as a 1% increase in inflation will result into a 16.19% decrease in the real gross domestic product. The market capitalization rate however induces a positive change into the Real GDP as a 1% increase in mcp will bring about 26.27% increase in the real gross domestic product.

From the error correction model about 36% of disequilibrium is corrected each year by changes in real gross domestic product (lrgp), while about 16% of disequilibrium is corrected each year by changes in all share index (lasi), in the same way about 185% of disequilibrium is corrected each year by changes in inflation (linf) and about 71% of disequilibrium is corrected each year by changes in market capitalization (lmcp).

### Granger Causality Result

The above Granger pairwise causality test results showed that none of the variables namely Real GDP, All Share index, Inflation rate and Market Capitalization granger causes the other.

Null Hypothesis	Obs.	F-Statistic	Prob.
LASI does not Granger Cause LRGDP LRGDP does not Granger Cause LASI	25	2.35123 0.20262	0.1394 0.6570
LINF does not Granger Cause LRGDP LRGDP does not Granger Cause LINF	25	0.33564 0.89951	0.5682 0.3532
LMCP does not Granger Cause LRGDP LRGDP does not Granger Cause LMCP	25	2.26045 0.71812	0.1469 0.4059
LINF does not Granger Cause LASI LASI does not Granger Cause LINF	25	1.76505 1.21101	0.1976 0.2830
LMCP does not Granger Cause LASI LASI does not Granger Cause LMCP	25	1.97776 1.93244	0.1736 0.1784
LMCP does not Granger Cause LINF LINF does not Granger Cause LMCP	25	1.34993 2.27595	0.2577 0.1456

## Summary, Conclusion and Recommendations

Based on our findings, it is evidence that though the Nigeria's capital market has performed fairly well in relation to other capital markets in sub-Saharan Africa, a lot needed to be done to strengthen the link between the capital market and economic growth in Nigeria. As an emerging market, the Nigerian capital market faces a lot of challenges; therefore the policy makers should work out strategies to overcome the challenges. The study implicitly revealed that since the Nigeria stock market commenced operations in the 1960s it has continued to play the traditional role of regulating the activities in the market. The study discovered that the correlation between economic growth and capital

We therefore *recommend* that:

i. Given the present political dispensation, all tiers of government should be encouraged to fund their realistic development programmes via the capital market; this will serve as a leeway to freeing the resources that could be used in other sectors of the economy.

ii. Government should adopt policies aimed at creating a conducive, stable and unrestricted macro-economic environment that would stimulate entrepreneurial activity and ginger demand in the capital market.

iii. Improvement of the capital market liquidity by facilitating easy entry and exit which would result in improvement in the physical infrastructure (electronic and telecommunications); more efficient share transfer and delivery system, and provision

market though positive is weak during the period of study. The capital market serves as an important mechanism for effective and efficient mobilization and allocation of savings which is crucial for the growth of the economy.

The study identified a number of policies to stimulate growth and promote the development of an active, dynamic and vibrant capital market in Nigeria. The success of a capital market that could engender growth lies on the government and the organized private sector. The study therefore, concludes that the repeal of Nigerian's enterprises promotion Decree, the abrogation of the exchange control Act coupled with the privatization and commercialization programmes of the government give cause for optimism.

of adequate and timely information on the market.

iv. Considering the benefits enjoyed by the Nigeria stock market through internationalization of its operation, there should be no policy turn around but a sincere pursuit of this policy should be sustained.

v. Government should formulate policies that will encourage investors to invest more on equities in the capital market since that is the surest avenue to transmit growth to the economy.

Market participation and regulatory agencies should work as one to protect the integrity of the market; all fraudulent practices should be exposed and dealt with appropriately; this would boost market reputation and stimulate international confidence

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