Real Sector, Gross Fixed Capital Formation and the Nigerian Stock Market

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Abstract

The main objective of the study is to determine the impact of the capital market on the real sector growth and development in Nigerian economy. The critical question that readily comes to mind however, bothers on the extent to which the real sector has been able to access funds from the Nigerian capital market. Co-integration technique was used for data analysis. The long-run results reveal that the stock market of which capital formation – market capitalization, gross fixed capital formation, new issues, and All Share Index are components – has very strong impact on the growth and development of the real sector of the Nigerian economy which therefore implies that a vibrant capital market will serve as a catalyst to the growth and development of the real sector and the economy of Nigeria. Based on the findings, it is recommended that in order to contribute meaningfully to the growth and development of the Nigerian economy, there stems the urgent need to adequately fund the real sector, as it forms the main driving force for the country's GDP coupled with large scale employment generation, through the capital market. This can be achieved with capital market instruments such as bonds. Real Estate Investment Trusts, and other colaterised securities. In addition, an enabling environment should be created through more reform programmes to deepening the market and thus pave way for more long term funds, for real sector development.

Key words: Real sector, capital market, Gross Fixed Capital Formation (GFCF), Market Capitalization and Gross Domestic Product (GDP)

Introduction

The real sector, is one of the major components of the Nigerian economy. The sector is made up of the manufacturing and service industries. These include housing, agriculture, manufacturing industry, mining infrastructures and services. This sector is one of the sectors that is capable, if vibrant, of fast-tracking economic growth and development coupled with high level of massive employment creation. Financing the sector is an issue of main concern considering the slow pace of growth in the financial sector which is further aggravated by the incessant money market (banks) collapses, caused by the malfeasance of corporate insiders. The slow pace of growth is also further worsened recently by the global economic melt down that almost ruin the Nigerian stock market and those of other nations of the world.

The capital markets, globally play a pivotal function in aiding economic growth and development. However, the Nigerian stock market is yet to appreciably perform its natural role in relation to the financial transformation of the real sector through Gross Fixed Capital Formation (GFCF) needs for funding viable and productive investments. Undoubtedly, there exists a nexus between real sector development and the level of employment in an economy. In the light of this, such potential area of growth and development should not be ignored by nations.

The Nigerian economy is presently catching 'cold' at the sneezing of the real sector of the economy due to lack of attention. This has led to dwindling Gross Domestic Product (GDP) and high rate of unemployment. The sector is presently being confronted with the challenges of high cost of production, due to underfunding and poor infrastructural development. The development of the real sector has been traced to the effectiveness of the capital market all over the world. In order to achieve real sector development, the stock market should be able to device effective instruments needed to finance the sector.

The financial sector in a typical economy is saddled with the responsibilities of financial resource mobilization and intermediation. It engages in the redeployment of funds from surplus spending units to deficit spending units. In other words, the sector provides funds used as capital input by producers in other sectors of the economy as well as the financial sector. The financial sector especially the capital market is important in the smooth functioning of the real sector of the economy. The real sector of the economy forms the main driving force of the economy. It is the engine of economic growth and development. In spite of its importance, however, the performance of the real sector in terms of production and growth rate has been unacceptably low, its contribution to GDP which is between 45% and 51% has not made any reasonable increase over the years (Central Bank of Nigeria, 2000).

Essentially, the real sector relies on the stock market and money market for medium and long term funds to finance productive activities. Increase in bank lending rate, therefore compound the problem of using cost of the working capital, thereby increasing the impact of funds in the performance of the sector. In this kind of dilemma, the real sector financing can be accelerated through the deepening of the capital market and providing investors with wider options of investment.

In this kind of dilemma, real sector financing through active capital market is critical to the acceleration of economic growth and development in Nigeria. It is therefore needful for the real sector of the economy to interact with the capital market.

Statement of Research Problem
The Nigerian stock market is the hub of national economy as it serves as the pivot for capital formation and investments. In this light, the market is expected to play a major and critical role in financing and growing the real sector through the mobilization of medium and long term investment capital. To achieve this end, the market has witnessed a number of reforms geared towards creating efficiency, effectiveness and sanity in the dealings of the market and to provide easy access to investible funds to the real sector. The critical question that readily comes to mind however, bothers on the extent to which the real sector has been able to access funds from the capital market. Therefore, the research investigation seeks answers to the following pertinent questions:
(i)   Does the stock market have a significant impact on the real sector growth in Nigeria?
(ii)   Does capital formation have a significant impact on real sector growth in Nigeria?
Objective of the Study
The objective of the study is to determine the impact of the capital market on real sector growth in Nigerian economy.
Hypotheses
(i) H_o: Capital market does not have a significant impact on real sector growth and
                    development in Nigeria.
(ii) H_o: Capital formation does not have a significant impact on real sector growth in
                    Nigeria
Review of Related Literature
The capital market has important strategic roles for providing risk capital for long term structures that ensures the liquidity and stability of financial system. Thriving capital markets are often vibrant in private sector development and strong economic growth (Joshia et al., 2012). The capital market comprises the complex of institution and mechanism through which intermediate term funds and long term funds are pooled and made available to business, government and individuals. It comprises the process by which securities already outstanding are transformed (Nwankwo, 1998). Thus, this definition is very embracing; it contains the fact that the capital market deals on medium and long term funds, has government, individuals and business firms as participants, and ensures liquidity as it provides market for both new and old securities.

Also, according to Alile (1986) the central task of the capital market is the mobilization of funds in the hands of individual who pool and channel such funds into productive uses. Osaze (2000:40) asserted that the capital market is the prime motor that drives any economy on its path to growth and development because it is responsible for long term growth capital formation. Unfortunately, the Nigerian capital market has not fully perform its natural function of funding investments especially in the real sector. One of the major indicator of capital market development is the proportion of long term fixed capital that is raised in relation to the GDP. Between 1999 and 2004, capital formation in terms of long term funds raised from the market through new issues of securities to the Gross Domestic Product (GDP) averaged only 1.36%, while the new issues to gross fixed capital formation (GFCF) averaged 16.0%. Market capitalization to GDP also averaged 14.25% during the same period. It is therefore not surprising that the Nigerian economy has only been growing at an average of 3.2% per annum over the period.

According to Mary et al. (2012), financial institutions have not contributed much in financing capital investments but they have however contributed towards stock market development.

Capital Market Instruments

The instruments are the securities that are traded in the stock market. They include:

(a) Ordinary shares
(b) Preference shares
(c) Debt instruments

These instruments according to Herbert (2004:421) cannot be inspected or assessed the way electronics, tubers, apples, grapes etc are being accessed. Ordinary shares are issued to the owner of the company (ordinary shareholders). The shares are long term financing with a norminal value or face value. The memorandum and article of a company specified the number of authorized ordinary share a company can issue. The ordinary shareholders of a company has a residual claim in the company. This claims to income and assets comes after the creditor and preference shareholders have been paid in full. As a result, a shareholders returns on investment is less than the returns to a lender, or preference shareholder. However, there is no limit to the return of ordinary shares.

The preference share is another major source of long term financing to a company. Preference shareholders are entitled to a fixed percentage dividend before any dividend is paid to ordinary shareholders. However, dividend can only be paid if sufficient distributable profits are available, although with cumulative preference shares the right to an unpaid dividend is carried forward to later year. The arrear of dividend on cumulative preference shares must be paid before any dividend is paid to ordinary shareholders. Just like the debt instrument, a preference shareholder, has a norminal value and dividend which is paid at a fixed percentage of this amount. The share can be redeemable or irredeemable.

Debt instruments are instruments used for long term borrowing either by companies or government. A bond is one such instrument. A bond represents a method of long term borrowing by corporation or government agencies. When a corporate bond is issued, it is as a legal contract that goes with it which contains the provisions of loans in terms of its amount, interest and maturity period. Bonds are sold in multiple such as ₦1000. They are purchased by commercial banks, insurance, companies or corporation. This is why they have prior claims on the firm's assets in the event of liquidation. There are different classes of bonds.

Types of Capital Market

Primary Market – According to Soyede (2005:8), primary market is a market of new securities. It is a platform where the company or government can raise money for investment or where already quoted company can raise fresh funds (through new issues) for expansion. Both the Securities and Exchange Commission (SEC) and Nigerian Stock Exchange (NSE) are involved in primary market activities. The issuing houses and stock brokers also play prominent roles. Until 1993, when the deregulation of the stock market commenced, the SEC was responsible for pricing and allotment of new issues in the Nigeria capital market.

The secondary market according to Pandey (2006:4), is a type of market where existing securities of a market are traded only daily and continuous basis. It is the market for existing securities. This consists of exchanges and over the counter markets where securities are bought and sold after their issuance in the primary market. Events in the secondary market frequently provide the basis for the terms and conditions that will prevail in the primary market. If there were no secondary market in which investors could turn investment in new issues back into cash when they choose, many investors would not buy new issues. If any investors truly intends to make any irrevocable commitment of their funds, the availability of a secondary market is an absolute pre-requisite to the existence of a primary market in common stock.

The Functions of the Nigerian Capital Market in Economic Development

Osaze (2000), Al-faki (2006), enumerated the followings as roles of the Nigerian capital market:

1. Financial intermediation from funds surplus to funds deficit institutions
2. Offering enterprises new and wider opportunities for obtaining funds
3. Acting as a means of exchanging securities at mutually beneficial prices thereby creating liquidity
4. Creating liquidity in economy through price mechanism
5. Act as a means of ascertaining the prices of securities
6. Acts as a means of efficiently trading in securities
7. Allocate and ration funds among competing demands and uses
8. Provides employment opportunities for the ever growing labour force

9.   Government can also use the capital market to carry out its privatization exercise by offering its share holdings in state-owned enterprises to members of the public through the stock exchange.

The Real Sector Financing and the Nigerian Capital Market

The real sector is one potential area for economic growth and development that cannot be ignored. The sector, apart from the economic viability is a major employer of labour. With dwindling GDP and high rate of unemployment, it will be foolhardy to downplay such an important sector. Al-faki (2008) described the relationship and impact of the capital market reforms on the financing of the real sector. He asserted that the economic reforms of the federal government, particularly those that have taken place in the financial sector are intended among other objectives to impact positively on real sector financing.

Onyenemere (2008) decried the declining state of the manufacturing sector which in fact is a component of the real sector. According to him, our economy is still in doldrums with economic renters still holding sway. The banks keep declaring stupendous profits while the real sector of the economy keeps tottering on the brink. The financial sector is to be driven by the activities in the real sector, but in Nigeria, there is a disconnect making us to wonder where all these huge profits from banks are coming from. The manufacturing sector is shrinking over the years and this has led to massive retrenchment in our companies, thus increasing unemployment.

Young (2008) also asserted that the economy is undergoing de -manufacturing which has necessitated closures, lay offs and retrenchment of workers in the various companies and emphasized that there is a very close inter -linkage between the different sectors of the economy evidenced by the huge profits banks and other financial institutions kept on reporting year after year.

While many have expressed concern over the possibility of bank issues crowding out manufacturing companies (real sector) from the capital market, such fear may be misplaced. A company in the real sector, as in any other sector has the option of sourcing for funds in the Nigeria capital market through the issuance of equities which represents ownership stake in the company or through the issuance of debt instruments known as debenture. However, the real sector is presently in a dismal state because of high cost of production which could be adduced to poor infrastructural development and funding. And the capital market being the long end of the financial sector still is the only means of financing the infrastructural and investment needs of the real sector in order to reposition it on the part of growth and development.

Gross Fixed Capital Formation (GFCF)

This is the total investment in fixed assets in an economy. It is investment in fixed assets financed with funds raised through the capital market. In 1986, the government of Nigeria considered the need for improvement in capital formation and pursued an economic reform that shifted emphasis on private sector. The public sector reforms were expected to ensure that interest rate were positive in real term and to encourage savings thereby ensuring that investment funds would be readily available to the real sector. Besides this, the reforms, were expected to lead to efficiency, and productivity of labour, efficient utilization of economic resources, increase aggregate supply, reduce unemployment and generate low inflation rate, and promote economic growth (Bakare, 2011). There is a strong linkage between gross fixed capital formation and economic growth denoted by GDP. Fluctuation in GFCF is said to have considerable effect on economic growth. However, the proportion of capital formation to GDP that can sustain a robust economic growth must not be less than 27 per cent and in some cases as high as 37 percent (Gillis et al, 1987).

During 1980s, gross fixed capital formation (GFCF) averaged 21.3 per cent of GDP in Nigeria. This proportion increased to 23.3 per cent of GDP in 1991 and declined to 14.2 per cent in 1996. It picked and increased to 17.4 per cent in 1997 and average 21.7 per cent during 1997 to 2000. It rose from 22.3 per cent of GDP in 2000 to 26.2 per cent in 2002 and declined drastically to 21.3 per cent in 2005 (Bakare, 2011).

Research Methodology

Research Design

The longitudinal survey research design was adopted because data collected were secondary and the researcher lacks the ability to manipulate them. The approach is also known as the ex-post-factor research design.

Sources of Data

Secondary data were collected and used for the study through journals, books, fact-book published by the Nigerian Stock Exchange, the Central Bank of Nigeria, statistical bulletin 2005 edition and the internet.

The Population

The population under study is made up of the totality of all firms quoted on the floor of the Nigerian Stock Exchange from the year 1981 to 2005. The features of the population that is of interest will be the totality of the market capitalization, value of the new issues, gross fixed capital formation and the gross fixed capital formation and the Gross Domestic Product (GDP).

Sample and Sampling Design

A sample is a representative of the overall population under study which will be used for generalization. The sample size is made up of all quoted companies on the floor of the Nigeria Stock Exchange spanning 1981-2005. Consisting of 25 annual observation for each variable. These variable include market capitalization, new issues, gross fixed capital formation, GDP and real sector.

Model Specification

The models to be used in the empirical analysis are designed to capture the effects of the capital market on the development of the real sector of the Nigerian economy. In the first model, real sector, which is a major indicator of the real economy is hypothesized to depend on the capital market development and other traditional real sector development variables. The model is specified as:

RLEST = f(RGDP, MCAP, ASI, NEW, INT, INFL, GFCF)

Since elasticity coefficients are the main interests in the model, the relationship is specified in log-linear form as:

$$LRLEST = \alpha_0 + \alpha_1 LRGDP + \alpha_2 LMCAP + \alpha_3 LASI + \alpha_4 LNEW + \alpha_5 LINT + \alpha_6 LINFL + \alpha_7 GFCF + U_1$$

Where;

α_0-α_6 are the parameters to be estimate; and

U   the stochastic error term

Also, it is expected that α_1, α_2, α_3, α_4, $\alpha > 0$ and α_5, $\alpha_6 < 0$

Where   RLEST =   real sector
RGNP   =   real GDP
MCAP   =   market capitalization
ASI   =   all share index of the Nigeria stock exchange
NEW   =   new issues of stocks in the capital market
INT   =   Prime lending rate
GFCF   =   gross fixed capital formation

In the second model, we link the economy to the capital market factors. Here, we seek to determine the direct effects of the capital market on the real economy. The model is specified as:

RGDP = f(GFCF, MCAP, NEW, ASI, INT, INFL)

Where all variables are as defined earlier, the econometric form of the model is specified in log. Linear pattern as:

$$LRGDP = \beta_0 + \beta_1 GFCF + \beta_2 MCAP + \beta_3 NEW + \beta_4 ASI + \beta_5 INT + \beta_6 INFL + U_2$$

The a priori expectations are:

β_1, β_2, β_3, $\beta_4 > 0$ while β_5, $\beta_6 < 0$

In this relationship, it is expected that all capital market factors (MCAP, NEW and ASI) positively impacts on the economy while inflation and interest negatively effects the economy. Indeed, rising prices as well as interest rates tend to slow down the pace of growth of the capital market.

Empirical Analysis

The goal of this study is to empirically estimate a model that helps explain the long run (steady state) behavioural relationships between the capital market and the real sector development in Nigeria, as well as the interim short term changes in these relationships. However, because some recent studies on macroeconomic variables in Nigeria suggest time series data on real sector variables and market factors are most stationary in the level form but that their first-order differences are (Akinlo and folorunso, 1999; Nwaobi, 2000 etc), there is the need to investigate the stationarity of variables in our model and whether or not there is any evidence of co-integration between the capital market and a linear combination of the explanatory variables. If the explanatory variables in their level forms are not stationary but there first differences and these variables are co-integrated with capital market development, then an Error correction model will be appropriate. Thus, following this procedure, the processes of the co-integration and error correction modeling techniques are rigorously pursued. As examined in the previous chapter, the procedure for this analysis involves testing for unit roots among the time series in the analysis, the co-integration analysis which involves the investigation of the long run relationships among the variables; the estimation of the short run dynamic model; and then, the estimation of a long run behavioural relationship.

Unit Root Analysis

A time series is stated as non-stationary if mean and variance of the time series is dependent over time. On the other hand, a time series is stated as stationary if the mean and variance is constant over time. According to Gordon (1995), most economic time series are non-stationary and can only achieve stationary at the first difference level or at a higher level.

Generally, unit root test involves the test of stationarity for variables used in regression analysis. The importance of stationarity of time series used in regression borders on the fact that a non-stationary time series is not possible to generalize to other time periods apart from the present. This makes forecasting based on such time series to be of little practical value. Moreover, regression of a non-stationary time series on another non-starionary time series may produce spurious result.

The Augmented Dickey Fuller (ADF) test is employed in order to analyse unit roots. The results are presented in levels and first difference. This enables us determine in comparative terms, the unit root among the time series and also to obtain more robust results. Table 1 presents results of ADF test in levels in which taking into consideration the trend in variables. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out. In the result, the ADF test statistic for each of the variables is shown in the second column, while the 95 per cent critical ADF value is shown in the third column. The result indicates that (apart from inflation), all the variables have ADF values that are less than their respective 95 per cent critical ADF values. The implication of this is that the time series are non-stationary in their levels. Inflation, on the other hand, is stationary and as such, is not time dependent.

Table 1: Unit Root Test for Variables in Levels

Variable	ADF Test Statistic	95% Critical ADF Value	Remark
LRLEST	0.1548	-2.9400	Non-stationary
LRGDP	-2.7675	-2.9400	”
LMCAP	0.1694	2.9750	”
LASI	-0.9840	-2.9798	”
LNEW	1.2805	-2.9798	”
LINT	-1.3105	-2.9446	”
LINFL	-3.9063	-2.9400	Stationary
LGFCF	-0.5215	-2.9422	Non-stationary

Box and Henkins (1978) have argued that non-stationary time series in levels may be made stationary by taking their first differences. A given series is said to be integrated of order d (denoted I(d)) if it attains stationarity after differencing d times. If the series is I(1) it is deemed to have a unit root. This situation arises if the first difference of the series is I(0). We take the first differences of the respective variables and perform the unit root test on each of the resultant time series.

The result of the unit cost test on these variables in first differences is reported in table 2 below. From the result, it is seen that the ADF test statistic for each of the variable is greater than the 95 per cent critical ADF values (in absolute values). With these result, these variables are adjudged to be stationary. This implies that the variables are actually difference-stationary, attaining stationarity after the first differences of the variables. Thus, we would accept that the variables possess unit roots. Indeed, the variables are integrated of order one (i.e. I[1]).

Table 2: Unit Root Test for Variables in First Difference

Variable	ADF Test Statistic	95% Critical ADF Value	Remark
ΔLRLEST	-3.1730	-2.9422	Stationary
ΔLRGDP	-4.5283	-2.9422	"
ΔLMCAP	-4.7559	-2.9798	"
ΔLASI	-5.7211	-2.9907	"
ΔLNEW	-4.8027	-2.9850	"
ΔLINT	-4.3020	-2.9472	"
ΔLINFL	-6.0888	-2.9422	"
ΔLGFCF			

Result extracted from the Eviews 3.1 output

Co-Integration Analysis

According to Engle and Granger (1987), if two time series variables, p_1 and q_1, are both non-stationary in levels but stationary in first-differences, i.e. both are I(1), then there could be a linear combination of p_1 and q_1, which is stationary, i.e. the linear combination of the two variables is I(0). The two time series variables that satisfy this requirement are deemed to be cointegrated. The existence of co-integration implies that the two co-integrated time series variables must be drifting together at roughly the same rate (i.e. they are linked in a common long-run equilibrium). A necessary condition for co-integration is that they are integrated of the same order (Granger, 1986; Engle and Granger, 1987).

T
he economic interpretation of integration is that if two or more variables are linked to form an equilibrium or long run relationship between them, even though the series themselves in the short run deviate from equilibrium, they will move together in the long run. Indeed, a non-stationary variable might have a long run relationship with other non-stationary variables and this does not create a spurious regression if the deviation of this long run relationship is stationary. It implies that these variable are co-integrated.

The Engle and Granger two-step method is employed for the test of co-integration. This method follows a simple procedure. The dependent variable is regressed on all the independent variables and the residuals are obtained. If the variables are co-integrated, then, the residual from the co-integrating equation must be integrated to order zero (stationary). In this analysis, the co-integration test is performed on the model that was specified. The result of the co-integration tests are summarized in table 3 below.

Table 3: Results of Engle and Granger Residual based Co-Integration Tests

Model	ADF Lag	ADF Test Statistic	95% Critical ADF Value	Remark
1	2	-4.7533	-4.2277	Stationary
2	2	-4.317	-4.179	Stationary

Result extracted from the Microfit 4.1 output
Note: The Selection of Lag is based on minimum Akaike Information Criterion

From table 3, using the Engle and Granger co-integration procedure, both modes have ADF test statistic values that are greater than the 95 per cent critical ADF value (in absolute terms). This implies that the residuals are stationary and indicates that the real sector and real GDP equations are co-integrated. Therefore, long run relationships exist between the particular dependent variable and the selected independent variables. An inter temporal model can therefore be estimated for the relationships.

The Error Correction Mechanism (ECM) (Short-Run Analysis)

The short-run dynamics of the behaviour of the real sector in the context of short term movements in capital market factors as well as the other variables in Nigeria is captured within an error correction model (ECM). We now turn to this analysis. The autoregressive distributed lags (ARDL) approach is used for the ECM. The error correction representations for the selected ARDL models are presented in Table 4a to 4c below. The R-Bar squared criterion was used for the selection of the parsimonious equation.

The Real Sector Equation

The result of the estimated error correction representation for real sector is presented in table 4 below. The result shows a highly impressive goodness of fit for the model. The R-squared value of 0.744 is quite high and it indicates that over 74 per cent of the systematic variation in private investment over time is explained by short term movements in the explanatory variables including the ECM. Thus, the model possesses a high predictive ability. The overall goodness of fit for the model is observed through the F-statistic. The F-value of 6.16 is high and easily passes the significance test at the 1 per cent level. Thus, we will accept the hypothesis of a significant log-linear (dynamic) relationship between real sector and all the independent variables combined. Indeed, the capital market and other foreign sector variables combine to exert significant influence in capital market development in Nigeria.

Table 4: The Short-run Dynamic Model for Real Sector Development

Variable	Coefficient	T-ratio
Constant	-22.74	-2.150
ΔLGFCF	-0.174	-0.765
ΔLMCAP	0.082	0.993
ΔLNEW	-0.050	-0.465
ΔLASI	0.013	0.991
ΔLINT	-0.077	-0.362
ΔLINFL	-0.005	-0.071
ΔLRGDP	2.076	2.185
ECM(-1)	-0.596	-3.427
$R^2 = 0.744$	F = 6.16	D.W= 2.29

In order to determine the pattern and extent of contribution from each of the explanatory variables, the coefficients and their respective significance levels are observed. A close examination of the results of the estimates reveals that in terms of the individual coefficients of the variables in the model, only those of GFCF and NEW do not have the expected a priori signs. These two coefficients have negative signs instead of the expected positive signs. Moreover, these variables actually fail the significance test at the five percent level and hence, do not exert any significant impact on real sector changes based on the results. This implies that in the short run, the behaviour of real sector cannot be predicted by either the extent of fixed capital or new issues in the stock market.

All the other coefficients of the model have the expected a priori signs. More importantly, the t-test shows that only the coefficient of RGDP is significantly different from zero at the 5 per cent level. This coefficient is positive, indicating that it has a positive effect on real sector development in Nigeria. Thus, the level of income in the economy is shown to have a positive effect on real sector development in the short run; the higher the real income level, the greater the rate of real sector development in the short run. Also, the result indicates that the impact of real income on the real sector growth is highly elastic. A percentage rise in real income leads to a 2.08 per cent interim growth of real sector in Nigeria. Although interest rate and exchange rate both have the expected signs, they fail the significance test at the 5 per cent level. Thus, short run capital market development may not be predicted by changes in either the interest rate or the naira exchange rate in Nigeria.

All the stock market variables fail the significance test at the 5 per cent level. This implies that in the short run, stock market development or any form of changes in it do not have any impact on the real sector.

The coefficient of the ECM is significant and it has the correct and expected negative sign. It is also highly significant at the 1 per cent level. This indicates that any short run deviation from equilibrium will be restored in the long run. The coefficient value of approximately -0.596 is moderately high and suggests that the adjustment to long run equilibrium is rather moderate. Close to 60 per cent of adjustment to steady state equilibrium is completed within the first year. The D.W. statistic value of 2.29 is very close to two and indicates that autocorrelation is not a strong problem in the results. Thus, the estimates are reliable for structural analysis and policy directions.

The GDP Equation
The error correction mechanism result for the RGDP equation, as reported in table 4(b) below, indicates that the model has impressive diagnostic statistics. The goodness of fit of the model is quite high. The R-squared value of 0.991 is very high and indicates that over 99 per cent of the systematic variation in RGDP at any given time is explained by the explanatory variables and the ecm term.

In the same direction, the F-statistic value of 311.4 is very high and easily passes the significance test even at the 1 per cent level, since this value is greater than the per cent critical F-value of 4.01. Thus, we cannot reject the hypothesis of a significant log-linear relationship between RGDP and all the independent variables combined in the short run.

A close investigation of the individual coefficients of the variables reveals that the coefficients of lagged NEW and INFL are significant at the 1 per cent level. All the other coefficients fail the significance test, even at the 5 per cent level. This shows that the main factors that cause short term changes in RGDP are the new issues or new stocks in the stock market and the rate of inflation. However, only the new issues variable has the expected sign; the other significant variable (inflation) has rather pervasive sign that is not in line with a priori determination.

This result reveals that addition to the stocks in the stock market tends to stimulate economic growth in the short run. A percentage increase in the new issues leads to a 0.1 per cent rise in real GDP. This outcome is plausible because a widening stock market seems to indicate boom in economic activities in the short run and therefore tends to cause improvements in the real sectors of the economy including investment.

Table 4: The Short-run Dynamic Model for Real Gross Domestic Product

Variable	Coefficient	T-ratio
Constant	11.019	41.411
ΔLGFCF	0.063	1.264
ΔLMCAP	0.031	1.675
ΔLNEW	0.084	5.580
ΔLASI	-0.026	-0.809
ΔLINT	0.005	0.134
ΔLINFL	0.045	4.014
ECM(-1)	-0.805	-10.546
$R^2 = 0.991$	F = 311.4	D.W= 1.99

The error correction term has the correct negative sign and is also significant at the 5 per cent level. This goes to show that any short term deviation of RGDP from equilibrium in the short run can be restored in the long run. The high value of the error correction term means that adjustment to equilibrium in the long run is fast. Over 80

percent of long run adjustment to equilibrium is made during the first year. The DW statistic value of 1.99 is very close to two, showing absence of autocorrelation in the model. The implication of this is that the short-run estimates in the model above are reliable for structural analysis and policy directions.

The Long Run Relationships
The results of the estimated long run relations are based on the ARDL estimation. The coefficients of the models along with their respective asymptotic t-ratios are shown in table 5 below. In the real sector result, only the coefficients of ASI and inflation do not possess the expected a priori signs. However, all coefficients of the variables pass the significance test at the 5 percent level. This shows that in the long run, the stock market has a very strong impact on real sector development in Nigeria. Therefore, the null hypothesis that capital market does not have a significant impact on real sector growth and development in Nigeria is rejected. The alternate is therefore accepted. New issues has the largest coefficient elasticity in the long run, suggesting that both level of market widening seems to be the most important capital market factor that stimulates real sector development in Nigeria. The coefficient of MCAP is also high and positive, indicating that a sustained improvement in the capital market over time has the capacity to generate long term development of the real sector in Nigeria. Therefore, the null hypothesis that capital formation does not have a significant impact on real sector growth in Nigeria is thus rejected while the alternate accepted. The coefficient of ASI is however, negative indicating that rising stock market index tends to slow down real sector growth in Nigeria. The coefficient of interest rate shows a negative impact on the real sector in the long run. This result is to be expected since as the cost of borrowing rises, real sector will tend to fall due to increasing difficulty in procuring funds.

Table 5: Long Run Model Results

Variable	Real Sector		Real GDP	
	Coefficient	T-Ratio	Coefficient	T-Ratio
Constant	206.2	2.739	11.02	41.41
LGFCF	1.520	3.125	0.001	0.037
LMCAP	1.207	3.355	0.031	1.675
LNEW	2.622	2.899	0.143	10.10
LASI	-1.622	-2.887	-0.026	-0.809
LINT	-1.191	-3.10	0.005	0.134
LINFL	0.871	2.935	0.045	4.013
LRGDP	-18.97	-2.752		

The result of the real GDP equation as shown in the last two columns of table 5 is not as interesting as that of the real sector. This gives an indication that the stock market has a lesser effect on the general economic activities than on the real sector of the economy. In the result only the new issues coefficient is significant at the 1 per cent level among the capital market variables. Thus, a sustained widening of the stock market may lead to a more than proportionate rise in real income levels in the economy. The coefficient of inflation is also significant but has a positive sign. The rationalization for this outcome can be shown to be the fact that GDP growth rate often carries with it a level of price increase over time.

Findings and Implications
The long run result reveals that all coefficients of the variables pass the significance test at 5 per cent level. It therefore indicates that the stock market, of which capital formation (market capitalization, gross fixed capital formation (GFCF), new issue, and all share index as components) has very strong impact on the development of the real sector of the Nigerian economy. The implication of this revelation is that a vibrant stock market will serve as a catalyst to the growth and development of the real sector and the economy in general.

Conclusion
Based on the findings of this study, it can be submitted that a vibrant stock market as evidenced, can readily help in no small measure to stimulate and fast track real sector growth and development of any nation. And this, this strategy should to be encouraged to fast track economic development and growth.

Recommendations

Based on findings, the followings recommendations are made:

1. To contribute meaningfully towards the vibrant development of the Nigerian economy, there is the urgent need to adequately fund the real sector. This is because the real sector of the economy, forms the main driving force for the country's Gross Domestic Product (GDP) and large scale employment generation.

2. It is imperative that the Nigeria stock market provides such funds which are capital and long term intensive to the financing of the real sector. Long term financial instruments such as bonds and collaterised securities, along side the floating of new issues should suffice for real sector developments.

3. The Securities Exchange Commission a body which regulates the activities of Nigerian stock exchange should creates enabling environment which foster and promote reforms in the capital market. Reforms contribute significantly to the growth and deepening of the stock market and of course, the real sector. The reforms provide an enabling environment for the provision of other long term funds other than equities. It is therefore recommended that more reform programmes be put in place that will enlarge the scope of long term investment instruments that will help grow the real sector.

4. Finally, the Real Estate Investment Trust (REIT) should be explored as a viable instrument for financing real sector in Nigeria.

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APPENDIX

YEAR	GCF	MCAP	NEW	RGDP	ASI	INFL	RLEST	INT
1981	18220.59	4464.20	455.20	205222.06	91.56	20.81	3671.20	10.00
1982	17145.82	4976.80	533.40	199685.25	96.20	7.70	2773.00	11.75
1983	13335.33	5025.70	448.50	185598.14	96.50	23.21	2488.00	11.50
1984	9149.76	5768.00	159.80	183562.95	127.20	17.82	2256.00	13.00
1985	8799.48	5514.90	817.20	201036.27	100.00	7.44	1906.00	11.75
1986	11351.46	6670.70	833.00	205971.44	163.80	5.72	2692.10	12.00
1987	15228.58	6794.80	450.70	204806.54	190.90	11.29	1920.00	19.20
1988	17562.21	8297.60	400.00	219875.63	233.60	54.51	2175.00	17.60
1989	26825.51	10020.80	1629.90	236729.58	325.30	50.47	2467.00	24.60
1990	40121.31	12848.60	9964.50	267549.99	513.80	7.36	3854.45	27.70
1991	45190.23	16358.40	1870.00	265379.14	783.00	13.01	4350.75	20.80
1992	70809.16	231,25.00	3306.30	271365.52	1107.60	44.59	4900.33	31.20
1993	96915.51	312,72.60	2636.90	274833.29	1543.80	57.17	6109.70	36.09
1994	105575.49	474.36.10	2161.70	275450.56	2205.00	57.03	8019.10	21.00
1995	141920.24	663,68.00	4425.60	281407.40	5092.20	72.84	10324.60	20.79
1996	204047.61	180305.10	5858.20	293745.38	6992.10	29.27	13784.38	20.86
1997	242899.79	285815.80	10875.70	302022.48	6440.50	8.53	16042.20	23.32
1998	242256.26	281887.20	15181.10	310890.05	5672.70	10.00	18775.74	21.34
1999	231661.69	262517.30	12038.50	312183.48	5266.40	6.62	24877.83	27.19
2000	331056.73	300041.10	17207.80	329178.74	8111.00	6.93	27527.52	21.55
2001	372135.65	472290.00	37198.80	356994.26	10963.10	18.87	30603.90	21.34
2002	499681.53	662561.30	61284.00	433203.51	12137.70	12.88	40744.13	30.19
2003	865876.46	764975.80	180079.90	477532.98	20128.94	14.03	47985.41	22.88
2004	863072.62	1359274.20	195418.40	527576.04	23844.50	15.00	58905.42	20.82
2005	804400.82	2112549.60	552782.00	561931.39	24085.80	17.86	166078.50	19.49
2006	1546525.65	2900062.10	707412.90	595821.61	33189.30	8.24	215786.13	18.70
2007	1915348.83	5120900.00	1935084.00	634251.12	57990.20	5.38	250332.27	18.36
2008	2030510.02	13294590.00	1509234.00	672202.55	31450.78	11.58	266463.97	18.70
2009	2442703.53	12814680.00	1439271.90	718579.45	20827.17	11.54	306581.60	22.90
2010	2861937.30	13163794.60	149281.40	871397.22	24193.40	13.72	347690.73	26.71