Nigerian stock exchange and economic development

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Abstract: The need to critically analyze the efficiency of capital market on the Nigerian economy for the period between 1979 and 2008 as a reference point for developing economies is the bedrock of this work. The results indicate that the stock market indeed contributes to economic growth as all variables conformed to expectation. The Nigerian Stock Exchange has not been having the best of times as an aftermath of the global financial crisis after an unprecedented surge in returns on investment which has resulted in a continuous downturn in market capitalization. Multiple regression method of econometric analysis was used for the work. The major findings revealed a negative relationship between the market capitalization and the Gross Domestic Product as well as a negative relationship between the turnover ratio and the Gross Domestic Product while a positive relationship was observed between the all-share index and the Gross Domestic Product. These findings led to some policy formulations aimed at an improved and developed market for potential gain to the benefit of rational investors even across national borders.

Keywords: stock exchange, market capitalization, all-share index, multiple regressions, policy formulation.

1.0 Introduction

The Nigerian Stock Exchange was established in 1960 as the Lagos Stock Exchange.

In 1977 it became The Nigerian Stock Exchange, with branches established in some of the major commercial cities of the country with Lagos as the head office of the Nigerian

Exchange and an office in Abuja. The Exchange started operations in 1961 with 19 securities listed for trading. Today there are 262 securities listed on The Exchange, made up of 11 Government Stocks, 49 Industrial Loan (Debenture/Preference) Stocks and 194 Equity / Ordinary Shares of Companies, all with a total market capitalization of approximately N287.0 billion, as at August 31, 1999. Presently, there are 139 listed equities while the all-share index and market capitalisation stood at 24,807 basis points and 1.973 trillion respectively as at December 3, 2010.(Nigerian Stock Exchange Equities Summary. Most of the listed companies have foreign/multinational affiliations and represent a cross-section the economy, ranging from agriculture through manufacturing to services.

The market has in place a tested network of Stockbrokerage Firms, Issuing Houses (Merchant Banks), practicing corporate law firms and over 50 quality firms of auditors and reporting accountants (most with international links). The Stock Exchange and most of the nation's stock broking firms and issuing houses are staffed with creative financial engineers that can compete anywhere in the World. Therefore, the market has in place a network of intermediating organizations that can effectively and creditably meet the challenges and growing needs of investors in Nigerian. Integrity is the watchword of The Stock Exchange. Market operators subscribe to the code "Our word is our bond". Thus, public trust in the Nigerian stock market has grown tremendously, with about three million individual investors and hundreds of institutional investors (including foreigners who own about 47% of the quoted companies) using the facilities of The Exchange. However, the aftermath of the global financial meltdown has greatly affected the confidence level of investors. In the interim, the stakeholders are making frantic efforts to return the Exchange to an enviable position.

The call over trading system was in April replaced with the Automated Trading System (ATS), with bids and offers now matched by stockbrokers on the Trading Floors of The Stock Exchange through a network of computers. This is done every business day from 11.00 a.m. till all bids and offers have been executed (about 1.30 p.m. on the average). This time period has been extended by 2 hours recently as a strategic approach to enhanced efficiency in the market. Prices of new issues are determined by issuing houses/stockbrokers; while on the secondary market prices are made by stockbrokers only. The market/quote prices, along with the All-Share Index, are published daily in The Stock Exchange Daily Official List, The Nigerian Stock Exchange CAPNET (an intranet facility), The Nigerian Stock Exchange website ; Newspapers and on the stock market page of the Reuters Electronic Contributor System.

Pricing and other direct controls gave way to indirect controls by the regulatory bodies (Securities and Exchange Commission and The Stock Exchange) following the deregulation of the market in 1993. Deregulation has improved the competitiveness of the market, in addition to making it more investor-friendly. The All-Share Index: The Exchange maintains an All-Share Index formulated in January 1984 (January 3, 1984 = 100). Only common stocks (ordinary shares) are included in the computation of the index. The index is value-relative and is computed daily. Clearing, Delivery and Settlement: Clearing, Settlement and Delivery of transactions on The Exchange are done electronically by the

Central Securities Clearing System Limited (CSCS), a subsidiary of The Stock Exchange. The CSCS Limited ("the Clearing House") was incorporated in 1992 as part of the effort to make the Nigerian stock market more efficient and investor-friendly. Apart from clearing, settlement and delivery, the CSCS Limited offers custodian services. (See the write-up on the Central Securities Clearing System Limited for more about clearing, delivery and settlement on The Exchange.)

Stock Market Legislations: Transactions in the stock market are guided by the following legislations, among others:
- – Investments & Securities Decree No. 45, 1999.
- – Companies and Allied Matters Decree 1990.
- – Nigerian Investment Promotion Commission Decree, 1995.
- – Foreign Exchange (Miscellaneous Provisions) Decree, 1995.

Transactions on The Exchange are regulated by The Nigerian Stock Exchange, as a self-regulatory organisation (SRO), and the Securities & Exchange Commission (SEC), which administers the Investments & Securities Decree 1999. Following the deregulation of the capital market in 1993, the Federal Government in 1995 internationalized the capital market, with the abrogation of laws that constrained foreign participation in the Nigerian capital market. Consequent upon the abrogation of the Exchange Control Act 1962 and the Nigerian Enterprise Promotion Decree 1989, foreigners can now participate in the Nigerian capital market both as operators and investors. The Exchange had since June 2, 1987, linked up with the Reuters Electronic Contributor System for online global dissemination of stock market information - trading statistics, All-Share Index, company investment ratios, and company news (financial statements and corporate actions).

In November, 1996, The Exchange launched its Internet System (CAPNET) as one of the infrastructural support for meeting the challenges of internationalisation and achieving an enhanced service delivery. The Internet System facilitates communication among local and international participants in the market, as subscribers to the system include stockbrokers, quoted companies, issuing houses, etc, who now use the facility to receive and send e-mail, globally and locally. But more importantly, they can, through this medium, access key market information - trading statistics (current and historical), corporate trading results, et cetera.

The Nigerian Capital Market of Nigerian Stock Exchange is a major player is the market for long-term funds. The instruments or securities traded in the capital market are known as capital market instruments. However, the capital market has both securities based segment (i.e. the stock exchange) and non-Securities based segment (market for long term loans). Capital market instruments can be categorized into 3 major groups of securities: preference shares, ordinary shares and debt instruments. Some of the other principal and active market operators in the Nigerian Stock Market include Stockbrokers, Investment Advisers, Issuing houses, Registrars, Fund Managers, Financial Advisers et cetera.

The Nigerian Stock exchange is the center point of the Nigerian Capital Market. It provides a mechanism to mobilize private and public savings as well as making such

funds available for productive purposes. The Nigerian Stock Exchange also assists in the allocation of the nation's capital resources amongst numerous competitive alternatives. The stock exchange can also be a mechanism, which can measure and detect the symptoms of an impending economic boom or decline long before the predicted prosperity or decline actually occurs provided the market is either in the semi-strong or strong form of efficiency level. It is good to distinguish the capital market from the Stock Exchange in the sense that the capital market is much wider and bigger than the Stock Exchange. The Stock Exchange is just a participating institution in the capital market albeit it is the most active of all the participants. The activity of the Stock Exchange in the capital market is reflected by the Stock Exchange, which measures the activities on the capital market.

The main objectives of the Nigerian Stock Exchange as enunciated in the Memorandum of Association of the company is to create an appropriate mechanism for capital formation and provide efficient allocation of resources among competing alternatives. It is also expected to provide special financing strategies for projects with long term gestation periods. In addition, it helps to maintain discipline in the capital market as far as the participants and the investors are concerned and as such, assists to broaden the share ownership in the market by providing the enabling environment and to provide and maintain fair prices for securities. The overriding objective of any financial system is the provision of a conducive atmosphere for the transfer of funds from the surplus sector of the economy to the deficit sector. The Capital Market, in the process of carrying out its function is faced with many challenges such as the effect

of economic trends, financial restructuring and reforms by government, industrialization, and technology etc. the Capital Market is thereby required to adapt to the constantly changing trends in the economy.

The market in Nigeria has been described as being shallow; this is due mainly to the market float that is very small and is measured by the ratio of securities in the market to the total listed securities outstanding. The challenge that lies ahead is to be able to increase and retain as many of our domestic individual and institutional investors as possible and simultaneously attract foreign ones to the Nigerian Capital Market. This can be achieved by being dynamic, innovative, and having an open mind so that new ideas can be absorbed and put productively in use. The market mist be in a position to provide a spectrum of investment alternatives, new trading instruments with which investors can hedge their risk, as well as an environment which is honest, has sufficient structures and where policies are flexible enough to accommodate different investment needs.

The Capital market has also been characterized by a number of market failures, one of which is asymmetric information, a situation in which one party to a transaction has less information than the other party. The pervasiveness of this phenomenon greatly undermines the efficiency of financial markets as mechanisms for allocating resources. Because geography and cultural distance complicate the acquisition information, asymmetric information is particularly prevalent internationally. While the revolution in information asymmetric are lessened but not eliminated, therefore they are prone to the sharp investor reactions, unpredictable market movements and financial crisis

that can occur when information is incomplete and financial markets behave erratically (Eichengreen and Musa 1998). Thus, in the absence of complete information, investors tend to rush in and out of the markets on rumour. The purpose of the study is to critically examine and evaluate the impact of the Capital Market on the Nigerian economy efforts would be made to identify and appraise the strengths and weaknesses of the capital Market and attempts made to remedy such. This would be examined from the past, present and forecast into the future. The main objective of this work is to examine the impact of the capital market on the Nigerian economy. The specific objectives are to assess the role of capital market in economic development and to ascertain the success achieved through a viable working model for the Nigerian economy,

Some of the relevant questions in this work are as follows:

• What is the impact of the Capital Market and the Stock Exchange on the Nigerian Economy?

• What is the proposed working model for the Nigerian Economy?

• What is the relationship between the Capital Market and the Stock Exchange?

• Does the performance of the Stock market affect the Nigerian Economy?

• Why has the capital market been unable to mobilize domestic and foreign funds?

• Does the Capital Market and Stock Exchange influence the Nigerian Economy?

• What measures should be taken in order to improve the Nigerian Capital Market in particular and the Nigerian Economy in general?

This study intends to assess the impact of the Nigerian Stock Exchange on the Nigerian economy. In the light of this, the following hypotheses will be of relevance.

H_{01}: The market capitalization of the Nigerian Stock Exchange does not contribute to the growth of the financial system and the development of the Nigerian Economy.

H_{02}: There is no significant relationship between Capital Market and economic development in Nigeria.

The significance of the study is to analyze critically the financial intermediation role of the capital market in the economy. This is evident in directing idle funds from the surplus economic units to the deficit economic units of the economy. This is expected to lead to sustainable and more socially equitable economic growth and development in the country. The Capital Market with Securities and Exchange Commission as the regulatory body executes out this function through the Nigerian Stock Exchange. This study will enable us to identify challenges prevalent in the Nigerian capital market as it relates to the economy. The need to identify catalyst in the system to jumpstart the economy is of paramount importance. This study would eventually aid in presenting a working model, for the Nigerian Capital Market in relation to the development of the economy. By extension, this work should be able to would pave the way for an improved economy if properly implemented.

2.0 Review of relevant literature and theoretical framework

The possession of industrial capabilities by an economy is considered important for improved economic growth and development. Indeed one of the distinguishing factors between developed and developing

economies is the acquisitions of industrial know – how. The benefits of appropriate industrial base for an economy lies in its combination of sustainable technology, management techniques and other resources in order to move the economy from a traditional and low level of production to a more automated and efficient system of mass processing and manufacture of goods and services. This explains why every economy seeks to acquire appropriate industrial base or to expand it if the economy is already industrialized. Acquisition of industrial capabilities requires the blending of diverse resources of which financial resources constitute a critical factor. Since the availability of such resources is a major influence on developing industrial or other capabilities, every economy seeks avenue to acquire them. One of such avenues is the use of capital market to raise fund. In Nigeria, serious effort is the sources of raising fund for development started in the 1960s and has progressed over the years.

Every economy seeks to promote an effective capital market with the primary objective of mobilizing long-term funds from surplus economic units for the use of the deficit units for investment purposes. They facilitate an efficient allocation of financial resources; the use of capital market reduces over-reliance on the money market, assists in promoting a solvent and competitive financial sector as well as fostering a healthy stock market culture. Finance is the link between the capital market and industrial development. As already noted, the relevance of the capital market to industrial growth of any nation can be seen in the role which capital market plays in the mobilization of funds and their eventual transfer to businesses, the government and individuals that need those funds for investment. Therefore, the need for an effective capital market stern from the realization that through it, saving can be mobilized and channeled for production investment. Apart from that, the ability to mobilize funds easily and cheaply on the capital market has also been found to be an incentive for enterprises to expand their operations and diversify into large-scale enterprises.

The capital market has demonstrated its ability to provide financial resources, through equity and debt securities, to private sector enterprises (both large and small) and in the process has contributed to the development of the industrial sector. Also, its ability to provide debt financing for various public sector projects, especial infrastructure, has provided a fillip to industrial growth and development. In addition, the stock market has specifically provided opportunity for investment diversification.
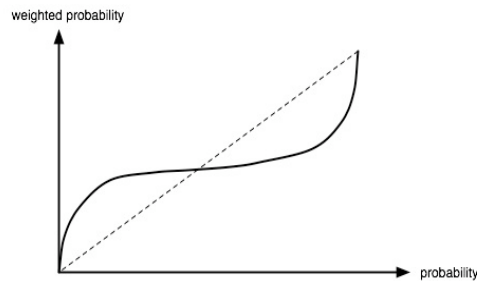
The theoretical framework for this work is based on the following finance theories.

1. Cumulative Prospect Theory (CPT) is a model for descriptive decisions under risk which has been introduced by Amos Tversky and Daniel Kahneman in 1992. It is a further development and variant of prospect theory. The difference from the original version of prospect theory is that weighting is applied to the cumulative probability distribution function, as in rank-dependent expected utility theory, rather than to the probabilities of individual outcomes. In 2002, Daniel Kahneman received the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel for his contributions to behavioral economics, in particular the development of Cumulative Prospect Theory (CPT).
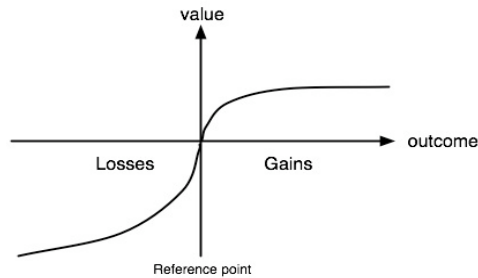
A typical value function in Prospect Theory and Cumulative Prospect Theory. It assigns values to possible outcomes of a lottery.

A typical weighting function in Cumulative Prospect Theory. It transforms objective cumulative probabilities into subjective cumulative probabilities.

The main observation of CPT (and its predecessor Prospect Theory) is that people tend to think of possible outcomes usually relative to a certain reference point (often the status quo) rather than to the final status, a phenomenon which is called framing effect. Moreover, they have different risk attitudes towards gains (i.e. outcomes above the reference point) and losses (i.e. outcomes below the reference point) and care generally more about potential losses than potential gains (loss aversion). Finally, people tend to overweight extreme, but unlikely events, but underweight "average" events. The last points in contrast to Prospect Theory which assumes that people overweight unlikely events, independently of their relative outcomes.

CPT incorporates these observations in a modification of Expected Utility Theory by replacing final wealth with payoffs relative to the reference point, replacing the utility function with a value function that depends on relative payoff, and replacing cumulative probabilities with weighted cumulative probabilities. In the general case, this leads to the following formula for subjective utility of a risky outcome described by probability measure p:

Where; v is the value function (typical form shown in Figure 1), w is the weighting

$$U(p) := \int_{-\infty}^{0} v(x) \frac{d}{dx}(w(F(x)))\, dx + \int_{0}^{+\infty} v(x)\frac{d}{dx}(-w(1-F(x)))\, dx,$$

function (as sketched in Figure 2) and

$$F(x) := \int_{-\infty}^{x} dp$$

i.e. the integral of the probability measure over all values up to x, is the cumulative probability. This generalizes the original formulation by Tversky and Kahneman from finitely many distinct outcomes to infinite (i.e., continuous) outcomes.

The main modification to Prospect Theory is that, as in rank-dependent expected utility theory, cumulative probabilities are transformed, rather than the probabilities itself. This leads to the aforementioned overweighting of extreme events which occur with small probability, rather than to an overweighting of all small probability events. The modification helps to avoid a violation of first order stochastic dominance and makes the generalization to arbitrary outcome distributions easier. CPT is therefore on theoretical grounds an improvement over Prospect Theory. Cumulative prospect theory has been applied to a diverse range of situations which appear inconsistent with standard economic rationality, in particular the equity premium puzzle, the asset allocation puzzle, the status quo bias, various gambling and betting puzzles, intertemporal consumption and the endowment effect.

2. Alpha is a risk-adjusted measure of the so-called active return on an investment. It is the return in excess of the compensation for the risk borne, and thus commonly used to assess active managers' performances. Often, the return of a benchmark is subtracted in order to consider relative performance, which yields Jensen's alpha. The **alpha coefficient** (α_i) is a parameter in the Capital Asset

Pricing Model (CAPM). It is the intercept of the **security characteristic line** (SCL), that is, the coefficient of the constant in a market model regression.

$$\text{SCL} : R_{i,t} - R_f = \alpha_i + \beta_i \left(R_{M,t} - R_f \right) + \epsilon_{i,t}$$

It can be shown that in an efficient market, the expected value of the alpha coefficient is zero. Therefore the **alpha coefficient** indicates how an investment has performed after accounting for the risk it involved:

– $\alpha_i < 0$: the investment has earned too little for its risk (or, was too risky for the return)
– $\alpha_i = 0$: the investment has earned a return adequate for the risk taken
– $\alpha_i > 0$: the investment has a return in excess of the reward for the assumed risk

For instance, although a return of 20% may appear good, the investment can still have a negative alpha if it's involved in an excessively risky position. The concept and focus on Alpha comes from an observation increasingly made during the middle of the twentieth century, that around 75 percent of stock investment managers did not make as much money picking investments as someone who simply invested in every stock in proportion to the weight it occupied in the overall market in terms of market capitalization, or indexing. Many academics felt that this was due to the stock market being "efficient" which means that since so many people were paying attention to the stock market all the time, the prices of stocks rapidly moved to the correct price at any one moment, and that only random variation beyond the control of the manager made it possible for one

manager to achieve better results than another, before fees or taxes were considered. A belief in efficient markets spawned the creation of market capitalization weighted index funds that seek to replicate the performance of investing in an entire market in the weights that each of the equity securities comprises in the overall market. The best examples are the S&P 500 and the Wilshire 5000 which approximately represent the 500 most widely held equities and the largest 5000 securities respectively, accounting for approximately 80%+ and 99%+ of the total market capitalization of the US market as a whole.

In fact, to many investors, this phenomenon created a new standard of performance that must be matched: an investment manager should not only avoid losing money for the client and should make a certain amount of money, but in fact should make more money than the passive strategy of investing in everything equally (since this strategy appeared to be statistically more likely to be successful than the strategy of any one investment manager). The name for the additional return above the expected return of the beta adjusted return of the market is called "Alpha".

Besides an investment manager simply making more money than a passive strategy, there is another issue: Although the strategy of investing in every stock appeared to perform better than 75 percent of investment managers, the price of the stock market as a whole fluctuates up and down, and could be on a downward decline for many years before returning to its previous price. The passive strategy appeared to generate the market-beating return over periods of 10 years or more. This strategy may be risky for those who feel they might need to withdraw

their money before a 10-year holding period, for example. Thus investment managers who employ a strategy which is less likely to lose money in a particular year are often chosen by those investors who feel that they might need to withdraw their money sooner.

The measure of the correlated volatility of an investment (or an investment manager's track record) relative to the entire market is called beta. Note the "correlated" modifier: an investment can be twice as volatile as the total market, but if its correlation with the market is only 0.5, its beta to the market will be 1. Investors can use both alpha and beta to judge a manager's performance. If the manager has had a high alpha, but also a high beta, investors might not find that acceptable, because of the chance they might have to withdraw their money when the investment is doing poorly.

These concepts not only apply to investment managers, but to any kind of investment.

3. The Arrow–Debreu Model, also referred to as the **Arrow-Debreu-McKenzie model** suggests that, should the assumptions made about the conditions under which it works hold (i.e. convexity, perfect competition and demand independence), then there will be a set of prices such that aggregate supplies will equal aggregate demands for every commodity in the economy. The model (ADM model) is the central model in the General (Economic) Equilibrium Theory and often used as a general reference for other microeconomic models. It is named after Kenneth Arrow, Gerard Debreu and Lionel W. McKenzie

Compared to earlier models, the Arrow–Debreu model radically generalized the notion of a commodity, differentiating

commodities by time and place of delivery. So, for example, 'apples in New York in September' and 'apples in Chicago in June' are regarded as distinct commodities. The Arrow–Debreu model applies to economies with maximally complete markets, in which there exists a market for every time period and forward prices for every commodity at all time periods and in all places

The ADM model is one of the most general models of competitive economy and is a crucial part of general equilibrium theory, as it can be used to prove the existence of general equilibrium. Once we can prove the existence of such an equilibrium, it possible to show that it is unique under certain conditions, but not in general.

The Arrow–Debreu model specifies the conditions of perfectly competitive markets.

In financial economics the term Arrow-Debreu is most commonly used with reference to an Arrow-Debreu security. A canonical Arrow-Debreu security is a security that pays one unit of numeral if a particular state of the world is reached and zeros otherwise (a so called "state price"). As such, any derivatives contract whose settlement value is a function on an underlying whose value is uncertain at contract date can be decomposed as linear combination of Arrow-Debreu securities.

The concept of Arrow-Debreu security is a good pedagogical tool to understand pricing and hedging issues in derivatives analysis. Its practical use in financial engineering, however, has turned out to be very limited, especially in the multi-period or continuous markets.

The Black Scholes analysis and its extensions, despite their strongly formulated and somewhat questionable assumptions, have proven more successful in practice and have contributed directly to the exponential growth in the size of the global derivatives industry.

Since the work of Breeden and Lizenberger (1978), a large number of researchers have used options to extract Arrow-Debreu prices for a variety of applications in financial economics.

4. The Equity Premium Puzzle is a term coined in 1985 by economists Edward Prescott and Rajnish Mehra It is based on the observation that in order to reconcile the much higher return on equity stock compared to government bonds, individuals must have implausibly high risk aversion according to standard economics models. Similar situations prevail in many other industrialized countries. The puzzle has led to an extensive research effort in both macroeconomics and finance. So far a range of useful theoretical tools and several plausible explanations have been presented, but a solution generally accepted by the economics profession remains elusive.

Kocherlakota (1996), Mehra and Prescott (2003) present a detailed analysis of these explanations in financial markets and conclude that the puzzle is real and remains unexplained. Subsequent reviews of the literature have similarly found no agreed resolution. Grant and Quiggin (2006) distinguish several classes of explanation of the puzzle. The most basic explanation is that there is no puzzle to explain: that there is no equity premium. A related criticism is that the apparent equity premium is an artifact of observing stock market bubbles in progress.

Some explanations rely on assumptions about individual behavior and preferences

different from those made by Mehra and Prescott. Examples include the prospect theory model of Benartzi and Thaler (1995) based on loss aversion. A problem for this model is the lack of a general model of portfolio choice and asset valuation for prospect theory.

A second class of explanations is based on relaxation of the optimization assumptions of the standard model. The standard model represents consumers as continuously-optimizing dynamically-consistent expected-utility maximizers. These assumptions provide a tight link between attitudes to risk and attitudes to variations in intertemporal consumption which is crucial in deriving the equity premium puzzle. Solutions of this kind work by weakening the assumption of continuous optimization, for example by supposing that consumers adopt satisficing rules rather than optimizing. An example is info-gap decision theory (Ben-Haim, 2006), based on a non-probabilistic treatment of uncertainty, which leads to the adoption of a robust satisficing approach to asset allocation.

A second class of explanations focuses on characteristics of equity not captured by standard capital market models, but nonetheless consistent with rational optimization by investors in smoothly functioning markets. Writers including Bansal and Coleman (1996), Palomino (1996) and Holmstrom and Tirole (1998) focus on the demand for liquidity.

The magnitude of the equity premium has implications for resource allocation, social welfare, and economic policy. Grant and Quiggin (2005) derive the following implications of the existence of a large equity premium:

➤ That the macroeconomic variability associated with recessions is very expensive

➤ That risk to corporate profits robs the stock market of most of its value

➤ Those corporate executives are under irresistible pressure to make short-sighted, myopic decisions

➤ That policies—disinflation, costly reform—that promise long-term gains at the expense of short-term pain are much less attractive if their benefits are risky

➤ That social insurance programs might well benefit from investing their resources in risky portfolios in order to mobilize additional risk-bearing capacity

➤ That there is a strong case for public investment in long-term projects and corporations, and for policies to reduce the cost of risky capital

➤ That transaction taxes could be either for good or for ill.

3.0 Method of Analysis

In most developing countries, capital market has so far fallen short of expectations in spite of the great potentials for financing development. These countries have thus resorted to external borrowing that has brought to them very excruciating foreign debt problems and the inability to raise additional funds from international financial markets. The view that capital market has not played the expected role in the financing of development in the emerging economies became a subject of discussion in the early 1990s. The Nigerian capital market in particular could not meet the challenge of mobilizing savings for development because it was lacking in liquidity

The type of data sourced and used in the research was majorly secondary data.

Sources of secondary data are taken from the Central Bank of Nigeria Annual reports and Statistical Bulletin (Various Issues), the Nigerian Stock Exchange Publications and the National Bureau of Statistics and other relevant websites and publications. The variables used are Gross Domestic Product (Y), Market Capitalization (MC), All-share Index (ASL), and Turnover Ratio (TR).

3.1 Model Specification

We specify our model in this form.

$$Y_1 = f(X_1, X_2 \ldots X_n, U) \ldots \ldots \ldots \ldots (1)$$

where: Y = Dependent variable, $X_1 \ldots X_n$ = Independent variable, U = Random variable or error term.

A two relationship exists between the economic growth and the financial system, this implies that either the growth of the economy can be driven by the financial system development or the development of the financial system can induce the growth of the economy. There is also a strong inter-relationship between the development of the capital market and the growth of the economy.

Thus the following multiple regression model is formulated as;

$$GDP_t = f (MC_t, TR_t, ASI_t \ldots \ldots \ldots (2)$$

where: GDP = Gross Domestic Product, MC = Market Capitalization of Nigerian Stock Exchange, TR = Turnover ratio, ASI = All-share index.

The dependent variable is the Economic Growth and Development (GDP) and the independent variables or explanatory variables includes: Market capitalization, All-share index, and Turnover ratio.

Apriori expectation affirms that a positive relationship exists between Growth and All-share index. A negative relationship is expected to exist between turnover ratio and Growth. And a positive relationship is expected to exist between market capitalization and economic development.

The models can be explicitly stated as;

$$GDP_t = \beta_0 + \beta_1 MC_t + \beta_2 ASI_t + \beta_3 TR_t + e_t \ldots (3)$$

3.2 Techniques of estimation

To determine the direction of causal relationship between the various variables, the Ordinary Least Square (OLS) technique will be used to estimate above equations. According to Gujarati (1995) the reasons for using OLS are many. Firstly, the parameter estimates obtained by OLS are optimal in nature. Secondly, the computation procedure is fairly simple as compared with other econometrics techniques. Thirdly, the OLS has been used in a wide range of economics relationship with fairly satisfactory results. Lastly, the technique is simpler to understand. Kelikume (2005) was also quick to point out that the OLS has among other desirable properties the following:

➤ The parameter estimates obtained by ordinary least squares have some optimal properties

➤ Ordinary least squares are also very important component of most other econometric techniques.

➤ The least square method has been used in a wide range of econometric relationships with fairly satisfactorily results and despite the improvement of computational equipment and of statistical information which facilitates the use of other more elaborate econometric techniques, ordinary least squares is still one of the most commonly employed methods.

➤ The computational procedure of ordinary least squares is fairly simple when

compared with other econometric techniques and the data requirements are excessive.

➤Gross Domestic Product: is the total money of final goods and services produced within the geographical boundaries of a country during a specified period of time, usually a year minus investments in other countries.

➤Market Capitalization: is the total value of all equity securities listed on the stock exchange. It is a product of the current quoted price of shares and the number of shares outstanding. The term is also used as performance indicator of the capital market.

➤All-share Index: this measures the daily movement of stock prices, it also indicates investor's confidence in the economy by their buy/sell activities. The greater the activity in the stock market arising from large volumes of stock changing hands in the buy/sell transactions, the more positive the performance of the economy.

➤Turnover Ratio: is used as an index of comparison for market liquidity rating and level of transaction costs. This ratio equals the value of total shares traded divided by market capitalization.

4.0   Presentation of Data and Results of Study

Below is a presentation of the result of the regression analysis that we conducted on GDP and the explanatory variables. Where R-squared is the coefficient of determination; R-Bar-Squared is the adjusted coefficient of determination; F is the F-statistic or the calculated F value and D-W is the Durbin-Watson statistic associated with the result.

Table 2: (in the appendix)
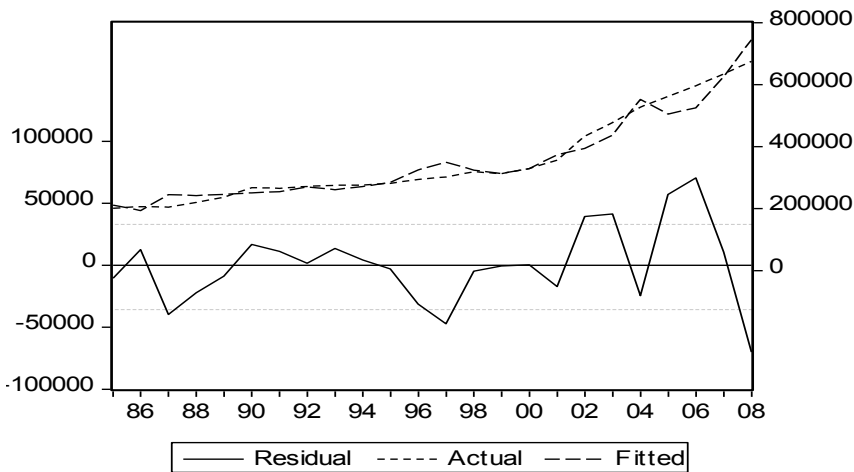
4.1 Model Formulation and Results
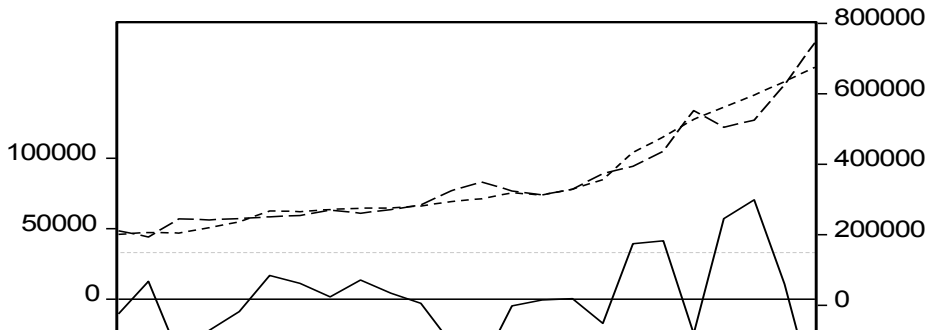
The model was estimated using the OLS method of estimation. It can be seen from the result presented in table 1 that the co-efficient of determination is about 95% of the variations of the independent variables are explained by the dependent variable and this connotes an excellent fit in determining the goodness of fit for the model.

The adjusted value of R2 0.951143 indicates that over 95% systematic variation in the independent variable is explained by the dependent variables. This is surely an excellent fit which is highly significant in this analysis.

The D.W statistics of 1.373014 shows the possible presence of autocorrelation. One implication of the presence of autocorrelation is that the prediction based on OLS

The variables used in this study covers the period between 1979 and 2008. Though, it would have been better to use a longer period for this research, the period is still long enough to allow for good degree of freedom in the analysis. The results obtained from this analysis are reliable and would help us come to useful conclusions, and also make applicable recommendations for further studies in this area of study.

In testing for the hypothesis, the standard error is statistically significant at 5% level of significance while the coefficient of the regressand is statistically significant at zero level of significance. On the other hand, the F statistics as well as the R-squared is very high. This indicated that the independent variable justified the dependent variable significantly.

The t-statistic computed for the variable Market Capitalization (MC) is lower than the T-table value; this implies that the null hypothesis is accepted while the alternative hypothesis is rejected. All-share index (ASI) has a computed t-value higher than the T-table value; this implies that alternative hypothesis is accepted while the null hypothesis is rejected. Turnover ratio (TR) has a computed which is lower than the T-table value. This implies that the null hypothesis is accepted while the alternative hypothesis is rejected.

This research has been able to identify how the capital market impact on the Nigerian economy as a whole. This brought about the statement of the problem. Other parts of the introductory chapter are the hypothesis to be tested, the scope of the study, the objectives, the significance, the organization, and the research methodology of the study. The definition of the key terms in the study is also included. The review of relevant literature points out statements made by various researchers on the issue of stocks, its market, and its contribution to economic

growth. However, the stock market was introduced and its history briefly discussed, while we went on to review its development, its operations, and the legislations binding the market.

4.2 Findings of Study

The findings from the research work, has pointed out that stock market positively impacts the growth rate of the Nigerian economy. Theoretically, a unit increase in stock market indicators brings about a more than proportionate increase in the GDP because of its capacity to mobilize capital needed by the deficit units of the economy for productive purposes. There is a positive relationship between the market capitalization and the Gross domestic product of the economy. A positive relationship exists between the all-share index and the Gross domestic product. A negative relationship exists between the Turnover ratio and the Gross domestic product.

The major implication of these findings is that stock market is vital to the economic growth of Nigeria and as such all hands must be on deck for the make the Nigerian Stock Market a force to be reckoned with. Thus, the economic potentials of the country will thus be enhanced.

This is a reflection of the structural rigidity prevailing in the economy which makes the stock market interplay of the forces of demand and supply. This even more pronounced in the nonchalant reactions of the stock market index to shocks in the economy contrary to what is obtained in the developed economies.

5.0 Conclusion

From the research conducted, the study examined whether stock market promotes economic growth in Nigeria or not from the period 1979 – 2008. In this regard, this exercise has demonstrated that there is a positive relationship between the stock market and economic growth. Though the stock market has been greatly criticized, this study has helped promote a greater depth to the workings of, and need for an efficient capital market. Specifically, the study attempted to establish empirically, the link between the Nigerian stock market and economic development. That the stock market promotes economic growth is not in doubt. It serves as an important mechanism for effective and efficient mobilization and allocation of savings, a crucial function, for an economy desirous of growth. This study attempted to place this role in the Nigerian context between the period of 1979 and 2008. By the use of some notable stock market development indicators, the relationship between stock market development and economic growth was found to be positive. This suggests that for a significant growth the focus of policy should be on measures to promote growth in the stock market.

The Nigerian stock market has a bright prospect given the recent policy direction especially the abrogation of all laws that hitherto hamper its effective and efficient functioning. Also, the internationalization, the improvement in the infrastructural facilities in the market in line with what obtains in the developed market and also the present democratic dispensation will all work individually and jointly to ginger the prospect of the stock market.

5.1 Recommendations

The stock market operates in a macroeconomic environment, it is therefore necessary that the environment must be an

enabling one in order to realize its full potentials. With the existence of a long run relationship between stock market development and economic growth, it is pertinent to recommend that there should be sustained effort to stimulate productivity in both the public and private sectors.

1. The Nigerian Stock Exchange regulators should work at ensuring that the market capitalization is stable so as to have a resultant positive effect on economic growth.

2. Based on the theory of stock market efficiency integration of the Stock Exchange with other exchanges in Africa will further drive economic growth.

3. The turnover ratio in the NSE as a matter of necessity be high being an indication of low transaction costs. Since a large but inactive market would have a large market capitalization ratio but a small turnover, it is pertinent that the turnover ratio is high so that transaction cost would be low resulting in a favourable liquidity rating and market capitalization ratio. This in turn would improve the economic condition of the nation.

4. The Nigerian Capital Market should strive as well, to build its investors confidence by enforcing integrity, as well as providing them with more products in the market which will aid in diversification of their portfolio investments, in case a certain product fails to perform they will still have another product to fall back on.

5. The findings from this study raise some policy issues and recommendations, which will reinforce the link between the stock market and economic growth in Nigeria.

6. Given that the stock market operate in a macroeconomic environment, it is therefore necessary that the environment must be an enabling one in order to realize its full potentials.

7. The demand for the services of the stock market is a derived demand. With the existence of a positive relationship between stock market development and economic growth, it is pertinent to recommend that there should be sustained effort to stimulate productivity in both the public and private sectors.

8. The determination of stock prices should be deregulated. Market forces should be allowed to operate without any hindrance. Interference in security pricing is inimical to the growth of the market.

9. The stock market is known as a relatively cheap source of funds when, compared to the money market and other sources. The cost of raising funds in the Nigerian market is however regarded to be relatively high. However, the authorities concerned have been responsive towards a systematic downward review. This should ensure enhance its competitiveness and improve the attractiveness as a major source of raising funds.

10. Considering the benefits being enjoyed by the stock market through the internationalization of its operations, there should be not only policy turn-around, but a sincere pursuit of an enhanced policy.

11. Though the recent legislations on the stock market have been hailed in many quarters, one of the best things to happen to the stock market in recent times, there are still some gray areas.

12. Given the present political dispensation, all the tiers of government should be encouraged to fund their realistic developmental programmes through the stock market. This will serve as a leeway to free the resources relevant for use in other spheres of the economy.

5.2 Suggestions for Further Research

This research has looked at the impact of capital market in the growth of the Nigerian economy. Therefore further research is required in the following areas:

1. There is a need for further research to examine and discuss the role of government in increasing the efficiency of the stock market.

2. It is also appropriate to examine the significance of other variables which may affect the market/GDP other than the ones examined in this study.

3. The depth and resilience of the stock market should also be examined and discussed as relatively thin markets causes inefficiency in price determination.

Appendix

Table 1: Data on variables

YEAR	RGDP	MC	ASI	TR
1979	29,948	N/A	N/A	25.4
1980	31,546	N/A	N/A	38.8
1981	205,222	5.0	N/A	60.9
1982	199,685	5.0	N/A	43.0
1983	185,598	5.70	N/A	6.9
1984	183,563	5.50	N/A	4.6
1985	201,036	6.60	1407.4	4.8
1986	205,971	6.80	1797.8	7.32
1987	204,806	8.20	2123	0.46
1988	219,875	10.00	2529.7	0.85
1989	236,729	12.80	3286.4	0.5
1990	267,550	16.30	5083.9	0.1
1991	265,379	23.10	8059.4	0.1
1992	271,365	31.20	21,140.60	0.16
1993	274,833	47.50	14,748.30	0.17
1994	275,436	66.30	22,958.80	0.15
1995	281,407	180.40	35,594.00	0.10
1996	293,745	285.80	71,461.70	0.25
1997	302,022	281.90	91,663.10	0.37
1998	318,896	262.60	71,542.50	0.52
1999	312,183	300.00	63,170.30	0.47
2000	329,178	472.30	80,414.10	0.59
2001	356,384	662.50	122,220.90	0.87
2002	433,203	764.90	139,582.40	0.7

YEAR	RGDP	MC	ASI	TR
2003	477,533	1,359.30	186,718.70	0.8
2004	527,576	2,112.50	296,863.80	1.0
2005	561,831	2,900.10	274,520.60	0.9
2006	595,821	5,121.00	337,219.00	0.9
2007	634,251	13,294.60	585,279.70	0.8
2008	674,889	9,516.20	610,420	1.76

Source: Central Bank of Nigeria and Nigerian Stock Exchange

Table 2 *: Regression Results*

Source: EVIEW
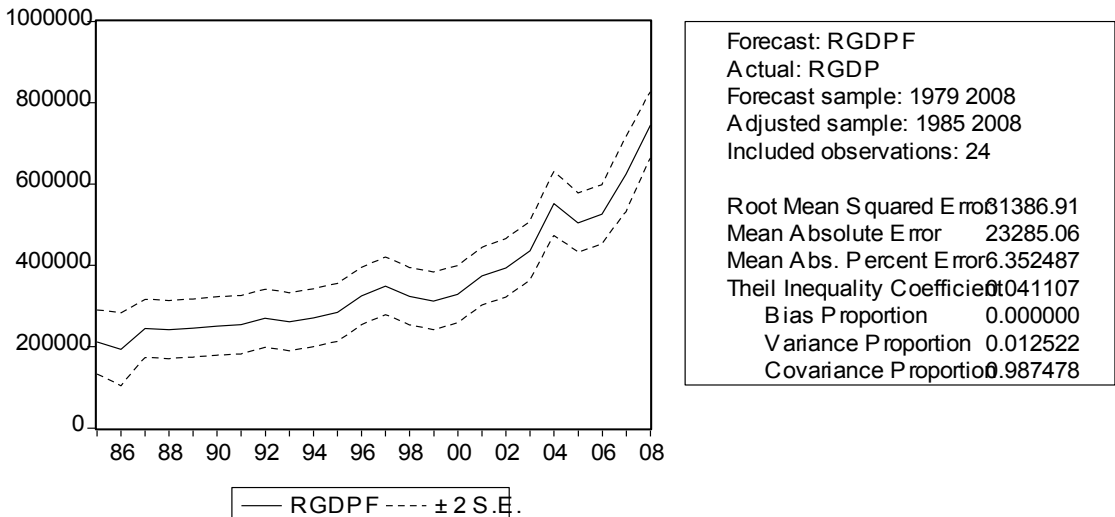
Chart 1: *Residuals*

Chart 2: *Covariances*

Forecast: RGDPF
Actual: RGDP
Forecast sample: 1979 2008
Adjusted sample: 1985 2008
Included observations: 24

Root Mean Squared Error 31386.91
Mean Absolute Error 23285.06
Mean Abs. Percent Error 6.352487
Theil Inequality Coefficient 0.041107
　Bias Proportion 0.000000
　Variance Proportion 0.012522
　Covariance Proportion 0.987478

Chart 3: *Residuals Series*

Series: Residuals	
Sample 1985 2008	
Observations 24	
Mean	-3.64E-11
Median	-16.14040
Maximum	70368.10
Minimum	-70078.94
Std. Dev.	32061.97
Skewness	0.137999
Kurtosis	3.167949
Jarque-Bera	0.104382
Probability	0.949148
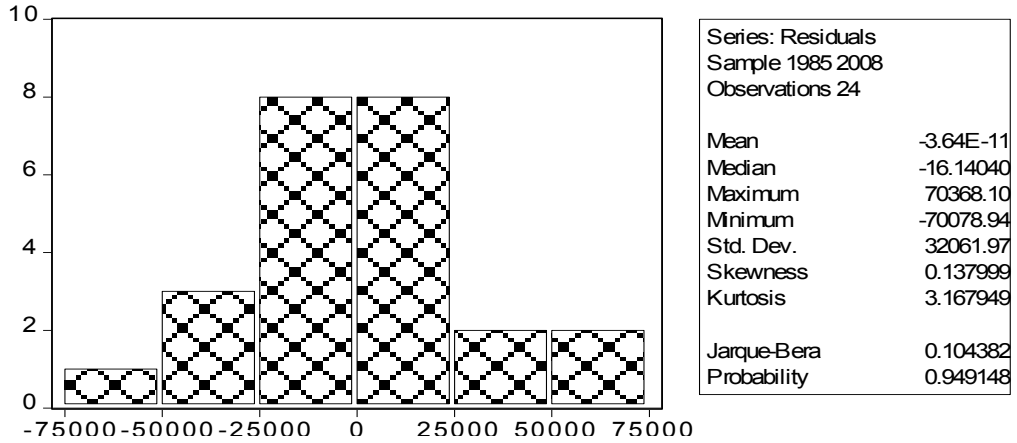
Chart 4: *Recursive Residuals*
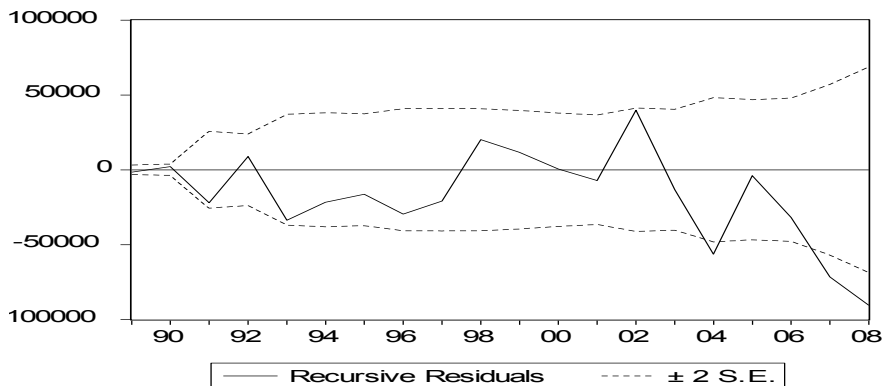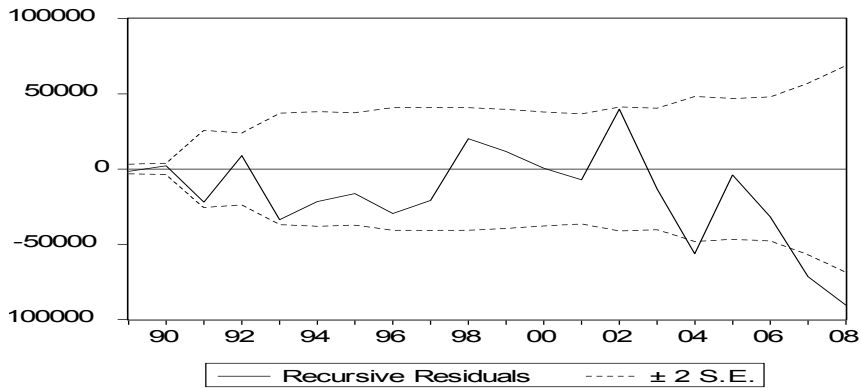
Table 3: *Heteroskedasticity Test:*

White Heteroskedasticity Test:

F-statistic	11.11743	Probability	0.000044
Obs*R-squared	19.12572	Probability	0.003957

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/01/10 Time: 19:01
Sample: 1985 2008
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.90E+08	3.21E+08	1.524037	0.1459
ASI	-9829.051	5619.287	-1.749163	0.0983
ASI^2	0.010205	0.008000	1.275583	0.2193
MC	1986460.	541678.1	3.667234	0.0019
MC^2	-137.5655	27.53556	-4.995921	0.0001
TR	-82384442	4.96E+08	-0.166242	0.8699
TR^2	4533788.	70938976	0.063911	0.9498

R-squared	0.796905	Mean dependent var		9.85E+08
Adjusted R-squared	0.725224	S.D. dependent var		1.48E+09
S.E. of regression	7.77E+08	Akaike info criterion		44.01750
Sum squared resid	1.03E+19	Schwarz criterion		44.36109
Log likelihood	-521.2099	F-statistic		11.11743
Durbin-Watson stat	1.808677	Prob(F-statistic)		0.000044

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