



Graduate School of Development Studies

## **LONG-TERM TRENDS IN EQUITY PRICE: NIGERIA**

A Research Paper presented by:

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(Nigeria)

in partial fulfilment of the requirements for obtaining the degree of  
MASTERS OF ARTS IN DEVELOPMENT STUDIES

Specialization:

**Economics of Development  
(ECD)**

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The Hague, The Netherlands  
December 2010

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## List of Acronyms

ASI: All Share Index

ACWSI: All Countries World Share Index

BRVM: Bourse Regional de Valeure Mobilie're

DF: Dickey-Fuller Test

CBN: Central Bank of Nigeria

ECM: Error Correction Model

EMH: Efficient Market Hypothesis

GDP: Gross Domestic Product

IFS: International Financial Statistic

JSF: Johannesburg Stock Exchange

NASDAQ: National Association of Securities Dealers Automated Quotations

NSE: Nigeria Stock Exchange

NPV: Net Present Value

OLS: Ordinary Least Square

S&P: Standards and Poor

SSA: Sub-Saharan Africa

VECM: Vector Error Correction Model

WDI: World Development Indicators

## **Dedication**

This research paper is dedicated to God Almighty and my family; my beloved wife and lovely kids.

## Acknowledgement

To you oh God Almighty, be all glory, honour and adoration for fulfilling your promise in seeing that what you started in my life has finally come to a fruitful completion after passing through very challenging moment.

I would like to express gratitude to my supervisor Dr. Howard Nicholas of the International Institute of Social Studies of Erasmus University. His continues enthusiastic support and guidance, while also providing constructive criticism, has help me so much in conducting this study and writing this research paper. His patience and wisdom truly engaged me to conduct this research with excellence. He is equally one who initially provided me with this interesting topic when I met him for an academic advice as I admire his mentoring capability. Another person in this category is my second reader, Dr Karel Jansen for his useful comments and suggestions that contributed to the successful completion of the study.

My utmost appreciation goes to my beloved wife Eunice for releasing me to go to Netherlands for this programme, while she takes care of the entire family including our children all alone. It is important to recognise her prayers and support with my lovely children, Rosanna Nwanyibuka and Karen Chigozie. You kids are precious gift from above. It is impossible to oversight my siblings: Rev. Fr. Dr. Michael Egbuta Ukah, my beloved brother, a pace setter and my role model. Your guidance and support is yielding fruits in my life today, I will ever remain grateful to you. I appreciate supports and prayers of my dear sisters- Maria and Kate, they are wonderful sisters.

To my late parents of blessed memory, the virtue instil in me is eventually leading to immortalizing their names. Though they departed even before my consciousness of life, but the good Lord with His infinite mercies receives them in His ever lasting peace. Amen.

How can I forget to extend my gratitude to my primary constituency, the National Universities Commission (NUC)? I appreciate the able leadership of Professor Julius Okojie and his management team for approving my release to undertake the MA programme with the necessary supports. And to my friends in the Commission, I am grateful to V. U. Onuoha; E. O. Usendiah; G. B. Kumo; C. J. Maiyaki; O. E. Adeshina; L. N. Ogugua; H. P. Abechi; F. O. Olaneyan; L. N. Achor; G. Obi; O. U. Edor; C. O. Abu; V. T .Pillah; S. S. Adejoh; S. S. Ikani; C. Eze-Obia; T. Ogbor; A. L. Chundusu; J. Emereole; C. Lanshima; O. Okafor; O. Wachukwu; A. M. Guire; E. Odigwe; J. Bisong; E. I. Mmeka; R. Mustapha; P. Tobrise; B. C. Odum; and host of others, I say a very big thanks for being there for me.

Oh! What can I say to my friends who have been a source of hope and support to me throughout the study periods: Petrus Nandiigwa Shifotoka, Olufunto Akinduro, Olufemi Olalekan Adebajo, Hauwa Abdulkadir, Gbenga Emanuel Afolayan, David Wang'gang'a and Nicholas Kiugi Thairu for sharing good and tough times.



Finally, I wish to return all glory to God for guiding and protecting me throughout the programme period. I will forever remain grateful to YOU my LORD and my GOD.

## **Abstract**

This study adopted critical analytical approach using relevant theories and empirical reviews, argued the positive relative impact of equity price movements on its relative macroeconomic variables in the long-term Nigerian equity market performance. The study shows that the relative movement of the NSE all share index is closely linked to the relative movement in real GDP and liberalization of financial market in the long term, but less so to inflation. Though short term positive relation was observed for inflation, but in the long-term the relationships appears negative. But the level of these influences is difficult to ascertain based on the limitation of the study. However, the way that share prices are determined may appear to have support from the weak version of the efficient market hypothesis, although the same support is not seen in all other markets, this may be seen as an indicator of the desire for logical and assessment taking place, but it should also be remembered that there is mixed evidence regarding the potential accuracy of any EMH in any market, and as such this is the least definitive aspect of the study and we may expect both support and contradiction to occur, with potential changes as the stock market evolves. There are time and space constraints and the utilization of an approach that is based on secondary research only, resulting in a paper that will be interesting and relevant, but will benefit from further research including primary research to assess support for the findings and better empirical techniques to answer most of the questions our observations could not adequately addressed.

## **Relevance to Development Studies**

The relationships between long-term equity price movements and macroeconomic variables has recently been a major source of concern to academics, policy makers and market practitioners especially the new comers in the market with little or no knowledge of the market. The study will contribute to the literature particularly on the determination of equity pricing in Developing Countries and the causes of equity market crisis. Therefore, it aims to add to the body of Knowledge on Nigerian equity market, which of course is relatively small in size and point the way for more enquiry into the subject for further studies. The study is also very relevance to development because it is basically aims to influence policy on the equity and inform on the relative roles of levels fundamentals as well as market regulation and macroeconomic influences in the determination of markets movement.

**Keywords:** Equity Prices, Macroeconomic Variables, NSE All shares Index.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

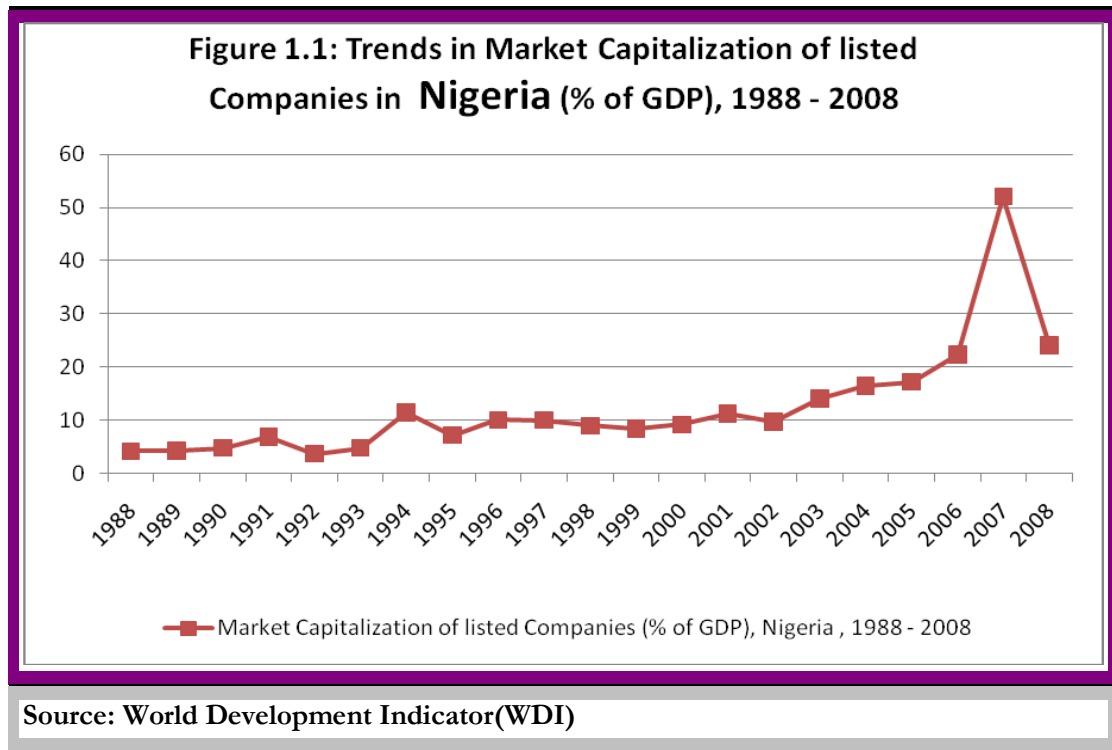
The stock market in Nigeria was established in 1960, initially as the Lagos Stock Exchange and only became the Nigerian Stock Exchange in 1977. The stock exchange now has six branches and has grown from listing only 19 companies when it was first launched to listing 262 securities in 2010 (NSE 2010). Therefore, it has both grown and established itself able to be compared to other established stock markets.

There has been a great deal of research undertaken in order to assess the influences on stock markets and the price movements of the equities. The research has adopted a number of approaches, with much of the research assessing the way that equities may be priced in the context of the firm performance, or perceived performance, looking at both internal and external factors. However, there is no clear consensus regarding the impact of many potential influences nor is there a holistic model that is able to account for all potential influencing factors. The complex, interrelated nature of the different influencing factors and potential presence of compounding factors make assessment more difficult, but despite this there is the ability to garner general patterns and trends in terms of influences that originate in the macro-environment.

The different theories and approaches can be considered when assessing stock markets and the way equity prices may be influenced providing value for potential investors, management of firms as well as policy makers. The approach may be useful for developed countries, but it may be argued that the understanding has a potentially greater value when applied to developing markets, where there is an increased desire to attract investment and capital such as Nigeria.

This study is very much interested in examining the impact of macroeconomic variables on relative equity price movement in Nigeria in a long-term. It has been of great concern among policy makers and macroeconomic theorist that equity market prices are controlled by macroeconomic fundamentals. Of recently, concerned has been on the negative trend of the Nigerian stock exchange as shown in the figure 1.1, where the market capitalization as a percentage of GDP trend within 5 to 12 per cent between 1988 and 2005, from 20 percent in 2006 to 53 per cent in 2007. Therefore, it is difficult to conclude that market has made significant impact to the nations' economic growth, even when it was assumed to be highly liquid in 2006/2007; the sharp downswing has shown that the market is tied to the world market order and what happens to the world equity market also affects the domestic market.

**Figure 1.1: Trends in Market Capitalization of Listed Companies in Nigeria (% of GDP), 1988-2008**



## 1.2 Indication of the Research Problem

Nigerian equity market just like any other market in the world is also prone to imperfection. It is observed that the market has been on serious improvement since 21st century, the consolidation of banks appeared to have contributed significantly to the activities in the market that resulted to a drastic increase in the value of majority of equities in the Nigerian equity market. There is no doubt why equity price movement was so strong and investment in the equity market earned high returns compared to other investment component in the country. That alone attracted a lot of investors to join the investment trend. With a growth of about 82.2 percent in 2007, the market was rated as one of the world's fastest growing stock exchange and it became investors toast. That alone builds a very high confidence in investors and market capitalization trend to N12.6 trillion as at the first week of March, 2008. Returns were doubled, especially capital appreciation were earned by so many investors thereby created very high market awareness in 2007.

However, the trend changed significantly beginning in the second week of March 2008. The market began to slide in both capitalization and all share indices. For example, market capitalization of 303 listed equities, which commenced trading on January 1, 2008, at N10.180 trillion and later appreciated to N12.395 trillion as at March, 2008 suffered its highest fall the 48- year history of Nigerian Stock Exchange, depreciating by N3.223tn or 32 percent to N 6.957tn by the year end. All share index which has risen to 66,371 as at March 5, 2008, respectively dropped drastically by the year end causing all the variable to continuous down movements.

As in many other stock markets under the same circumstances, there have been competing arguments as to the cause of this development since the start of the crash. Explanations as to its cause have ranged from the very plausible to the downright ridiculous. While some believe the market has always been over-valued and is undergoing self-correction indicating that the reduction in

share prices will be permanent, others see the correction as temporary. This difference in perception also arises because of differences in understanding of what really is driving the fall in market value of shares. While it is believed in some quarters that share prices rose faster than both market and other economic fundamentals, some see the Nigerian stock market as not having even grown up to its fundamentals and so still having opportunities for further growth, indicating that the correction is very temporary.

But clearly, very little empirical analyses support most of these explanations. It is evident that there has been little research into the real causes of the challenges facing the Nigerian stock exchange. There seem to be more opinions than empirical evidence as to the cause of the market changes. On the whole, while the Nigerian stock market has received comparatively less critical research than some of its developed market counterparts, the current crisis in the market has received even far less critical evidence-based assessment. Many years down the line of market booms and bursts, critical assessment of what drives the Nigerian capital market and the range of roles macroeconomic policies can play to support the market is still weak. The danger in this is that policy positions may not adequately mirror the actual and/or fundamental causes of the problem. In addition, probability of future recurrences is higher if the underlying causes of the problems are not unearthed. This research work sets out to systematically study the market with a view to understanding the different roles of relative macroeconomic variables in determination of stock pricing and market movements in a long term. The next section discusses in general the justification of the study.

### **1.3 Justification of the Study**

“Nigeria's financial markets are sufficiently liquid, its foreign currency reserves are safe and its banks' balance sheets are strong despite the global credit crisis” Ron (2008). This statement was made by the former CBN Governor in 2007 when the global financial crises started in U.S. But, few months after his statement, Nigerian economy witness the greatest equity market crash that affected mostly the new comer and foreign investors in the market who have little or no information about the market. And the fundamentals were claimed to have been strong during the period. Therefore, understanding the impact of macroeconomic variables on long-term equity price movement will inform the newcomers and foreign investors in making investment decision as which assets are to be invested in.

The equity market is usually seen as a market that lacks efficient information characterized by negative events and ‘bad news’ which tend to develop consistently faster than positive elements and ‘good news’ negative. The standard view is that equity markets are efficient, with the most perfect information of all markets-the so-called efficient market hypothesis. Despite this, the fundamental change in economic structure and policies are more important than the current news. Although day to day fluctuations in equity prices depends on the news largely, the long term changes in market capitalizations are directly related to the fundamental variables. The average paid for one year do not reflects the news or rumours’. They reflect the effects of macroeconomics variables<sup>1</sup>. There are still

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<sup>1</sup> Please note: Equity market and Stock market are used interchangeably in this study.

several reasons why investigating the long-term trends in equity prices in Nigeria. The study can provide evidence as to whether theories relevant to the role of the equity market in economic growth and the empirical results from Advanced and Emerging economies can be applied to the Nigerian economy. From the policy point of view, it could be argued that, analyzing the relationships between equity market performance and macroeconomic variables is very vital in designing economic development programmes.

#### **1.4 Research Objectives of the Study**

The central objective of this paper is to assess the long-term potential macro-economic impacts on the relative equity price movement, with the aim of creating a research paper that will be useful to a range of stakeholders in the Nigerian stock market. In order to achieve the stated central objective, the following other sub-objectives will need to be incorporated into the research

- (i) To ascertain whether economic growth has a positive impact on relative equity price movement in Nigeria.
- (ii) To examine the relationship between inflation rate and relative equity price movement in Nigeria.
- (iii) To assess the impact of equity market liberalization on relative equity price movement in Nigeria.

#### **1.5 Research Questions of the Study**

The main research question this study intends to answer is to figure out whether macroeconomic variables have significant impact on relative equity price movement over a long-term period in Nigeria.

##### ***1.5.1 Sub - questions***

- (i) What is the impact of long-term growth on the relative equity prices in Nigeria Stock Exchange?
- (ii) Are inflation rate and equity price movements having positive or negative relationship?
- (iii) What are the impacts of capital account and equity market liberalization on equity price movements in Nigeria?

#### **1.6 Arguments of the Study**

The central issues the paper intends to argue are that the relative economic growth of the Nigerian economy appears to have a positive and significant impact on relative equity price movement, secondly, the liberalization of the equity market and capital account appears to have had a positive impact on equity prices. Third, there appears to be no predictable link between the relative performance of the stock market and inflation.

## **1.7 Methodology of the Study**

The study utilises existing research that have been undertaken assessing the different aspects of macroeconomic influence on stock markets and equity prices. We gathered from a range of appropriate sources, looking to academic and peer reviewed research journal and publications, economic theories and principles that are generally accepted and relevant to the subject of study. The literature review started by looking at the theories regarding the way the markets value share prices. While individual share prices, it is the individual share prices that make up the markets, and where there is alignment in patterns this will impact on markets as macro influences<sup>2</sup>, by their nature will impact large numbers of quoted companies.

Following the assessment of how markets value share the research assessing the impact of different microenvironment influences individually, considering the patterns observed and potential impact, assessing these so that they can be applied to the situation in Nigeria following an assessment of the Nigerian stock market. Therefore, this study relied basically on the existing research and analytical approach with applications of theory to the Nigerian situation using figures & tables where necessary in assessing the long term impact of macroeconomic variable on relative equity price movement in Nigeria.

## **1.8 The Scope of the Study**

The Study aims at assessing the impact of macroeconomic variable and structural changes in the financial system in the long term movement in equity prices with particular emphasis on growth, inflation, and financial market liberalization. It is important to recognise that the study only focuses on the aggregate equity price rather than sector indices or individual stock price movement in Nigeria. The study relied on fundamental value analysis from macroeconomic point of view. Furthermore, the study is only interested in the long-term correlation between equity price and macroeconomic variables, that is to say that the study is not in any way concern with the short-term fluctuation, rather is to centred on the trend relationship between factors. The time series considered for analysis begins from 1988 to end in 2008. The considered time series is taken in order to cover the structural changes within the period of observation. Finally, based on the aims and objectives of this study, we do not intend building a model or using any econometric equation to explain the long run equity prices determination because it is outside the scope of the study.

## **1.9 The Structure of the Study**

This study is structured in chapters. The next chapter reviewed the relevant theoretical/empirical literatures that guided the central arguments of the study, Chapter 3 provided the background overview and characteristics of equity market development in Nigeria, sections of the chapter discusses the financial liberalization and its contributions to the equity market development in Nigeria, and wrapped up by looking at the global/regional market integration. Chapter 4 presents the analytical

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<sup>2</sup> Some will impact on all, some macro environmental factors may be limited to specific industries



trend of the study by illustrating with figures, while Chapter 5 concludes the study by revisiting the academic debates and seek to provide answer to the general research question.

# CHAPTER TWO: THEORITICAL / EMPIRICAL LITERATURE REVIEW

## 2.0 Introduction

This chapter aims at critically reviewing relevant theoretical/empirical literature on the long term determinants of equity price movements and macroeconomic variables known as fundamentals. It started by reviewing a great number of general theories of equity price determination, It also looked at the basic macroeconomic influences on the relative equity price movement in general and Nigeria in particular. It concluded by justifying the chosen variable of interest for the study.

## 2.1 General Theories of Equity Price Determination

Before looking at the impact that macroeconomic influences will have on share prices, it is necessary to look at the way that share prices are determined by the market, this is a necessary framework from which to assess the macroeconomic influences. The influence of individual factors can only be assessed in the context of the theories looking at the way that processes are set by the market.

There are number of theories regarding the way equity prices move, but this study focuses on few major competing views on the theory of equity price behaviour, in the simplest approach to equity value is that the share price will move in response to supply and demand (Nellis and Parker 2006). Where there is demand in excess of the supply the prices will rise until either sufficient buyers drop out of the market for there to be equilibrium between the number of share being sold and the numbers that shares buyers are willing to purchase, until more sellers are attracted to the market to gain the higher price, or more usually a combination of the two (Howells and Bain 2007). Sellers may hold onto shares until they believe the price has reached a peak and are then likely to sell, while the buyers will believe that there is still potential for growth. Where there is a supply that exceeds the demand the opposite effect will be seen where prices fall until seller either take their share off the market or more buyers are attracted to purchase the shares (Nellis and Parker 2006). Crashes take place where there are more sellers than buyers overall.

Moving from micro to macroeconomic approaches to equity price determination as classifies by Okafor (1983) in Chukwuma-Agu (2009) under three major captions which includes: Fundamental Approach, Technical Approach and Efficient Market Approach also known as Efficient Market Hypothesis (EMH). The fundamentalist are more concern on real variables such as dividends, earning and so on. On that basis they carried out four unique analysis, such as –analysis of economic conditions, industry analysis, company analysis and financial analysis (Chukwuma-Agu 2009). The basic assumptions of the fundamentalist are that every asset has intrinsic value; and that the intrinsic value of every security is reflected by its market price and basic economic information about determines value of securities issued by it. However, the idea of intrinsic value assumption of the fundamentalist is rejected by the technicians who study the general market condition, and particularly equity price movement. This implies that the technicians depends so much on market forces in equity prices valuations. Dow Theory appears to be the most familiar technique for technical analysis. Theory suggests that all price actions comprises three contemporaneous movements- the primary movement, the secondary movement and the minor movement. The technical analysis uses employs

charting technique which makes use of graphs, and non charting techniques that makes use of other analytical techniques other than graphs. But this study uses both techniques in its analysis.

Generally, investors will purchase shares when they believe there will be growth and sell them when they believe either growth in the share price has reached a peak or they want to realise their capital for a better opportunity (Howells and Bain 2007). In addition to this is that the investors are not only assessing the current performance of a firm, and the level of existing return, but looking at the way they believe the firm will perform in the future. This takes us to another interesting theory known as Efficient Market Hypothesis.

Efficient market hypothesis is one of the models that seek to explain how markets behave and the way equities are priced. The model states that, at any given point in time, the price of the stocks or securities will reflect the information that is currently available about the stock itself and about the market (Fama 1991). The theory has been around a long time, and was first proposed by Eugene Fama, and evolved in the 1960's (Fama 1965).

In this market there were assumed to be investors that were well informed, and worked in a logical manner; "An 'efficient' market is defined as a market where there are large numbers of rational, profit-maximizers, actively competing with each trying to predict future market values of individual securities where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value" (Fama 1965).

There are three different variations of this that look at assumptions of different levels of information being available in which the investor can value the firm. The three forms are the weak form, the semi-strong form and the strong form (Freeman 2001). With the first form; the weak form, the model looks at information that considers only the past prices, in the semi-strong form there is the use of all publicly available information, in the last form the strong form there is the use of all the information, both public and private.

Assessing the weak form there have been studies that have used trend analysis. The studies appear to indicate that the past performance of a stock and the future performance in terms of a direct correlation (Freeman 2001). In terms of technical analysis there are only two ways a stock can go, up or down, and as such technical predictions may be as accurate as predicting the way a tossed coin will fall, likely to be heads on 50 percent of the tosses (Freeman 2001). In this there is probably some form of accuracy, as the argument is that technical analysis is of no benefit to the investor (Freeman 2001).

When looking for evidence for the semi strong form it is less clear. There are many studies that indicate investment professionals, over a long period of time, will not out perform the stock market averages in the broad market. This would also appear to be long term evidence to support this semi-strong model (Freeman 2001). However, there are also other queries when examining this model. In this model there is also the implication that the causes of price changes must be the changes in the available information, information that was not available before. In considering events such as stock market crashes, for instance those of 1929 and 1987, as well as the more recent crashes in the technical stocks as seen on the NASDAQ and other markets in 2000, these were not due to new information, though it may be argued that a different perception was placed on the existing information. Therefore, we also have some information that there is not any definable trend with a correlation between the prices and new information. This would appear to reject the hypothesis in all forms, not

only the semi-strong form. It is due to these discrepancies that some academics have rejected the EMH model, especially when there have been instances of investors being able to outperform the stock markets by buying low and selling high (Dreman 1994).

Therefore, when investors are seeking to determine what the markets will do and how share process will move they will not only be looking at the market conditions and available information but also be considering the way that other investors will interpret that information as well as the interferences of emotional decision making, intuition and personal biases. It is argued by Chen et al (1986) and Fama (1981) that macroeconomic fundamental factors such as industrial production, inflation and so on, would have a positive impact on equity pricing.

There appear to be two outstanding theories that control investor's behaviour. There are known as the bandwagon theory and contrary opinion theory. The bandwagon theory stated that errors of judgement in equity market transactions will be reduced by an investor who follows the lead market-makers, while the contrary opinion assumed that small investors are always wrong. Okafor (1983) in Chukwuma-Agu (2009) is of the opinion that "market -leads" which started the past with lot of pressures tends to mislead investor rather than help them. Another line of argument is that given a relative weighting of output, equity prices cannot deviate from fundamental variables unless traders are irrational or myopic. But, Allen and Gorton (1993) in Chukwuma-Agu (2009) had different views, they assume that investors hire portfolio managers to manage their portfolio investments, in this kind of arrangement, it implies that the agency problem that arises between investors and managers due to asymmetric information between them will result to an asset prices deviation from their fundamentals and crash can occur.

However, the long term aggregate equity price movement from macroeconomic fundamentals aspect is centrally looking at the theoretical link between these macroeconomic fundamentals and trends in equity price movements. It is obvious that these macroeconomic fundamentals are reflected by trends in the real sector, external sector, and macroeconomic policies. The next section critically reviewed the long term influence of macroeconomic variable on equity price movements.

## **2.2 Macroeconomic Influences on Long term Equity Price Movement**

It is important to note that there is no one direction of relationship between equity markets and macroeconomic variables. Generally, equity prices are meant to respond to macroeconomic variable known as fundamentals irrespective of its feedback on other variables. However, the section aims at fundamentally ascertaining the long-term macroeconomic influences and reviews of relevant empirical studies on relative equity price movements.

The changing relationships between macroeconomic variables and equity price movements have been in the frontier of academic discuss. Schumpeter (1912) posited a strong relationship between the development of country's financial intermediaries on the level and the rate of growth which is on the supply side. He argued that the services provided by the financial sector are very necessary for economic growth, since it allocates capital of the highest value without substantial risk of loss through moral hazards, adverse selection or transaction cost.

According to basic financial theory, it is believed that only general macroeconomic fundamentals such as industrial production, inflation and so on, would influence the pricing of equity market indices (Chen et al 1986 Fama 1981). Looking at supply side, economic growth affects share price movement through the impact on the present real value of average cash flows. In this case, it means that countries with higher long term economic growth likely submit a faster growth in average earnings. Therefore, according to basic fundamental valuation of shares, equity prices will go up to inves-

tor's expectation of higher returns in future. While on the demand side, sustained economic growth means more wealth in the assets investments in markets, which will likely drive up equity price in the long-term (Chen et al 1986; Fama 1981).

It is obvious that most studies on the long term impact of macroeconomic variables on equity price variability have been largely studied basically on advanced equity markets. Notably among them are Fama (1981, 1990) and Chen et al. (1986) studied the U.S equity market; Asprem (1989) examined ten European equity markets; Cheung and Ng(1998) investigated Canada, Germany, Italy, Japan, and the U.S equity markets. Also Mukherjee and Naka (1995) carried out an empirical study on the Japanese equity price movements. The works of Mukherjee and Naka (1995) applied Johansen's (1998) in Vadyba (2009) using VECM to analyze the relationship between the Japanese Stock Market and inflation, money supply, real economic activity, and other economic fundamentals. In all these work so far, there is a general consensus that a cointegrating relation indeed existed and that stock prices contributed to this relation. While still looking at the advanced countries equity market, it is important to recognise the contribution of Humpe and Macmillan (2005) who examined the extent to which macroeconomic variables explained stock market movements in the US and Japan, using a log-linear model, they found that a 1.0 percent increase in industrial production triggered an increase of 1.09 per cent point in U.S stock prices, whilst 1.0 per cent increase in Japanese industrial production triggered 0.2 per cent increase in Japanese stock prices. Both parameters were statistically significant. The most interesting thing that is very common to these studies from the advanced market is that their empirical findings revealed that equity markets variability of share price were affected by lots of macroeconomic variables in the long term by influencing on future cash flows of companies and risk adjusted discount rate.

Wan Mahmood and Dinniah (2009) studied the changing relationship between stock price and economic variables in six –pacific selected countries of Malaysia, Korea, Thailand, Hong Kong, Japan and Australia using monthly data on stock indices, consumer price index and industrial production index, ranging from January 1993 to December 2002. The analysis on the study was basically on the long-term equilibrium and short term multivariate causality between the above variables. From their analysis it was found that long-term relationship existed between and among variables in only four countries such as Japan, Korea, Hog Kong and Australia. And in the short term all countries except Hong Kong and Thailand exhibited some levels of correlation. In the case of Thailand, relationships were only observed between output and stock price (Wan Mahmood and Dinniah 2009). Chong and Koh (2003) results were similar: they showed that stock prices and economic activities in Malaysia were linked in the long run both in the pre- and post-capital control sub periods.

The results of studies by Fama and Schwert (1977), Chen, Roll and Ross (1986), Nelson (1976) and Jaffe and Mandelker (1976) pointed to a negative relation between inflation and stock prices. The argument is that an increase in the rate of inflation is likely to lead to economic tightening policies, which in turn increases the nominal risk-free rate and hence raises the discount rate in the valuation model. The effect of a higher discount rate would not necessarily be neutralized by an increase in cash flows resulting from inflation, primarily because cash flows do not generally grow at the same rate as inflation. Defina (1991) attributes this to nominal contracts that disallow the immediate adjustment of the firm's revenues and costs. Cash flows would probably decrease initially if the cost of inputs adjusts faster to rising inflation than output prices (Defina 1991). Alternatively, if the money stock decreases given money demand, interest rate goes up leading to the fall of equity prices due to the increase of the discount rate of future cash flow (ibid).

Looking at the West African regional studies, the work of Adam and Twenboah (2008) examined the effect of macroeconomic variables on the movement of equity prices in Ghana. The variables used in the study include consumer price index, exchange rate, Treasury bill rate, inward for-

eign direct investment, employing data from 1991 to 2006 with Jahansen's multivariate cointegration test and innovation accounting techniques and investigated the correlation between stock market index and the stated macroeconomic variables. The finding from the study revealed the existence of cointegration between macroeconomic variables and equity prices in Ghana in the long-term. Additional examination shows that in the short term, inflation and exchange rate are significant in equity price movement in Ghana. Not only that, the overall analysis revealed that interest rate, and inflation tend to be very significant in the long-term Adam and Twenboah (2008).

Another relevant factor that can influence macroeconomic variable on equity prices is the macroeconomic environment as indicated in macroeconomic policies such as monetary and fiscal. Friedman and Schwartz (1963) explained the relationship between money supply and stock returns by simply hypothesizing that the growth rate of money supply would affect the aggregate economy and hence the expected stock returns. An increase in M2 growth would indicate excess liquidity available for buying securities, resulting in higher security prices. Empirically, Hamburger and Kochin (1972) and Kraft and Kraft (1977) found a strong linkage between the two variables, while Cooper (1974) and Nozar and Taylor (1988) found no relation.

However, it is important to recognise the fact that an increase in nominal money stock will cause an increase in inflation given the level of economic growth resulting in a corresponding increase in equity prices (Friedman and Schwartz 1963). In neoclassical perspective, stocks are expected to be a good means of hedging against inflation such as land, capital and technological progress (Chen et al 1986). That means, share prices would go up sufficiently to compensate investors for any erosion in the purchasing power of money caused by inflation. This is because cash flows of listed firms would go up by as much as general price rises of commodities. This will also increase the demand for bonds, thereby pushing the interest rate downward in the long run to an increase in equity prices. Conversely, suppose the other way the money stock decreases due to money demand, then interest rate go up leading to the fall in equity prices as a result of the increase of discount rate of future cash flows.

Let us take a look at the investors' expectation during inflation, for instance higher inflation leads to higher interest rate leading to an increase in the cost of borrowing and therefore constrain the investment of companies. As investors expect lower future cash flow to companies, there is a decrease in demand for the firm's stocks, consequently leading to a decline in cash share prices.

The investors will be considering the way in which the firm is likely to perform in future, as these revenues will provide the potential basis for valuation models as well as the cash for dividends if dividends are paid. But, if dividends are not paid profitable firms will still increase profit retention and investment that can be used to create further investment. Cutler (1989) look's at a range of influences and determines that there is an impact of general macro-economic conditions on overall market prices as observed price movements cannot be explained by firm and industry specific information alone.

A significant influence may be that of market liberalization, the theory is that where there is the ability of the stock market to reflect market forces, without government or other interferences, there are fewer barriers to investment and a greater potential for investors to make sense of the market and make predictions, as well as increased potential for profits. When assessing the impact on equity prices Henry (2000) found that when liberalization to allow foreign investors to buy shares took place there would be an average of 3.3 percent abnormal returns that would be realised in the month following the implementation of the policy. In this instance there is the potential that the abnormal returns support the concept of the supply and demand, by opening up markets there is increased demand from more investors that could not previously invest. However, there are also other signifi-

cant impacts that have the potential to influence the performance of the firm, such as the liberalization of the markets opening up new sources of capital which may impact on the cost of capital and the cost of equity for firms within that country (Henry 2000). This supports research that has developed international asset pricing models, that predicts where liberalization takes place there will be a reduction in the cost of equity allowing risk to be shared between local and international investors (Henry 2000). Research by Stulz (1999) and Alexander et al, (1987) cited in Siong-Hook and Wan (2008) also found the same results that countries with weaker shareholder protections exhibit greater market valuation increases compared with countries with stronger shareholder protections in emerging stock market. Equity market liberalization may tend to reduce the liberalizing country's cost of equity capital by allowing for risk sharing between the domestic and foreign investors, thereby holding expected future cash flows constant, a country's stock market price index should increase if they have information that equity market liberalization is going to occur (Siong-Hook and Wan 2008).

Moving from advanced to emerging equity markets, Konstantinos and Spyrou (2001) carried out empirical investigation on stock market, banking sector and economic development of five emerging markets, using multivariate time series methods to examine the long-run trends and causality between equity prices and economic variables and found that equity market could be a source of useful financial instrument for only in a country with liberalized economy. Though, it was empirically revealed that Mexico and Chile economies were under protectionisms during the early stages of liberalization, but the result strongly indicated that integration with the world economy is best for any country irrespective of the fact that country maybe vulnerable with such openness during the early stage of liberalization. However, a low level of protectionism of economy could enhance macro environmental stability for growth. Similarly, the same investigations were conducted by Demetriatis and Luintel, (2001) using the vector error correlation model (VECM) as an efficient method of testing the long-run relationship between equity market development and economic growth. Maysami and Koh (2000) examined such relationships in Singapore. They found that inflation, money supply and growth formed a cointegrating relation with changes in Singapore's stock market levels

The implications here is that as long as the cash flows of the firms remain constant, where liberalization takes place there should be an observable increase in the equity price index, starting at the point where there is information that liberalization will take place (Henry 2000). The second associated phenomenon is the increase in the physical investment that can take place in the country following liberalization. The market, opened up to international investors and decreased controls have a significant impact on the way projects and commercial investments take place, with the lower cost of equity and increased availability of capital there is a shift in the net present values of many projects either increasing their value or shifting from a negative to a positive value, which in turn impacts on the country's economic growth (Henry 2000).

The research that has taken place has been seen across many different market, but when looking specifically at less developed or developing countries, the theories appear to hold true, with liberalization impacting on growth and facilitating increased availability of funds and then supporting rising equity prices, The Asian tigers are a good example of this increase, where significant growth was seen during the 1990's. In the years before the crisis the economies of the Southeast Asian were booming there was a great level of success led by the economies we now refer to as the Tiger Economies. The average rate of growth was 8 percent per annum in the decades prior to the crash, with even greater increases in the equity market; the effect of the growth was to bring the original four 'Tiger' economies out of the status of developing countries, Hong Kong, South Korea, Singapore and Taiwan all became classed as developed (Woodall 1998). Other economies such as Thailand, Malaysia and Indonesia were also catching up at a rapid rate (Woodall 1998).

The Asian currency crisis, which was impacted by many different factors, preceded by a stock market crash has been blamed on both under and over regulation, with liberalization being seen as one of the influences that allowed the crash to take place (Labbe 1998). When looking at the stock market behaviour it is also possible to see the lack of rationality and efficiency when there were measurements taken, the situation this area was one of increased liberalisation and freedom with the introduction of capitalist markets in the area and many countries adopting more democratic systems which embraced these capitalist systems (Labbe 1998). The next section reviews studies done on Nigerian equity market

### **2.3 Literature Review on Nigerian Equity Market**

A lot of studies have actually been done in respect of equity markets in Nigeria, but all these studies focuses on equity market and economic growth. Therefore, this study is so significant because it focuses on the relative impact of macroeconomic variables on relative equity prices movements in Nigeria.

When looking for the degree to which the stock market appears to comply with existing theories the work of Olowe (1999) is relevant, this research looked at the performance of the stock market in Nigeria taking data over a twelve years, between January 1981 and December 1992 with monthly stock returns analysed there was support found that there is a weak form of the efficient market hypothesis found in the Nigerian Stock Exchange.

Another important study on Nigerian Equity Market was conducted by Maku and Atanda (2009). The study sort to know whether macroeconomic indicators such as inflation rate and real output exert shock on the Nigerian Capital Market, employing data between 1984 to 2007. The study examined both the long-term and short term effect of macroeconomic variables on Nigerian Capital Market using time series data with the application of Augmented Dickey Fuller (ADF) test; found that most of the variables have unit root at levels. The application of The Augmented Engel-Granger Cointegration test shows that macroeconomic variables exert significant long-term shock on equity price as a result of the stochastic error term mechanisms. Although, empirical evidence shows that the NSE all share index is more sensitive to inflation rate and output. It was also revealed that all other proxies' variables that represented external shock and macroeconomic indicators also impacted significantly on the Nigerian Capital Market in both short and long terms (Maku and Atanda 2009).

The way the equity market is being impacted therefore indicates that there is the weak form of efficiency within the stock market, and as such there is a degree of predictability and a search for logic by the investors. Looking to the way that other African states have been impacted may give increased understanding of influences that may be seen specifically in Nigeria. Magnusson and Wydick (2000) noted that as linearization has taken place in Africa there has been a significant increase in the number of developing countries that have operated stock exchanges, this was 31 in 1989 and 78 by 1998 and the number of domestic firms listed on those stock exchanges increased by 300 percent. International Finance Corporation (IFC) statistics from (1999) show a positive relationship between stock market growth, increased investment and economic growth that appears to take place in an interdependent manner (Magnusson and Wydick 2000). Part of the benefits has been the spread of risk, as identified by Henry (2000), and investors in the developed countries have been better places to take on an accept the risk associated with the development of the countries in the developing world, more able to afford losses and better places to spread their own risk (Magnusson and Wydick 2000). The international investors have also been happy as they have gained as a result of higher risk premiums where positive returns are achieved (Magnusson and Wydick 2000).



Therefore, when looking at the Nigeria there does appear to be evidence to support general compliance that economic growth is likely to result in equity price increases that liberalization is likely to result in increased investment, which in turn will support the growth of equities, and is supported by a transparent and market driven structure. The way that share prices are determined may appear to have support from the weak version of the efficient market hypothesis, although the same support is not seen in all other markets, this may be seen as an indicator of the desire for logical and assessment taking place, but it should also be remembered that there is mixed evidence regarding the potential accuracy of any EMH in any market, and as such this is the least definitive aspect of the research, and we may expect both support and contradiction to occur, with potential changes as the stock market evolves. The next section reviewed the empirical literature on the long term impact of macroeconomic variables on relative equity prices movement. The majority of studies on Nigerian equity market are basically focused on growth impact rather than relative equity price movement which is the main focus of the study.

It is imperative also to recognize the fact that world equity market is a very strong macroeconomic fundamental variable that can significantly impact on the share price movements of developing economics, which is measured by a developed equity market. Some studies based on high degree of integration are of the opinion that with more integration of the world economy, there are co movements of different stock market in the world (Megginson and Boutchkova 2000). That is to say that performance of the world equity market should have the same line of effect on the performance of the world equity market of developing stock market such as Nigerian stock market. Another line of argument known as Asset Portfolio theory postulated that a relative worse performance of world equity market in long-term will cause the funds investing in developed stock market to be transferred into the emerging stock market, so that the benefits of international diversification of portfolio could be achieved (Emenuga 1996). This situation will cause a rise in demand of equities in emerging stock market and in the long term, the share price will be driven up.

An understanding from these huge literature reviewed is that there is some correlation between the equity market and macroeconomic variables. Difference arguments have been on these as per the level or direction of such impacts, whether from the equity market to the entire economy or from the entire economy to the equity market or in both ways (bio-directional). It is also important to recognise the fact that other arguments as to the magnitude of the impact in any how the levels on assumption or evidence. For countries such as Nigeria with weak capital markets low level of economic activity and so on, the level and magnitude of impacts could be very difficult to establish. It is observed from the literature reviewed that looking at developing countries case seems to have not been resolved, that is to say that the correlation or relationship could be weak for less developed countries. But the issue is that the direction of weak depends on the level of development of equity market. Nigerian equity market has been functional since 1980 and capitalization has tremendously being on increased. Though, we cannot rule out the fact that the market has suffered major shocks. But it is yet to be established how these shocks have affect the wider macro economy or how various factors in the economy contributes to its growth or to the shock and what exact implications these have for policies to address the problems in the stock exchange. The next chapter reviewed the characteristics of Nigerian equity market, financial market liberalization and both regional/global equity markets integration.

# CHAPTER THREE: EQUITY MARKET /FINANCIAL LIBERALIZATION IN NIGERIA, REGIONAL AND GLOBAL INTEGRATION

## 3.0 Introduction

Having critically discussed in the previous chapter, what determines the equity prices and its relationships with economic environment and the empirical reviews on relationships with macroeconomic variables. This chapter discusses in detail the regional and global equity markets in Sub-Saharan Africa, but emphasizes focused more on the integration of the equity market regionally, though five selected countries indices were presented and discussed in table format. The chapter commence discussion on critical review of what actually determines equity market development in Nigeria in respect to its characteristics, followed by liberalization and policy changes in equity market in Nigeria and wrap-up with the regional discussion.

## 3.1 Characteristics of Equity Market Development in Nigeria

The Nigerian Stock Exchange just like any other market has three distinct ways to characterize equity market development, such as traditional characteristics, institutional characteristics and assets pricing characteristics (Demirgüç-Kunt and Levine 1993) and was cited by Osinubi and Amaghionyeodiwe (2003). Traditional characteristics measure the basic growth indices such as number of listed companies and market capitalization. Institutional characteristics go beyond the regulatory and legal rules in market, also its information disclosure and transparency needed, market barriers and trading costs. Asset pricing characteristics relate to efficiency of the market in pricing risk.

### 3.1.1 *Traditional characteristics*

**Market Size:** The size of Nigerian Stock Exchange is about 185 quoted firms and US \$4 billion capitalization, making the market small by international standards. For example, the South African market has 640 listed companies while South Korea, there are 693 listed companies. Even, the dearth of quoted companies in Nigeria is explained by the recent market origin. The Nigerian Stock Exchange commenced operations in 1960. This has traditionally been explained by in terms of aversion of indigenous entrepreneurs to going public due to fear of losing control (Alile and Anao 1986). The weak private sector is thus a serious factors working against healthy growth of the stock market. The creation of a second-tier securities market to enhance the listing of indigenous firms was a useful attempt to solve the problem. Privatization of the resource base of stock exchange (Emenuga 1998)

**Liquidity:** The liquidity of equity market is in connection to which shares are traded in the market. Liquidity is imperative good reasons. It is generally believed that investors are levy of illiquid markets because exit cannot be made at the desired time. The more liquid a stock market is, the more it commands investors' interest since resale of share is easily guaranteed. Besides, quoted firms have more access to debt (debentures) and equity (new issue) in a liquid market. Also in an economy with a liquid stock market, shares become easily acceptable as collateral for bank lending and this boost credit and investment. At an average of 2 percent per annum, the Nigerian stock market turn-

over ratio, a measure of the value of shares traded relative to total market capitalization is still low. The low trading activities in the Nigerian market result from the ownership structure, among other factors. Until recently, the market was restricted open to non-resident investors (Emenuga 1998)

### ***3.1.2 Institutional Characteristics***

**Regulatory Institution:** The purpose of regulating securities market is to ensure fair play and transparency in market operations. In the developed securities markets, the operating concept is positive supervision, which ensures that every market participant is treated fairly and equally. The Nigerian Securities and Exchange Commission (NSEC) is a typically functional regulatory organ. Established in 1979 on the numerous complaint of inappropriate valuation of shares of public companies during the second leg of the indigenization programme, the activities of NSEC in the Nigerian Capital Market includes registration of securities, monitoring and supervision of all activities in the market, registration (licensing) of market participants such as registrars, investment advisers and dealers and, investigation of quoted companies to ensure compliance with approved practice and conduct.

**Transaction Costs:** The cost of transaction is one of the barometers for measuring the efficiency of a capital market. The major component of a transaction cost facing an investor are, brokerage fee, stamp duty and in some countries an additional charge by the regulatory authority. Nigeria has both brokerages fees and stamp duties. In addition with a brokerage fees and the stamp duty, the NSEC, the highest regulatory authority the capital market has, since 1985 charged a fee of 1 percent on every transactions in securities (currently levied only at the buyers).

**Openness and Market Barriers:** From the beginning of the Nigerian Stock Exchange till 1972 foreign investors had unrestricted access to the capital market. By Indigenization Decree of 1972 as amended and reinforced in 1977, government restricted the scope of foreign investment and limited the interest of foreigners to a maximum of 40 percent equity holdings in a listed security. The indigenization legislations were amended in 1989 to accommodate larger foreign presence in the capital market. On July 15, 1995, the Federal Government of Nigeria promulgated the Nigerian Investment Promotion Commission Decree (No. 16) whose thrust was to liberalize the investment climate in the country. A sister legislation, Foreign Exchange (Monitoring and Miscellaneous Provisions) Decree No. 17 (January 16, 1995) further eased the mechanism for foreign investment flows. It replaced the Exchange Control Act of 1962.

### ***3.1.3 Asset pricing characteristics***

In the Nigerian Stock Market, trading is by the call-over system. By this trading rule, equities are called up in turn during which brokers bid for or offer to sell any stock of interest. Trading time in the market is thus restricted about two hours each day from Monday to Friday. In developed markets stock trading is continuous process throughout working hours and prices can change several times in a day. In addition to the restricted trading period, price movements are officially controlled, a 5 percent fluctuation limit is still enforced. The rationale for the controlled price variation is to prevent speculation and ensure that prices are driven market fundamentals, in order to achieve a healthy and orderly market development. The regulatory process may explain the poor sensitivity of equity prices of macroeconomic conditions- growth of GDP, interest rate, inflation and money supply, and so on, (Emenuga 1996), resulting in insufficient compensation in the market for systematic risk. The next section is looking at the impact of liberalization and equity market development in Nigeria by revisiting the various policies after and before liberalization.

### 3.2 Liberalization and Policy Changes in Nigeria's Equity Market

This shall review the various stock market policies in Nigeria, before and after liberalization. The centre of discussion in this section shall anchor on the effect of portfolio investment as a result of the nation's equity market liberalization. We see liberalization as is the dismantling of regulations, which hinder the efficiency, dynamism, and competitiveness of markets; it is the removal of financial repression, which in the context of Nigerian Equity Market was characterized by policies that distorted and stunted the market (Gautier 1990).

It is on recognition of the fact that effective equity market liberalization lead to useful change in both financial and real sectors as the economy becomes integrated into world capital market. One of the important national policy decisions of the past twenty years has been the financial liberalization of equity markets across the world (Bekaert et al 2003: 275). Equity market liberalization gives foreign investors the opportunity to invest in domestic securities and domestic investors the right to transact in foreign equity securities. There are three basic scenarios when emerging economics open their stock markets to foreign investors. The first is the fall in the aggregate dividend yield by 240 basis points. Secondly, the growth rate of the capital stock increases by an average of 1.1 percentage points per annum. The third is the growth rate of output per worker rises by 2.3 percentage points per annum. Therefore, the notion that when countries liberalize their capital account, it does not have real benefit is not true since the cost of capital falls, investment booms, and growth rate of output per worker increase when countries liberalize the stock market (Henry 2003)

From the beginning of the Nigerian Stock Exchange till 1972 foreign investors had unrestricted access to the capital market. By Indigenization Decree of 1972 as amended and reinforced in 1977, government restricted the scope of foreign investment and limited the interest of foreigners to a maximum of 40 percent equity holdings in a listed security. The indigenization legislations were amended in 1989 to accommodate larger foreign presence in the capital market. On July 15, 1995, the Federal Government of Nigeria promulgated the Nigerian Investment Promotion Commission Decree (No. 16) whose thrust was to liberalize the investment climate in the country. A sister legislation, Foreign Exchange (Monitoring and Miscellaneous Provision) Decree No. 17 (January 16, 1995) further eased the mechanism for foreign investment flows. It replaced the Exchange Control Act of 1962.

Following the global trend, Nigeria has been liberalizing her economy. Though, the real sector has had to work under situation of macroeconomic management instability, insufficient technology and credit facilities. Before 1986, the nations' economic regimes were regulated and the pursued expansionary fiscal and monetary policies in her development effort (Obadan 1998) found in Owuka and Eguavoen (2007). The problem emanated from political instability and corruption that resulted to distortion in investment decision which eroded the confidence especially the foreign investors.

The trend of portfolio investment in Nigerian economy has generated an academic debate among scholars. According to Obadan (2004) a portfolio investment is very new in Nigeria. Till 1985, Nigeria did not record any figures on portfolio investment inflow in her balance of payment accounts as it reflected in table 3.1. This is due to non-participation of foreign equity investors in the country's capital market as a result of non-internationalization of the country's money and capital markets. Since 1986, the portfolio investment account has presented information on promissory notes issued by Nigeria to her foreign trade creditors (portfolio inflows), and the value of redeemed notes under the Debt Conversion Programme (that is portfolio outflows).

There is no doubt therefore that, the 1990s recorded net outflows of portfolio investment. Olsadebe (1995) outlined portfolio investment in the Balance of Payment (BoP) in Nigeria as follows:

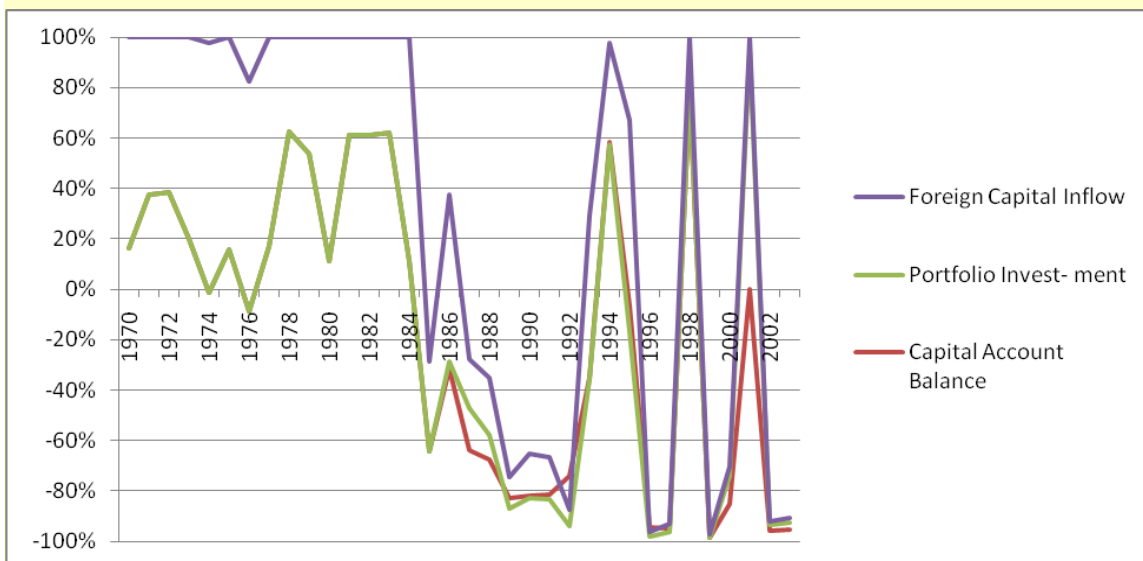
transactions in bonds, debentures and notes, as well as non-direct investor equity, preferred shares or stocks, mutual funds and investment trusts. It also includes transactions in money market instruments such as treasury bills. Table 3.1 revealed that the level of portfolio investment in Nigeria is low. The net portfolio investment flow was negative from 1990 to 1997, but has remained positive since then. The idea behind the poor performance of the market could be attributed to the absence of enabling environment. The difficulties include political instability and weak macroeconomic fundamentals. They also include structural weaknesses manifested in the high transaction costs of doing business. Trading in portfolio investment also required high technology, open and internationalized. Though the progress was slow before 2003, but effort was intensified in 2006 and great success was achieved in liberalizing the country's market.

In other word, Liberalization is imperative for internationalization, which is the opening up of markets to foreign participation (Ogiri 1996). Soyode (1990) is of the opinion that liberalization also encourages the internationalization of the capital market and this includes the flow of savings from foreign portfolio investors.

At the same time, internationalization is part of the efforts at removal of various elements of financial repression, which have obstructed capital flow into Nigeria. Before 1997 when the Nigerians' equity market was liberalized, the difficulties included legal restrictions on participation by foreign investors and operators, low rates of returns, operational barriers such as price determination by Securities and Exchange Commission, restriction on free trading of securities, and so on (Odoko, 1998).

It was a well deserved development when in 1995 the Nigerian Government promulgated the Foreign Exchange (Monitoring and Miscellaneous Provisions) Decree No. 17 of 1995 and the Nigerian Investment Promotion Decree 1989. This move has effectively internationalized the Nigerian Capital Market, putting the market on the right track as a channel for foreign capital inflow into the economy. This has evidently proved helpful in attracting foreign investment capitals to the country. According to Alile (1990) it is on record that between July 1995 and July 1996, a total of \$6.0 million foreign portfolio was in Nigeria through the Nigerian Stock Exchange.

**Figure: 3.1 Foreign Capital Inflow in Nigeria (1979-2002)**



Source: Central Bank of Nigeria, Statistical Bulletin; and Annual Report and Statement of Accounts, Various Issues

**Table 3. 1: Capital and Financial Account Flows in Nigeria: 1970-2002 (N' Millions)**

Year	Capital Account Balance	Portfolio Investment	Net Foreign Direct Investment	Net Capital Inflows	Net Official flows	Other Long-term	Other Short-term	Foreign Capital Inflow
1970	49.2	-	128.6	121.6	-	4.4	-76.8	251.0
1971	293.4	-	142.8	319.6	-	31.0	116.4	489.6
1972	269.2	-	297.8	248.3	-	35.8	-62.4	432.8
1973	144.8	-	186.3	192.6	-	-49.7	9.2	577.8
1974	-5.9	-	181.6	48.3	-	-65.1	-136.7	507.1
1975	141.1	-	253.0	475.4	-	-135.7	15.2	757.4
1976	-50.6	-	212.5	46.3	-	-234.2	-32.2	521.1
1977	150.4	-	245.5	197.6	-20.2	-11.1	-84.0	717.3
1978	1111.9	-	134.4	331.8	-884.4	881.2	96.3	664.7
1979	813.2	-	184.3	289.9	-598.2	622.8	6.1	704.0
1980	97.4	-	-404.1	467.0	-330.3	356.1	145.4	786.4
1981	929.5	-	334.7	137.3	-480.0	498.4	96.4	584.9
1982	3470.9	-	290.0	1624.9	-720.3	736.8	2444.1	2193.4
1983	2735.7	-	264.3	536.7	0	1109.5	1361.9	1673.6
1984	171.9	-	-270.7	534.8	-233.3	-198.9	10.4	1385.3
1985	-2555.0	-	434.1	329.7	-3763.6	-5109.3	2030.2	1423.5
1986	-1900.9	151.6	735.8	2499.6	-4502.4	-4533.5	1745.2	4024.0
1987	-16743.3	4353.1	2452.8	680.0	-15124.0	-15079.5	-8469.7	5110.8
1988	-18447.3	2611.8	1718.2	1345.6	-16094.6	-16209.5	-6567.8	6236.7
1989	-30221.9	-1618.8	13877.4	-439.4	-24226.5	-24226.5	-18254.0	4692.7
1990	-49245.3	-435.2	4686.0	-464.3	-28595.6	-28550.4	435.1	10450.2
1991	-27482.9	-594.9	6916.1	1808.0	-30679.5	-30679.5	22108.4	5610.2
1992	-	-	14463.1	8269.2	-97559.1	-97558.3	-48004.5	11730.7
1993	-23060.6	-396.4	29675.2	32994.4	-38303.0	38176.3	-10087.9	42624.9
1994	11252.8	-203.5	22229.2	3907.2	-41471.7	-41471.8	30698.8	7825.5
1995	-4254.0	-6785.0	75940.5	48677.0	-	-	34625.7	55999.3
1996	-	-	111292.7	2731.0	-	-	-	5672.9
1997	-	-4785.8	110456.2	5731.0	-206871	-	70705.4	10004.0
1998	116720.5	637.5	80750.4	24078.9	-125738	-	161027.4	32434.5
1999	-	1015.7	92792.5	1779.1	-153229	-	-	4035.5
2000	-	51079.9	115952.2	3347.0	-99566.2	-99516.2	-	16453.6
2001	-	92518.9	132433.7	3377.0	-94521.9	-94521.9	-	4937.0
2002	-	16082.6	225972.0	8206.8	-	-	-	8988.5
2003	-	18996.5	259250.4	13056.1	-	-	-	13531.2

Source: Central Bank of Nigeria, Statistical Bulletin; and Annual Report and Statement of Accounts, Various Issues

Figure 3.1 shows that foreign capital inflow to Nigeria has been cyclical right from 1970 after the country's civil war. There was negative inflow between 1988 to 1992 due to political instability that scared away foreign investor from committing their investment in uncertain political environment couple with Government regulation on restrictions of capital flows. The periods were characterised by Military dictatorship. Going by the records, it is revealed that portfolio investment recorded the highest on average of the total foreign capital inflow. This is because foreign investors believed that the risk of losing their investment would be minimal in portfolio that in real asset. Again, the

response of foreign investors to the change in Nigerian Stock Exchange legal environment has remained positive.

### **3.3 Regional and Global trends in Equity Market in Sub-Saharan Africa**

Regional integration can be full or partial. Full integration implies a single market. Which can be achieved either through merger of existing individual markets with uniform regulations, having equal access, equal treatment; a common trading platform must be in existence, clearing and settlement process. While, partial integration may be in the form of cross-listing of stocks, inter-operability, alliance and joint venture. There is a great need for equity market regional integration among the Sub-Saharan African (SSA) countries in order to mobilize long-term savings. This would enhance capital allocation by pooling and directing savings towards asset with high rate of returns. Regional integration of equity market can also facilitate risk management in form of widely used package for collateral and distributing risk among investors.

Kenny and Moss (1998) are of the view that integration of SSA stock markets with international financial markets could potentially help reverse the region's economic marginalization by attracting foreign capital and improving the business and investment climate and reinforcing other economic growth.

However, the pace and stage of stock market development have varied among SSA countries. Only four stock markets have more than 50 listed stocks; five have at least 20 listed stocks; and the remaining 14 have less than 20 stocks. But for purpose of the study, we shall base our discussion on trends of relative share price movements of five selected countries in the region using the stock index change in 2008 as our base discussion.

The slowdown and sometimes the reversal in portfolio equity flows in SSA countries were consistent with the sharp fall of their stock markets. Over 2008 investors withdrawn (\$6.1 billion) in South Africa, Evident of portfolio inflows reversal and capital flight also be found in Kenya, Tanzania and Nigeria (IMF 2009). As revealed in Table 3.3, South Africa, Nigeria, Kenya, Mauritius and Côte d'Ivoire were among the most hit countries over 2008. The situation did not improve much at the beginning of 2009. Indeed, in Kenya the Nairobi Stock Exchange (NSE) All-Share Index fell by 21.36 per cent from 30 January to 27 February and stock market capitalisation dropped by 21.35 per cent over the same period. In turn, the Nigeria Stock Exchange All Share Index fell by 30.64 per cent in January and increased by just 7.2 percentage points in February. In Côte d'Ivoire, the BRVM Composite Index has continued to fall to date.

**Table 3.2: Stock index change in 2008 in selected SSA countries (%)**

Index	% change 2008
Nigeria All Share Indices	-45.90
Mauritius All Share Indices	-36.20
NSE 20-Share Index	-34.40
JSE All Share Index	-25.70
BRVM Composite Index	-10.70

Source: AfDB (2009)

The above analysis has indicated a great deal of levels of impacts of the sub-regional equity markets integration to the rest of the world's stock market, as the market is just emerging. However, in as much as SSA countries equity market needs to integrate with the rest of the world, in doing so, they must first come together and build regional blocs. The fact remains that regionalization is already taking place among member countries. The interesting thing of note is that the world's first regional exchange is the Bourse Regionale de Valeur Mobiliere (BRVM) in Abidjan, Co'te d'tVoire, which started trading in early September 1998. The BRVM is meant to serve eight French speaking West African nation which include: Benin, Co'te d'tVoire, Bukinafaso, Guinea Bissua, Mali, Niger, Senegal and Togo. It is expected that five to ten companies from each of the eight BRVM will be connected via satellite (Macias and Massa 2009)

There are also current plans for establishing two other regional exchanges for the Anglophone West Africa (Ghana and Nigeria) and another one for the East Africa (Kenya, Uganda and Tanzania). The crisis in Southeast Asia had very little effect on the African region's equity markets, except for South Africa. This was partly due to the fact that there were relatively few foreign capital investments into the African capital markets. The sub-Saharan region attracted less than three per cent of all private capital flows to developing countries over the past seven years. The channels for speculation in sub-Saharan markets are not available, with no futures or options markets (South Africa excluded) to facilitate short-selling of the region's currencies or stock markets. Regionalisation could dramatically improve the derivatives and foreign exchange markets which are non-existent in most African markets.

Table 3.2 and the above analysis reveals that equity prices in SSA relatively move together and this movement has impacted positively to the Nigerian financial system through regional integration of the market.



# **CHAPTER FOUR**

## **ANALYZING THE IMPACT OF RELATIVE EQUITY PRICE MOVEMENT ON RELATIVE MACROECONOMIC VARIABLES IN NIGERIA**

### **4.0 Introduction**

Using the background discussion and considering the existing theoretical and empirical frame work applied in chapter 2. The chapter using chart and tables analytically discusses the impact of internal and external macroeconomic and structural factors that have direct or indirect relation with equity price movement in Nigeria. The trends are properly captured by using relative world and regional indices where applicable. This analytical approach did not involve any empirical model or equation, since it is outside the scope and focus of this study, rather it was basically applied in order to compare the general theories with our analytical/conceptual frame work.

### **4.1 Analytical Framework**

Considering the central aims of the study at assessing the impact of macroeconomic variables and structural changes in the financial system in the long term movement in equity prices with particular emphasis on growth, inflation, and financial market liberalization, and in recognition of the fact that no econometric method is applied in testing our argument, it therefore became imperative that analytical frame work be conceptualize to adequately justify the relevant variable of interest for analysis.

The correlation between GDP growth and equity market indices is extensively discussed both in the theoretical and empirical reviews in sections 2.1 and 2.2. The relationship is largely agreed to be two ways direction (bidirectional). For instance, growth results to increase savings that provides investable fund to the equity market. Again, a well-developed stock markets can easily lead to economic development and growth through its enhanced liquidity as the investor diversify their risk in different shares creating a portfolio with high returns investments, therefore accelerating productivity growth. However, this study is basically focused on impact of growth on equity prices which is theoretically transmitted through various means, especially through savings. This is because increased income lead to increased availability of investible savings, and making such savings investable funds available determine demand and supply of equities which in turns impact on relative equity price and other indices. Based on this GDP growth is considered as one of the explanatory variable for all share price index. Therefore we expect the long term relationship between them to be positive and significant.

Inflation, the continuous upward movement of prices usually impact on equity prices. Inflation is even a price variable itself, so equity price supposed to be part of the overall price levels in an economy. But, in the case of Nigeria, there is no single proof to show that the calculation of the price index included the movements in equity prices. However, the aggregate price in the economy affects equity prices through various ways, which include co-movement and causality. For co-movement, it is generally believed that prices tend to move in the same direction within a given economy. But, emphasis should be paid on the causality, because when prices of other commodities tend to move upwards in the economy, it put undue pressure on the equity prices. This partly will be

the outcome of attempt by operatives in the stock market to effectively anchor stock prices to be a wedge against loss of value in assets on account of domestic inflation. However, inflation could be an instability factor leading to perception of risk in the equity market. Besides, when inflation lowers absolute purchasing power without commensurate rise in income, households are likely to put in places to make hard choices between present sustenance and investment in stocks, leading to possible crowding out of investment in stocks. In fact in the literature, evidence seems to point to potential positive short run relationship but negative long run relationship. Therefore, there appear to be no predictable link between the relative performance of equity market and inflation.

Since 2004 until 2008, Nigerian government has been operating a fairly capital account liberalization, and the consolidation of the banking sector resulted to a surge in public offers. There is general opinion that huge parts of the investment in these public offers were remittances and portfolio flows from overseas. This assertion has not been empirically or analytically examined. But, it indicated possible influence of the external environment on the variability in equity prices in the long term. And it would have been useful to choose an indicator of external sector, but due to unavailability of data and time constraint, the impact of the remittances will not be analytically examine in this study. Though, it is a general believe that the major external influence should come from portfolio flows which follow interest rate differentials. Consequently, higher portfolio flows and higher remittances are likely to lead to increases in the all share index as demand exceeds supply in the equity market. The impact of the rest of the world would be proxy using WSI world index. We expected to have positive and significant relationship with relative performance of Nigerian equity market.

This study uses data from 1988 to 2008 and 1985-2009 respectively. Based on the theoretical and empirical studies, and in recognition of the fact that not all macroeconomic variables are likely to have any impact on stock price valuation in the long term, we analytically looked at three major variable of interest base on the central objective of the study, such as Growth of Real GDP using annual percentage, Inflation measured with Consumer prise unit (CPI), and world stock price index broxied by S&P 500 obtained from EonStats (2010). Other variables are sourced from Central Bank of Nigeria, World Development Indication (WDI), and International Financial Statistics (IFS). We used percentage changes in most of our charts and tables to compare impact between variables.

Activities in the Nigerian stock exchange are peroxide by the all-share price index (ASI). The choice of the Nigerian share price index as a proxy is based on two major considerations. First, it is a ratio and is therefore already in standard annual measurement. Secondly, more than any other variable, it has the capacity of capturing trends in all stock prices simultaneously. Given that each price movement that reflects in the ASI is in ratio of the original price, the ASI equally gives a weighted average of the prices and of other economic activities relating to trading in the market and it is also converted to relative changes in dollar term in comparing the relative movement with other variables.

The choice of other variables are based on the assessment of both the theoretical and empirical reviews and on the fact that the scope of the paper is very precise looking at the long-term trends on relative equity price movements on macroeconomic variables in Nigeria and other external factors.

#### **4.1 Impact of Economic Growth on Relative Equity Prices Movement in Nigeria**

This section looked at the direction of relationship between equity price movements and GDP Growth in Nigeria using a percentage changes to assume the level of movement in ASI relative to

the GDP growth. This comparison was not made to draw conclusion on the causality, but to analytically substantiate our argument that the relative economic growth of Nigerian economy appears to have a positive and significant impact on relative equity price movement. There exist positive and bi directional relationship between GDP growth and relative movement in all share index as shown in figure 4.1. Though the market was not that liquid beginning from 1988 – 1992, and it could be because of the tightening policy of the Federal Government, that does not allowed foreign investors participation in the Country's equity market, coupled with imperfect information that characterized the market. But, from figure 4.1, it shows bi-directional relationship between the movement in ASI and the relative percentage change in GDP growth rate of the nation. Looking at the pattern of movements where all share index trend upswing with the GDP growth on average reflecting the popular theory that a well-developed equity market serves as a booster to a nations' growth through diversification of its surplus to the real sector of the economy, there creating an avenue for growth to take place (Chen et al 1986 Fama 1981), this is well depicted in figure 4.1.

Looking at the upswing and downswing as both the ASI and GDP growth moved simultaneously is a true indication of bi-directional relationship which shows that the price movement in equity reflects the relative movement in the country's GDP growth as measured in percentage change. Though, there are very slight areas of divergence, and those areas could be explained by structural changes in the economy within the period under review. It is important to recognize that the nations' growth is not only determined by one economic variable, rather other economic factor such as price of world crude oil which contributes a huge percent to the country's revenue. But this section focuses on equity price on relative real GDP growth.

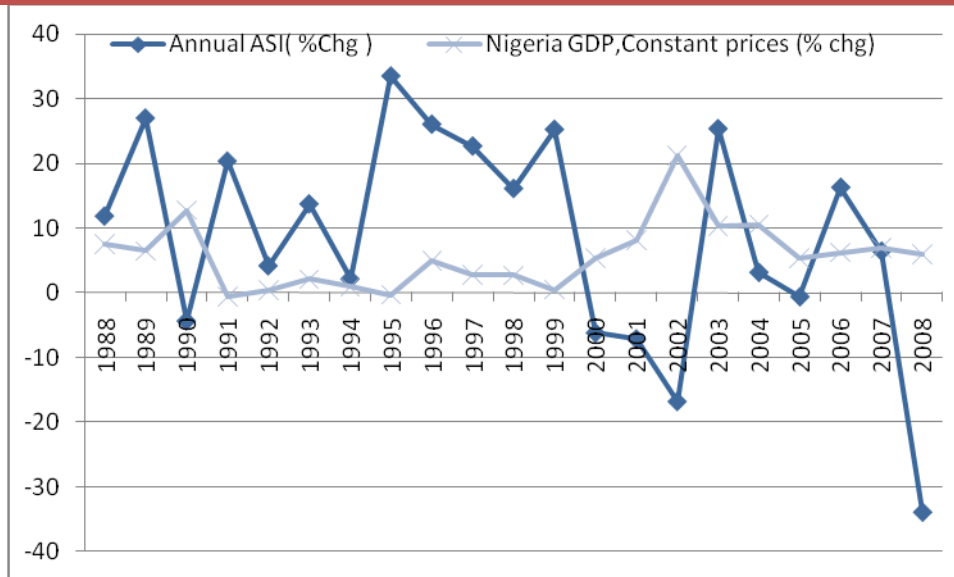
There are major reasons why GDP growth appeared to be correlated with the relative price movement in ASI. In Nigeria, changes in information about future course of GDP growth causes price to change in the stock market today. Changes in share price, irrespective of the source will reduce companies' asset<sup>3</sup> stands thereby affect the cost of their borrowing. When the cost of borrowing for investment is high, it will result to less investment and that slows the rate of GDP growth.

It is also a general believe that variation in information concerning future course of GDP growth, may likely result in equity price movement. This implies that, since equity prices are used to predict future economic activity, the actual causality is from the future GDP growth to current share prices. Figure 4.1 reflected the co movement between all share index and GDP growth.

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<sup>3</sup> Note: Stock price is an asset price. An asset is a claim on a future cash flow- therefore the stock price is a forward looking concept. And any stock price is based on expectations. These expectations can be formed in a rational (EMH) or in irrational ways (behavioural finance). However, in both cases expectations are influenced by changes in macroeconomic conditions.

**Figure 4.1 Relationship between All Share Index and GDP Growth Rate**



Source: World Development Indicator and Central Bank of Nigerian Bulletin, 2009

It is observed that a percentage change in all share indexes has a true reflection of bidirectional relationship on a percentage change in the GDP growth, though the magnitude of the movement does not appear proportionate, but there is a visible relation between the two variables in the long-term.

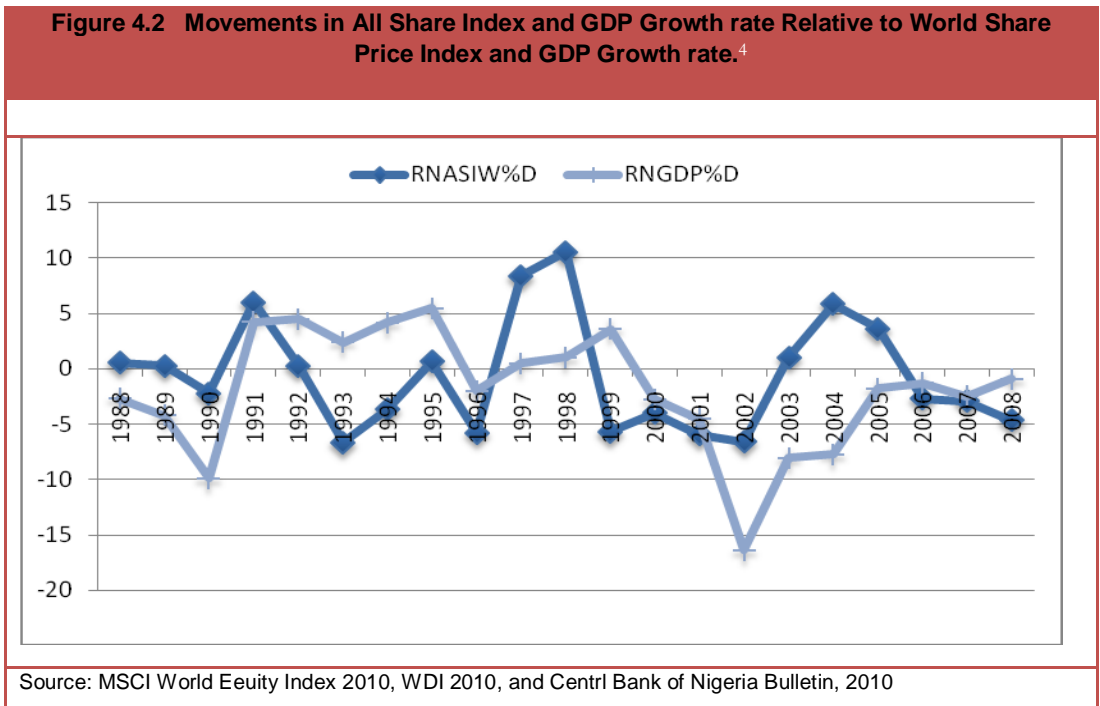
The effect of the co movement as stated in our argument is explained by the fact that equity market is perceived as an institution characterized with great deal of complexity couple with inherent mechanism through which long term funds of the major sector of the economy, such as households, firms, and government are mobilized and made available to various sectors of the economy (Nyong, 1997). The reason behind this co movement between equity price and the relative increase in the real economic activity takes us through the theories and our basic arguments that economic growth affects equity price movement through the impact on current real value of average cash flows. The argument is well explained in the literature.

## 4.2 Impact of Trends on Relative Equity Prices and GDP in Nigerian Economy Relative to the World Stock Price and GDP Co-Movements

This section analytically assesses the relationship between world equity indices and GDP Growth rate relative to Nigerian all share price index and GDP growth rate. Figure 4.2 has given a very clear picture of interlink between Nigerian equity market and that of the world index and relative GDP growth rate. The figure shows that Nigerian equity market is not operating in a closed economy, which mean what happens to the worlds market also affects the nation's equity market due to the internationalization of the market. The upwards movement in the relative Nigerian all share index and relative change in GDP as reflected in figure 4.2 revealed a positive relative movements of the market to the world economy, which implies that as ASI move upward it impact positively to the nation's economic growth and vice versa. The upswing in the Nations relatives ASI and GDP above the World relative price index is a positive reflection of positive influence of market liberalization

since the increase in equity market attracts more foreigners who prudently uses the opportunities to make quick returns from their investments.

This also can explain why the relative world GDP growth closely moves with the index within the same period as indicated in figure 4.2. Conversely, if the world price index is negatively affected it will eventually impacted negatively to the Country' stock prices even when the fundamentals are assume to be strong, but for the reason that the market is highly connected to world financial order, for example the U.S financial crisis of 2007/2008 culminated in world equity price movements, and Nigerian market being heavily affected because of the mass withdrawing of equity portfolios from the market by the foreign investors to balance their payments. However, the main reason for the countries equity crash could not only be disengagement of the foreign investor from the market, rather it could also be attributed to banks hiding their exposure to margin debts without strong collateral. This revelation was made by Security and Exchange Commission (SEC) that the broking firms found it impossible to repay the loan of 388 billion naira margin debt they owed banks. So in the cause of trying to reduce loss, banks decided to sale the equities of the broking firms and that resulted to mass offloading of equities by ordinary investors who saw the bank action as loss of confidence in the market. However, with the movement of the world index as depicted in figure 4.3 illustrated a clear picture of positive relationship between NSE All share index with the world share price index, implying that whatever affects the world equity market will spill over to the country's equity market too.



<sup>4</sup> Note: RDNASIW= Relative percentage change in Nigerian All Share Index to World Share index;  
RDNGDPW= Relative percentage change in Nigerian GDP growth to World GDP growth.

It is also noted that there are many non-economic influences that may have an impact, such as political events. For example, the US S&P index fell when Pearl Harbour was bombed and when the US subsequently declared war on Japan by daily levels of 4.37percent and 3.23 percent on the 8th and 9th of December 1941 (Culter et al 1989). On the 6th of October 1979 when major policy changes were announced by the Federal Reserve's the S&P index fell by 1.25 percent (Cutler 1989). In more recent times events such as 9/11 and announcements such as bankruptcies of major firm such as Enron all had negative impacts on the stock market and saw larger price drops; it is notable the drops have increased and this correlation with increased new coverage and the speed for information dissemination.

The recent downswing movement in ASI shows negative impact to the growth of Nigerian economic; even when the nation's 'fundamentals appear to be strong. The major reason of the 2008 market crash could be attributed to the withdrawal of foreign investors (hedge fund) from Nigerian market. As of January 2009, foreign portfolio investors have withdrawn the total sum of US\$15 billion from the country's equity market. There is no doubt, that this kind of withdrawal compounded the crisis of investors' confidence which has further complicated the equity market recovery process (CBN 2010) Therefore, we expected that the transmission of these impacts to the real and financial sector will eventually distort growth and development of Nigerian economy, and that is exactly what the chart depicts.

### 4.3 Impact of Financial Market Liberalization on the Performance of Equity prices in Nigeria

**Table 4.1: The Effect of Financial Market Liberalization in Nigeria (Before and After)**

Date	Annual Growth of GDP (Percentage Change)	Annual Growth Rate of ASI (Percentage Change)	Annual Rate of Inflation (Percentage Change)
1985-1994	1.84	11.23	28.37
1996-2004	6.67	12.04	19.48

Source: EconStats <http://www.econstats.com/weo/CNGA.htm>-Computed by the Author

The above table 4.1 shows that before Nigerian financial sector was liberalized, the GDP growth rate was on average of 1.84 percentage changes within a period of ten years between 1985 -1994 with persistence rise in inflation at 28.37 per cent on average and annual growth of all share index stood at 11.23 percentage changes on average. But within ten years of financial sector liberalization the economy has recorded a significant boost on growth both in GDP Growth and annual growth in ASI. From 1996-2004, GDP Growth rate increased to over 6.67 parentage change on average at constant price, ASI rose to 12.23 percentage change point on average, while the rate of inflation was on decreased at 19.48 per cent change on average after liberalization compare to the period before liberalization.

This is a true indication that liberalization has impacted positively to the Nigerian equity price movement and growth. This evidence of positive impact on ASI is a true confirmation of the theory by Henry ( 2003) who stated that as long as the cash flows of the firms remain constant, where liberalization takes place there should be an observable increase in the equity price index, starting at the

point where there is the realization liberalization will take place. Woodall (1998) also found that with increase liberalization Asian Tigers 'economy were positively impacted, during 1990's liberalization era their economy recorded a significant improvement on their financial and real economic sectors, growth rate was on average of 8 per cent per annum even during the crash period.

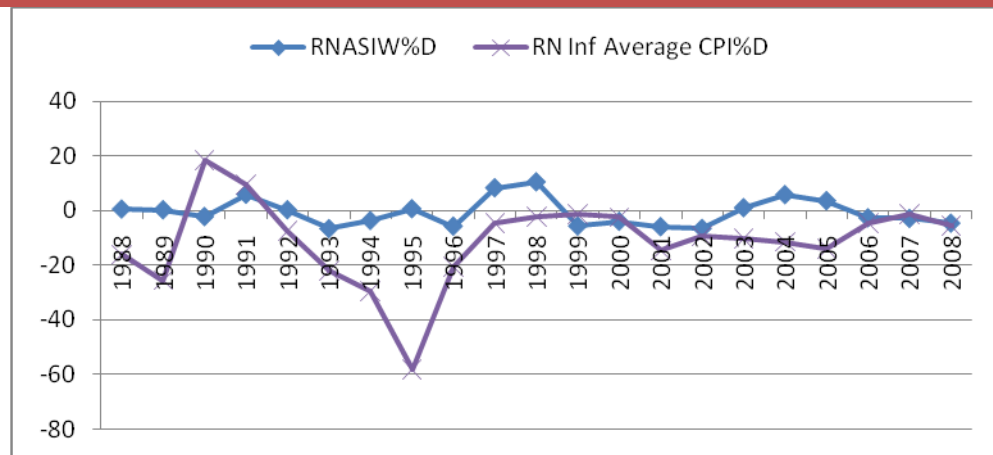
#### **4.4 Impact of trends in rate of Inflation on Equity Price Movement in Nigeria Relative to the World's Equity Prices and Inflation**

Figure 4.3 is a chart representation of the relationship between all share index relative to inflation rate in Nigeria from 1988 to 2008. As we can see from the chart (figure 4.3) that when inflation goes up, stock price (which is represented by percentage change in all share index) comes down. The huge down in the late 80s and early 90s was as five for one a division. It is important to recognize in this context that inflation was really watching the stock rise or simply put, the relationship between stock price and inflation is negative. On a clearer term we are of the assertion that high equity prices and low inflation tend to go together, and when the price is low inflation can be huge.

This inverse relationship was so high that accounted for 85 percent of the variation in stock price in 1992. Nevertheless, one need to be very careful while analyzing the impact of stock price on inflation since theories are not very clear on this, for example in neoclassical perspective, stocks are expected to be a good means of hedging against inflation such as land, capital and technological progress. That implies that share price would go up sufficiently to compensate investors for any erosion in the purchasing power of money caused by inflation. This is because cash flows of listed firms would go up by as much as general price rises of commodities. This will also increase the demand for bonds, thereby pushing interest rate downward in the long-term to increase in equity prices. The Nigerian nation has over the years been faced with double digit inflation as a result of prolong military dictatorship that culminated to corruption and bad governance. This could be explained in figure 4.2 where relative inflation rate peak at 20.00 percent in 1990. The period characterized by political instability and market uncertainty, it was the time the country conducted its first ever free and fair election that supposed to transit the nation from military to civilian regime, but was annulled and that led to sanctions upon sanctions from the international communities.

The results of studies by Fama and Schwert (1977), Chen, Roll and Ross (1986), Nelson (1976) and Jaffe and Mandelker (1976) pointed to a negative relation between inflation and stock prices. The argument is that an increase in the rate of inflation is likely to lead to economic tightening policies, which in turn increases the nominal risk-free rate and hence raises the discount rate in the valuation model. The effect of a higher discount rate would not necessarily be neutralized by an increase in cash flows resulting from inflation, primarily because cash flows do not generally grow at the same rate as inflation. However, equity to inflation neutral, companies must be able to pass on cost increases and future usual cash flow multiplied by the inflation rate. At the same time investors must discount those cash flows at the same real interest rate used before the beginning of inflation.

**Figure 4.3: Relationships between Equity prices and changes in growth rate of inflation in Nigeria Relative to World Share price and Inflation Comovements, 1988-2009.**



Source: Central Bank of Nigeria Bullatin 2009, WDI 2009

In summary, the above analysis suggests that there could be traceable positive relationships between the all share index and GDP growth, financial liberalization and world equity market. Though, relationship may be found in the short run in the case of inflation, this conclusion is based on assumptions and theories, hence there is no empirical evidence to substantiate the argument. However, theories supported the argument from the analytical figures. Chen (et al 1986) notes that inflation does not appear to be a string predictor or have a strong correlation with equity prices, other than inflation rate increases, leaving the real value less impacted, especially when considered in the context of international investors and the way inflation will impact on exchange rates, even if purchasing parity theory is not fully accepted. Chen (et al 1986) determined that inflation becomes an insignificant influence. We therefore maintain that inflation may have little impact to the development of equity market in Nigerian only in a short term, but at the long term it does not appears to have impacted positively to the relative movements of equity prices in nation's equity market.



# CHAPTER FIVE: SUMMARY AND CONCLUSION

## 5.0 Introduction

This chapter summarises and concludes the study. It also pointed out the limitations encountered during the course of the study.

## 5.1 Summary

A number of studies have found that a relationship exists between macroeconomic variables and equity returns using different macroeconomic factor models. This research work had systematically and analytically studied the market with a view to understanding the different roles of relative macroeconomic variables in determination of stock pricing and market movements in a long term.

The study adopted critical analytical approach using relevant theories and empirical reviews, argued the positive relative impact of equity price movements on its relative macroeconomic variables in Nigerian equity market performance in the long-term.

An understanding from the literature reviewed is that there is some correlation between the equity market and macroeconomic variables. Difference arguments have been on these as per the level or direction of such impacts, whether from the equity market to the entire economy or from the entire economy to the equity market or in both ways (bio-directional). It is also important to recognise the fact that other arguments as to the magnitude of the impact in any how the levels on assumption or evidence. For countries such as Nigeria with weak capital markets low level of economic activity and so on, the level and magnitude of impacts could be very difficult to establish. It is observed from the literature reviewed that looking at developing countries case seems to have not been resolved, that is to say that the correlation or relationship could be weak for less developed countries.

When looking for the degree to which the stock market appears to comply with existing theories the work of Olowe (1999). The way that the stock market is being impacted therefore indicates that there is the weak form of efficiency within the stock market, and as such there is a degree of predictability and a search for logic by the investors, although the same support is not seen in all other markets, this may be seen as an indicator of the desire for logical and assessment taking place, but it should also be remembered that there is mixed evidence regarding the potential accuracy of any EMH in any market, and as such this is the least definitive aspect of the study and we may expect both support and contradiction to occur, with potential changes as the stock market evolves.

Looking to the way that other African states have been impacted may give increased understanding of influences that may be seen specifically in Nigeria. Magnusson and Wydick (2000) noted that as linearization has taken place in Africa there has been a significant increase in the number of developing countries that have operated stock exchanges, this was 31 in 1989 and 78 by 1998 and the number of domestic firms listed on those stock exchanges increased by 300 percent. International Finance Corporation (IFC) statistics from (1999) show a positive relationship between stock market growth, increased investment and economic growth that appears to take place in an interdependent manner (Magnusson and Wydick 2000). Part of the benefits has been the spread of risk, as identified by Henry (2000), and investors in the developed countries have been better places to take on an accept the risk associated with the development of the countries in the developing world, more able to afford losses and better places to spread their own risk (Magnusson and Wydick 2000).

The international investors have also been happy as they have gained as a result of higher risk premiums where positive returns are achieved (Magnusson and Wydick 2000).

Finally, it is important to recognize that all the objectives, research questions and the arguments of this study have been closely addressed.

## **5.2 Conclusion**

This study shows that the relative movement of the NSE all share index is closely linked to the relative movement in real GDP and liberalization of financial market in the long term, but less so to inflation. Though short term positive relation was observed for inflation, but in the long-term the relationships appears negative. Also relative world equity price index suggests positive and significant external influence on the relative performance of Nigerian equity market. But the level of these influences is difficult to ascertain based on the limitation of the study

It is important to emphasize here that the undertaken study though demineralises existed ideas basically reflect the writers' subjectivity, hence are constraints. There are time and space constraints and the utilization of an approach that is based on secondary research only, resulting in a paper that will be interesting and relevant, but will benefit from further research including primary research and a well designed econometric model to assess support for the findings and better empirical techniques to answer most of the issues our finding could not address.

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# Appendices

## Definition of Terms

- **Stock Price** is an asset price. An asset price is a claim on future cash flow-therefore the stock price is a forward looking concept. A stock price is based on expectations.
- **All Share Index:** Simply put, a market index is a quick measure to judge the overall direction of the market and the scope of its movements. A market index is a statistical parameter to reflect the composite value of a market characteristic. When it is the price, we have a price index, which is an attempt to represent the overall price performance of the market with one statistic - the index value. In effect, the index is calculated in a way that makes it generally representative of the market<sup>5</sup>
- **Growth rate of Real GDP:** This is a gross domestic product which had already factored in the effect of inflation and it is a reliable indicator for the measurement of the real sector activities in the economy. It is our proxy for growth in the test.
- **Inflation:** Inflation is an increase in the price of a basket of goods and services that is representative of the economy as a whole. In our analysis we used CPI which is conceptually difference from GDP deflator which is a measure of the cost of goods purchased by U.S. households, government, and industry, but it is still very closely related to CPU not by much in practice.<sup>6</sup>

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<sup>5</sup> Adopted from Smart ProInvesting.com, Accessed on 19/10/2010 <http://smartproinvesting.com/basic-investing/answers/what-the-all-share-index-means.html>

<sup>6</sup> The definition of inflation is adopted from About.com: Economics, and accessed on 19/10/2010 <http://economics.about.com/cs/economicsglossary/g/inflation.htm>

Table 1: Analysis on Relative Nigerian prices to the World and Macroeconomic variables

Year	Annual ASI( %D)	S&P 500(Annual %D)	Nig. Inflation,( CPI Average % D)	RNASIW%D	World Inflation, Average CPI Percentage change	RN Inf Average CPI%D	Nigeria GDP ,Constant prices (% D)	World GDP ,Constant prices Percentage change	RNGDPW%D
1988	11.849	12.4	34.21	0.552	18.14	-16.1	7.543	4.831	-2.712
1989	26.959	27.25	49.02	0.291	23.49	-25.5	6.467	2.282	-4.185
1990	-4.342	-6.559	7.895	-2.217	26.3	18.41	12.77	2.891	-9.879
1991	20.32	26.31	12.2	5.987	21.83	9.63	-0.618	3.613	4.231
1992	4.174	4.464	44.57	0.29	37.17	-7.4	0.434	4.917	4.483
1993	13.722	7.055	57.14	-6.667	35.21	-21.9	2.09	4.48	2.39
1994	2.14	-1.539	57.42	-3.679	27.86	-29.6	0.91	5.079	4.169
1995	33.452	34.11	72.73	0.659	14.6	-58.1	-0.307	5.182	5.489
1996	26.014	20.26	29.29	-5.75	8.691	-20.6	4.994	3.021	-1.973
1997	22.641	31.01	10.67	8.367	6.143	-4.53	2.802	3.285	0.483
1998	16.099	26.67	7.862	10.57	5.566	-2.3	2.716	3.743	1.027
1999	25.221	19.53	6.618	-5.695	5.47	-1.15	0.474	4.037	3.563
2000	-6.168	-10.14	6.937	-3.971	4.555	-2.38	5.318	2.58	-2.738
2001	-7.104	-13.04	18.87	-5.939	4.263	-14.6	8.164	3.629	-4.535
2002	-16.76	-23.37	12.88	-6.603	3.541	-9.34	21.18	4.831	-16.35
2003	25.322	26.38	14.03	1.058	3.721	-10.3	10.34	2.282	-8.058
2004	3.148	8.993	15	5.845	3.581	-11.4	10.59	2.891	-7.699
2005	-0.608	3.001	17.86	3.609	3.767	-14.1	5.393	3.613	-1.78
2006	16.288	13.62	8.227	-2.669	3.708	-4.52	6.211	4.917	-1.294
2007	6.432	3.53	5.392	-2.902	4.013	-1.38	6.972	4.48	-2.492
2008	-33.84	-38.49	11.58	-4.649	5.97	-5.61	5.984	5.079	-0.905

Source: EconStats <http://www.econstats.com/weo/CNGA.htm>-Computed by the Author

Table 2: Data for table 3.3, Before and After Liberalization

Year	Nigeria GDP, Constant US\$ 'Billion'	Nigeria GDP, Constant prices Percentage change	World GDP, Constant prices Percentage change	World Inflation, Average CPI Percentage change	Nigeria Inflation, Average CPI Percentage change	Annual ASI	ASI Annual Percentage Change
1985	3730.62	8.323	4.037	13.75	3.226	211.28	26.333
1986	3404.03	-8.754	2.58	10.84	6.25	242.17	14.62
1987	3038.04	-10.75	3.629	13.36	11.77	247.08	2.028
1988	3267.19	7.543	4.831	18.14	34.21	277.72	12.401
1989	3478.48	6.467	2.282	23.49	49.02	353.4	27.25
1990	3922.54	12.77	2.891	26.3	7.895	330.22	-6.559
1991	3898.31	-0.618	3.613	21.83	12.2	417.09	26.307
1992	3915.22	0.434	4.917	37.17	44.57	435.71	4.464
1993	3997.06	2.09	4.48	35.21	57.14	466.45	7.055
1994	4033.42	0.91	5.079	27.86	57.42	459.27	-1.539
1995	4021.02	-0.307	5.182	14.6	72.73	615.93	34.111
1996	4221.82	4.994	3.021	8.691	29.29	740.74	20.264
1997	4340.12	2.802	3.285	6.143	10.67	970.43	31.008
1998	4457.99	2.716	3.743	5.566	7.862	1229.23	26.669
1999	4479.13	0.474	4.037	5.47	6.618	1469.25	19.526
2000	4717.33	5.318	2.58	4.555	6.937	1320.28	-10.139
2001	5102.47	8.164	3.629	4.263	18.87	1148.08	-13.043
2002	6183.03	21.18	4.831	3.541	12.88	879.82	-23.366
2003	6822.07	10.34	2.282	3.721	14.03	1111.92	26.38
2004	7544.19	10.59	2.891	3.581	15	1211.92	8.993
2005	7951.01	5.393	3.613	3.767	17.86	1248.29	3.001
2006	8444.85	6.211	4.917	3.708	8.227	1418.3	13.619
2007	9033.6	6.972	4.48	4.013	5.392	1468.36	3.53
2008	9574.14	5.984	5.079	5.97	11.58	903.25	-38.486

Source: EconStats <http://www.econstats.com/weo/CNGA.htm>-Computed by the Author

Table 3: More data for the trends analysis

Year	ASI Close for Year	Annual ASI( %Chg )	Average Yearly	S&P 500(Annual %Chg for )	S&P (Close for Year)
1988	2168.57	11.849	161455	12.401	277.72
1989	2753.2	26.959	165459	27.25	353.4
1990	2633.66	-4.342	156792	-6.559	330.22
1991	3168.83	20.32	178981	26.307	417.09
1992	3301.11	4.174	200776	4.464	435.71
1993	3754.09	13.722	263282	7.055	466.45
1994	3834.44	2.14	291496	-1.539	459.27
1995	5117.12	33.452	344039	34.111	615.93
1996	6448.27	26.014	409580	20.264	740.74
1997	7908.25	22.641	525321	31.008	970.43
1998	9181.43	16.099	672262	26.669	1229.23
1999	11497.1	25.221	808342	19.526	1469.25
2000	10788	-6.168	1028881	-10.139	1320.28
2001	10021.6	-7.104	1217542	-13.043	1148.08
2002	8341.63	-16.76	1422056	-23.366	879.82
2003	10453.9	25.322	1384499	26.38	1111.92
2004	10783	3.148	1423205	8.993	1211.92
2005	10717.5	-0.608	1919881	3.001	1248.29
2006	12463.2	16.288	2394513	13.619	1418.3
2007	13264.8	6.432	3222397	3.53	1468.36
2008	8776.39	-33.84	5043476	-38.486	903.25

Source: EconStats <http://www.econstats.com/weo/CNGA.htm>-Computed by the Author