SECURITY PRICE BEHAVIOUR IN THE NIGERIAN STOCK EXCHANGE: AN EMPIRICAL STUDY

BY

VUTUVU ALOYSIUS

A THESIS PRESENTED TO THE POST-GRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF SCIENCE (ACCOUNTING AND FINANCE) DEGREE

DEPARTMENT OF ACCOUNTING
FACULTY OF ADMINISTRATION,
AHMADU BELLO UNIVERSITY
ZARIA.

JUNE, 1999.

DECLARATION

I hereby declare that this thesis is a product of my research effort, and has to the best of my knowledge, never been previously presented in any submission for a higher degree. All works and articles consulted have been acknowledged accordingly in the bibliography.

Vutumu Aloysius

June, 1999

CERTIFICATION

This thesis entitled SECURITY PRICE BEHAVIOUR IN THE NIGERIAN STOCK EXCHANGE: AN EMPIRICAL STUDY by VUTUMU ALOYSIUS meets the regulations governing the award of the degree of Master of Science(Accounting and Finance) of Ahmadu Bello University, Zaria, and is approved for its contribution to knowledge and literary presentation.

(Name and Signature)

..... 15/10/99

Chairman, Supervisory Committee **Date**

(Name and Signature)

..... 15.10.99

Member, Supervisory Committee **Date**

(Name and Signature)

..... 21/10/99

Head of Department **Date**

(Name and Signature)

..... 18/08/00

Dean, Postgraduate School **Date**

DEDICATION

To my Dad, Mr. Gemuh Ntih and Mum, Mrs. Agnes Vukiesu, for their unrelenting support in my studies, may the fruition be a source of pride to them. Also, to my late uncle, Mr. Pascal Vusi, for his love and care; may his soul rest in peace.

ACKNOWLEDGEMENT

My soul glorifies the Lord and my spirit rejoices in God my Savior For He has been mindful of the humble state of His servant; for the mighty one has done great things for me – Holy is His Name.

My profound gratitude goes to the chairman of the supervisory committee, Mr. A.B.D. Watoseninyi, for his relentless encouragements, constructive criticisms and suggestions. Also, to Mr. O.T. Odiongenyi, who from the beginning had done everything to ensure that I complete this work. Fervent appreciations also go to both Academic and non-academic staff of the Department of Accounting, Ahmadu Bello University, most especially, Mr. S. Akanet, my project supervisor, Mr. A. Silva, Mr. M.A.M. Mainoma, Mr. O.M. Onyabe, Mrs, Yusuf.

I wish to extend my sincere gratitude to Prof. B.E. Osaze, Prof. A. R. Anao, (VC,UNIBEN) Dr. E. Okoye, Dr. Eriki all of the University of Benin, for haven given me the impetus both materially and morally to carry out this research. Their constant concern shall never be forgotten.

I owe a great deal of gratitude to my very close friends and colleagues and several others, too numerous to mention. In particular, I appreciate the assistance of Dr. S. Molem, who read through all what I wrote to ensure that it 'flows'
Dr. A.N Monkaree, Mr. Malachy, Mr. L.H. Ali, Mr. B. Ojile, Mrs. Akanet,

Dr. J.K Wunde, Mr. S. Fonda, Family of Dr. H.N. Mbibu, Family of Chief P.N. Obah, Bishop Francis Lysinge (Cameroon), Rev. Fr William Tardze (Cameroon), Rev. Fr. James Nyere (Zaria), Guild St. Anthony of Padua (Zaria), Nigerian Federation of Catholic Students (NFCS), National Union of Cameroon Students (NUCS) Nigeria, Rev. Fr. Victor Achi, Mr. J. Omale, Maryanne Adeyemi; Mr. Joseph Ndoko, Ge Veronica, Osoba and Yaomi, Mr. John Abula, Mr. S. Ibe, Abel Augustin Ochia, Nji Christopher, Mr. Tumasang Celsius, Mr. Abbas and Mr. Amechi Emejom who assisted in typing the work.

To all my classmates more kudos, especially Hyginus Ugwu, Mr. Abu Adah, Mr. Ishaya, Mrs. Dikki, Mr. Ayila Austin; we spent quite a nice time together.

Immense appreciation also to my relations and friends back in Cameroon and abroad especially Mr. Gemuh Evaristus, Pius Ngwa, Mr/Mrs. Tamajong, Mr. & Mrs. Ndifor, Dr. S.C. Vusi, Mr. Martin Cheale Ngwa, Mr. Ga-akekii Batholmew, Mr. Tilgang Joseph. Also to My brotherly friend Mr. Ntangsi Max and family, the family of Mr. S. Welang, to my friends Sharon Shandeh Welang, Nyincho Christian, Nyifanyi Ambrose, Br. Boh Aloysius, Br. Duve Joseph, Valentine Boyo, Kevin Mokenyu, Cyprian Maleh, and all who in one way or the other assisted me. May the Good Lord continue to reward you abundantly.

ABSTRACT

The level of savings mobilization and resource allocation tends to have strong correlation with the level of economic development. The allocativc function can often be critical in determining the overall growth of the economy. Thus, efficient capital markets are needed to facilitate fund transfers from surplus spending units and chanelling them to deficit economic units for productive investments. Capital market efficiency means that information is widely and cheaply available to investors and that security prices reflect all available information about that security. Thus, this research studied the behaviour of security prices as a means of determining the level of efficiency or otherwise of the Nigerian Stock Exchange, It also tried to determine the more predominating factor causing this stock price movement between dividends per share and earnings declared. To achieve these, statistical methods were employed for the study that covered the period 1994 to 1997 when there was great activity in the market.

The findings are that the market is not efficient. Paucity of securities, insider dealings, shallow depth and breadth, buy-hold syndrome in the market, were some of the causes identified for the inefficiency. It was also found that earnings are better motivators than dividend payment in relation to investment selection. That trading volume is important to investment decision only to the extent that it serves as confidence indicator of the company's performance. It was suggested that, the adoption of sound macro-economic policies such as realistic interest rate, and the efficient deregulation of the economy among other measures, will stimulate savings and investment climate in the economy, hence growth of the market leading to its efficiency.

TABLE OF CONTENTS

TITLE PAGE		**i**
DECLARATION		**ii**
DEDICATION		**iii**
CERTIFICATION		**iv**
ACKNOWLEDGEMENT		**v**
ABSTRACT		**vii**
TABLE OF CONTENTS		**viii**
LIST OF TABLES		**xii**
LIST OF APPENDICES		**xiii**
CHAPTER ONE	**Introduction**	
1.1	Background to the Study	1
1.2	Statement of Problem	8
1.3	Objectives of the Study	12
1.4	Significance of the Study	13
1.5	Scope of the Study	15
1.6	Research Hypothesis	16
1.7	Outline of Study	17
1.8	Definition of Terms	17
	References	23

CHAPTER TWO **Literature Review**

2.1	An Overview of Capital Market	25
2.2	Segments of the Capital Market	30
2.3	The Regulatory Bodies of Capital Market	33
2.3.1	The Nigerian Securities and Exchange Commission	35
2.3.2	The Central Bank of Nigeria	37
2.3.3	National Association of Security Dealers	38
2.4	The Origin of Stock Exchange Market	38
2.5	The Development of the Nigerian Stock Exchange	41
2.5.1	Membership of the Exchange	53
2.5.2	Function and Objectives of the Exchange	56
2.6	Theoretical Framework of Stock Price Behaviour	58
2.6.1	Technical Analysis School	61
2.6.2	Fundamental Analysis School	66
2.6.3	Random Walk School	71
2.6.4	The Theory of Efficient Capital Market	75
2.7	Determinants of Stock Price Movements	88
	References	96

CHAPTER THREE **Research Methodology**

3.1	Overview of the Chapter	100
3.2	Sources of Data	100
3.3	Research Method Used	101
3.4	Method of Data Collection	104
3.5	Selection of Sampling	106
3.6	Data Analysis Techniques	109
3.6.1	Serial Correlation	111
3.6.2	Runs Test Model	112
3.7	Justification of the Research Method Used	113
3.8	Recapitulation of the Chapter	116
	References	117

CHAPTER FOUR **DATA PRESENTAION AND ANALYSIS**

4.1	Introduction	118
4.2.	Determination of Market Efficiency	119
4.2.1	Test of Hypothesis Using Serial Correlation	119
4.2.2	Test of Hypothesis Using Runs Test	125
4.2.3	Response from Questionnaire on NSE Efficiency	132
4.2.3	Determinants of Predominant Factor Influencing Stock Price Movement	139
4.2.4	Test of Hypothesis	142
4.2.5	Responses from Questionnaire	147
4.3	Impact of Trading Volume on Stock Price Behaviour	148
4.4	Summary of Research Findings	151

CHAPTER FIVE: SUMMARY, CONCLUSION & RECOMMENDATION

5.1	Introduction	153
5.2	Summary	153
5.3	Conclusion	156
5.4	Limitations to the Study	162
5.5	Recommendations	163
5.6	Possible Directions for Future Research	168
	Bibliography	170
	Appendices	178

LIST OF TABLES

Table 4.2.1	Quarterly Prices for Serial Correlation Test	121
Table 4.2.2	Correlation Coefficients for the 16-Quarters Period -1994 to 1997	123
Table 4.2.3	Quarterly Sign Changes for Runs Test.	126
Table 4.2.4	Position of Runs to Median	129
Table 4.3.1	Data on DPS, EPS and Stock Prices for 1994 to 1997.	140
Table 4.3.2	Quarterly Group Average Variable Summaries	142

LIST OF APPENDICES

Appendix I	Structure and Growth of the Nigerian Securities Market	178
Appendix II	List of Selected Quoted Companies used for the Study	179
Appendix III	End of Months Prices for 1994	181
Appendix IV	End of Months Prices for 1995.	183
Appendix V	End of Months Prices for 1996	185
Appendix VI	End of Months Prices for1997	187
Appendix VII	Values of the Standard Normal Distribution Function	189
Appendix VIII	Letter of Introduction	190
Appendix IX	Letter to Questionnaire Respondents	191
Appendix X	Questionsto Nigerian Stock Exchange Participants	192
Appendix XI	Questionnaire to the Management of the Nigerian Stock Exchange and Securities and Exchange Commission	195

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The desire for, and pursuit of economic advancement are natural human instincts, hence, man continuously seeks to improve his standard of living; a business organization, its profitability; and a nation, the wellbeing of its citizens. Contemporary economic doctrine states that the economic wellbeing of a society is predicated not merely on national output growth, but more importantly, on the state of development of its social and economic infrastructure, which directly impacts on the standard of living and life expectancy of its populace. The measurement of development would include such issues as G.D.P growth, the state of health care, shelter, education, electricity, water supply, roads and telecommunication. To facilitate the industrialization of a nation, these facilities must not only be sufficient, but must be efficiently produced and managed.

The process of industrialization, and the provision of social and economic infrastructure, require heavy investment by both the private and public sectors, which must see themselves as partners in the development process. Investment in this context, refers to the accumulation of real (physical) assets which are vital in the production process; as distinct from financial assets. Investment is widely regarded as one of the most essential elements in the industrialization process and ultimately in economic development. Evidently, countries with high private domestic investment

tend also to exhibit faster growth rate. This has been a key factor responsible for the spectacular growth witnessed in the East Asian region. However, a nation cannot accumulate or maintain real assets without equally mobilizing capital (savings). Therefore, a country with high savings rate is very likely to record high investment level.

Economic policy makers are often saddled with the question of how savings can be efficiently accumulated and channeled into productive investments. The answer could simply be by initiating and implementing policies which would encourage savings and investments in which case, must include the fostering of efficient financial markets.

Specifically, a well developed financial system in any economy has four main requisites, each of which can contribute to the process of financial deepening, and to raising the level of savings and investments, the productivity of capital and the growth of output. They comprise the following:

i. The monetization of the economy and the replacement of barter as a means of exchange.

ii. The development of a commercial banking system with Central Bank supervision;

iii. The development of financial market and financial intermediaries; and

iv. The integration of the formal and informal money markets.

A sophisticated and responsive financial system consists of much more than just a Central Bank and a commercial banking system with a few specialist development banks. It extends to involve the creation of financial markets and a wide

variety of financial intermediaries, to intermediate between savers and investors with different requirements and time horizons. A wide variety of specialist dealers and markets can create a diversity of financial assets with different yields, maturities, divisibilities, etc, to suit all tastes. This can both increase the level of savings and improve efficiency of resource allocation. As far as the level of savings and investments are concerned direct lending without financial intermediation would involve savers committing themselves for long periods of time because investment does not generate returns immediately.

Considering the efficiency of resource allocation, much savings in developing economies is done in the form of the acquisition of tangible assets, some of which may be productive. The creation of financial assets and liabilities allows for an improvement in the composition of wealth holdings, so that, savers may hold part of their wealth in financial form, allowing investors to hold more productive real assets. Most important is that investment is no longer confined to the sector where saving takes place. Savers are not necessarily entrepreneurs, therefore, financial intermediaries can improve the allocation of invisible resources by allowing investment in the most productive sectors. Confining investment to sectors where saving takes place, may mean over-investment in less productive sectors and under-investment in more productive sectors. This is simply due to the fact that inflows are more than outflows with savers (non-productive sector) and outflows are more than inflows with investors (productive sector).

The financial market, therefore, intermediates in both debt and risk capital finance. It is a medium through which funds are mobilized and transferred efficiently

from savers to users of funds. More specifically, financial market is defined as a market that provides a mechanism for the efficient mobilization of funds from the surplus economic units (suppliers of funds) to the deficit economic units (users of funds). It is thus, an interplay of financial instruments, financial institutions and financial techniques. By this singular function of mobilization and transfer of funds the financial market bridges the savings and investment gap, and stimulates capital formation and economic development.

The two broad segments of the financial market are the money and capital markets:

The money market deals essentially with short-term debt instruments (providing funds to those with cash demand for a period not exceeding one year). The function of the money market is to allow the private sector or the government to raise money and to invest on short-term basis, and at the same time, to provide the basis for monetary control. To facilitate the transfer of such funds in this market, therefore, instruments used include treasury bills, certificate of deposit, municipal notes, commercial papers, bankers acceptances and other short-term bank credit facilities (that is overdraft). Institutions peculiar to this segment notably include commercial banks, finance and discount houses. In Nigeria and most African countries, the main money market instruments are essentially treasury bills and government securities, which the government can then use to conduct open-market operations to influence the growth of money supply.

The Capital Market, on the other hand, deals with long-term debt and equity instruments. It provides loans and finance on long-term basis. It is a network of

participants, instruments and facilities that function basically to facilitate efficiently, the flow of savings into long-term investment for socio-economic development. This market, in essence, brings together economic units (consumers) requiring funds with economic units (savers) desirous of parting with their monies for relatively long periods of time. Typically, long-term funds are held for a minimum of five years to perpetuity. However, corporate entities and governments sometimes hold funds having maturity of more than one year but less than five years. These are usually regarded as medium term funds.

The capital market is divided into securities market dealing primarily in shares – equity and bond instruments; and also the non-securities market dealing in debt investments – pension funds, insurance companies, investment banks, etc. In broad terms the non-securities market includes commercial banks, savings and loans associations, building societies, insurance companies, etc. Systems revolving around the securities market segment are often considered as "securities based," while systems revolving around the non-securities market segment are often generally referred to as "Bank based".

The capital market in any economy is essentially the fulcrum on which the fortunes of that economy revolve. It provides the wherewithal for its growth and development programmes, and serves as an indicator of the economic liquidity and general performance. As Fama (1970) puts it, the primary role of the capital market is the allocation of ownership of the economy's capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation. This means that the capital market is a market where firms can make production–

investment decisions, and investors can choose among the securities that represent ownership of the firm's activities.

The capital market is the cornerstone of any financial system since it provides the funds needed for financing not only businesses and other economic institutions but also the programmes of government as a whole. It accelerates economic growth by providing relatively long-term capital (that is debt and equity finance) for the government and corporate sector. It also gives the long-term investors the opportunity of converting their holdings of financial assets (that is shares and bonds) through the secondary market, on the stock exchange. As Briston (1969) puts it, the capital market is the environment of selling the world's capitalized values; it is also the citadel of capital and the temple of values. Thus, it is a market where long-term development and growth funds are raised from investors and institutions that have money to spare and subsequently allocated to those in need of such funds.

It can therefore be summed up that, the capital market funds the economy in two broad ways;

First, the increased issuance of long-term securities by companies and government requires a market or the exchange of these securities in order to assist holders of these securities in liquidating them as quickly as possible.

Second, the expansion of industry and commerce often necessitates the discovery of new sources of funds outside the commercial banking sector.

It is important to point out that, the capital market is not a system on its own but rather a subset of the financial system; it is not a single entity but a network of specialized financial institutions linking suppliers and users of medium to long-term

funds. Such institutions include merchant bank, stock broking firms, issuing houses, registrars, trustees, stock exchanges and security commission. The capital market is thus the "pivot" of economic development of any economy, and the last resort for a firm to seek for financial needs. The market is thus a complex institution and mechanism for mobilising and channeling long-term financial resources from surplus to deficit economic units. Therefore, both borrowers and lenders are better off if efficient markets are used to facilitate fund transfers.

Efficient market means that information about securities is widely and cheaply available to investors, and that all relevant and ascertainable information is already reflected in securities prices. This implies that funds are transferred quickly, cheaply, optimally and to the most competitive areas in the economy. Therefore, the behaviour or movement of security prices is a fundamental criteria for determining the efficiency or otherwise of the stock market.

The creation of the Nigerian Stock Exchange (NSE) market, a formal capital market established in 1961 under the Lagos Stock Exchange Act of 1961 as the Lagos Stock Exchange (LSE), was characterized by the need of the Nigerian government to have a market in government securities, as well as to mobilize personal savings for economic development. The importance of the stock exchange as far as business and the economy as a whole are concerned cannot be overemphasized. In order for the Nigerian Stock market and other emerging stock market (a market in the development country; that is changing growing in size and sophistication) to effectively perform the major functions of funding and lubricating their economies, they must be efficient. Osaze (1997) pointed out that certain fundamental conditions must prevail for the

market to be considered efficient. He emphasized that, the market must be allowed to operate freely,obeying to a large extend the market mechanism; it must be free from all encumbrances; must have both breadth and depth; price continuity and liquidity, free flow of information, and a reasonable high level of professionalism on the part of the market operators especially as concerns pricing. It is within this framework that it becomes necessary to study the behaviour of security prices on the Nigerian Stock Exchange in a bid to determine whether it is operating efficiently, or otherwise.

1.2 Statement of the Problem:

The International Finance Corporation (IFC) defines an emerging market as "one in which change is taking place, the market is growing in size and sophistication, in contrast to a market that is relatively small, inactive and gives little appearance to change." It is also appropriately defined by IFC as "a stock market in any developing economy, no matter how well-developed the stock market itself may be, with the implication that the stock market's potential to emerge further is strongly linked to the economy's overall development potential."

From the aforementioned criteria, it is really obvious to suggest that most emerging markets are still poorly developed. A clear indication of their relative performance vis-a-vis developed markets shows that:

- The capitalization of stock markets in developing countries are still very low in relation to their Gross Domestic Product (G.D.P.). for example, in 1993, the total capitalization of the Nigerian Stock Exchange market was US $1029 million, 1.7% of the country's GDP, while that of the United Kingdom was

US$1,151,646million, that is, 110.5% of the country's GDP for the same period. IFC (1995:13). This makes it difficult to use the performance of the market as a barometer of overall economic performance;

- Turnover and value traded on many stock exchanges in developing countries is low in relation to total capitalization; for example in 1993 also, Ghanaian capital market registered a turnover value ratio (transactions ratio) of only 3.7%; Nigeria, 0.8%, Kenya; 2.6% while France, 133.9%, Brazil 83.4% (IFC 1995 :13);
- The number of companies listed on the emerging markets is still low relative to the number of companies registered in such countries; for instance just about 10% of registered companies in Nigeria are quoted on the Nigerian Stock Exchange; and
- The frequent intervention by regulatory institutions such as the Securities and Exchange Commission (SEC) and the stock exchange council. The SEC is empowered to approve, among other things, the offer prices, value, timing, and the amount of shares and debentures to be issued by companies, organizations and institutions with the primary aim of protecting investors. Similarly, the Nigerian Stock Exchange (NSE) regulates activities, prices, listing and delisting of securities as well as general financial discipline in the market. However, the frequent interventions by the SEC and NSE have partly contributed to the poor growth and development for the past thirty-eight years. The pricing mechanism, business volume, and price movement have been noted to be under tight control; thus creating a shallow and inefficient market.

Other fundamental factors to this lacklustre performance of the market include risk aversion, tax avoidance, religious beliefs, buy-hold syndrome, unstable macroeconomic environment (arising from high and rising inflation, exchange rate depreciation, doubts about the solvency of key financial institutions, etc). These issues have led to some assertions by the investors that the Nigerian Stock Exchange, its infrastructure, reputation and historical trend is not a reliable price setter, and that the market frequently and sometimes significantly misinterprets the economic signals it receives. "The exchange's daily official list had scanty information and that some quoted companies had not provided information to the exchange for years .....". Uzor (1997:3) "Undervaluation of security prices worries Dunlop Plc, as a result security was inappropriately priced because stock brokers and investors did not avail themselves of vital information about the company's operations and details behind the figures of financial performance sent to the Stock Exchange ....." Anaeto (1997:30)

This thus lends the investment process to be popularly represented as consisting of the discovery and purchase of securities which are undervalued and holding these securities until they cease to be of "good value" or when liquidity conditions dictate otherwise. "Buy when they are low and sell when they are high" is fundamental, if somewhat uninstructive maxim of the market. Generally, it is often assumed that successful identification of mispriced securities can only be possible by personal study of relevant available information, or by seeking expert advice from investment advisory services, stockbrokers and other financial information centres.

This, however, leads to competition among investment intermediaries such as mutual funds, insurance companies, investment trusts, etc in an effort to persuade

investors that their performance is superior to that of others and this superiority is likely to persist in future. In sophisticated exchanges, buying and selling of stocks is a continuous process, some are buying perceived undervalued stocks in anticipation of a rise and some are selling apparently overvalued stocks in anticipation of a fall. Every stock has its price, there is no bad stock, only a bad price so long as it could be resold at a profit. "Buy-hold-sell" strategy resulting from the ignorance of the working of the capital market, paucity of securities for trading purposes is thus an essential characteristic among investment intermediaries. This conventional philosophy of "beat the market", as Herbert (1993) puts it, of which "buy-hold-sell" is an essential characteristic has in turn affected financial reporting which is principally for providing information that might assist an ordinary security holder to make a buy or sell decision.

For the many years of NSE existence, the following question has been a source of continuing controversy in both academic and business circles.

To what extend can the past history of stock prices or information supplied by the NSE be used confidently by investor to make meaningful predictions concerning the future prices of the stocks? In other words, is the NSE operating efficiently, that is are share price movements random or otherwise?

Also, what are the predominating factors that influence or cause these stock price movements in the market – dividends, earnings or trading volume or other factors?

Whether the market is perfectly efficient or not is a theoretical problem. For practical and empirical purposes, the important issue is not whether the market is

perfectly efficient but whether it is efficient enough for it to serve the interests of most investors to behave as if it were perfectly efficient. This, efficiency can thus be ascertained through the movement and behaviour of stock prices in any exchange, Nigeria inclusive. It is the essence of this study to wade into the controversy and discover also which of the oft-reported factors is predominant in the Nigerian Stock Exchange in influencing these stock price behaviours.

1.3 Objective of the Study:

The behaviour or movement of securities prices as a means of determining the efficiency or otherwise of a stock market has generated a lot of interest to researchers in the literature. The main thrust of these researchers have been to determine whether security prices "fully reflect" all available information.

The primary goal of this study is to empirically test the behaviour of security prices on the Nigerian Stock Exchange (NSE). That is, whether the past behaviour of a security's price is rich in information concerning its future behaviour (patterns of past price behaviour repeats itself in the future).

The specific objectives of this study therefore include the following:

i. To empirically assess the operational efficiency of the NSE as regards the behaviour of its security prices that is whether successive price changes of security are random in the market;

ii To identify the more predominating factor between Dividend Per Share (DPS) and Earnings Per Share (EPS) declared that influence this security price

behaviour in the market as argued by the dividend relevant and irrelevant proponents;

iii To determine the impact of trading volume on the buy or sell decision of investors which directly influences stock price movement;

iv Examine the role and adequacy of the NSE as a financial intermediary as far as the mobilization and allocation of capital resources are concerned in the economy.

v. Assess the extend of development of the Nigerian Capital market as an emerging market;

vi. Determining the accessibility of the stock market to savers and users of funds;

vii. Identify problems impeding the efficient operation and growth of the market,

viii) Finally, make recommendations towards a better and efficient stock market.

With these objectives, the researcher would be better placed to draw a conclusion as regards the extent to which the Nigerian Capital Market fulfills those conditions that determine capital market efficiency.

1.4 Significance of the Study:

The concept of an efficient stock market has stimulated both insight and controversy since Fama (1965) introduced it to the financial economics literature. As a construct, the term "efficiency" models the stock market in terms of reaction of prices to the flow of information.

This study seeks to examine empirically the extent to which the Nigerian stock market conforms to this theory that is whether security prices reflect all available information. The significance of the study include the following:

i. The study would create the awareness of the importance of an efficient capital market to the growth and development of developing countries with emphasis to Nigeria;

ii. It would assist in educating investors about the benefits and significance of investing in the stock market;

iii. The study will create the awareness of the operations of the stock market to the majority of investors who buy and hold stocks as permanent investments;

iv. With particular emphasis on the Nigerian Stock Exchange (a typical emerging Sub-Saharan market), this study will serve as reference point to other emerging markets and as lessons to countries at the verge of setting up stock exchanges, for example, Cameroon.

v. The study will also open the literature to abundance of rich and highly qualitative

researchable data covering a variety of information and the resulting insights obtained on the role of information in setting prices.

vi. Recommendations and possible solutions to problems impeding the growth of the market would be highlighted, and if adopted could enhance the efficiency of the market.

vii. Finally, the study as hoped, will provide findings that will serve as means of bridging the knowledge gap in this very important area of investment analysis and thus contribute to the existing body of knowledge.

1.5 Scope of the Study:

The study focuses largely on the "Securities-based" segment of the Nigerian Capital Market that is Shares and equities markets generally called securities markets (a market, physical or otherwise where financial instrument are bought or sold), in this case the Nigerian Stock Exchange (NSE) market. However, reference may be from time to time made to other segment therein.

The study concentrates only on quoted companies on the main market or first-tier equity securities section of the Nigerian Stock Exchange. The Companies are those found on the respective industrial groups as on the Nigerian Stock Exchange Daily official list (equities), attention given purposively to only equity stocks quoted on the Exchange on or before 1990 which are still in the list by 1997. The period under study is the four years period beginning from 1994 to 1997 for which data on stock price movement will be empirically studied. The behaviour of its securities prices will be examined in relation to the theory of the Efficient Market Hypothesis (or Random Walk Theory) in a bid to establishing its level of efficiency. Though the market has been in existent for over thirty-eight years, the selected period does not in any way reduce the flavour and value of findings.

1.6 Research Hypothesis

It has been mentioned that the expectation of an efficient capital market is that security prices will fully reflect all available information in a rapid and unbiased fashion. Therefore, the behaviour of security prices is a fundamental criteria in determining the efficiency or otherwise of a market. For the purpose of this study, there are two hypotheses. The first hypothesis is the main hypotheses which tests the behaviour of security prices. The other hypothesis is supportive to the main hypothesis; and they try to identify the predominant factor(s) that influence the behavioural pattern of the stock prices. They are stated as follows:

1. H_o: The Nigerian Stock Exchange is not efficient; successive price changes of securities are dependent on preceding prices.

   H_a: The Nigerian Stock Exchange is efficient; successive price changes of securities are independent on preceding prices.

2. H_o: Stock price movements in the Nigerian Stock Exchange are more a function of dividend payout than earnings declared.

   H_a: Stock price movements in the Nigerian Stock Exchange are more a function of earnings declared than dividend payout.

1.7 Outline of the Study:

This study begins by taking a cursory look at the market and its segments-money and capital, stating the problem that necessitated the study, objectives and significance and background to the study itself. The second chapter, looks at the stock exchange, its origin, development generally and in Nigeria, review literature on the behaviour of securities prices that will lay the foundation of the study. In the third chapter, methods and techniques of collection and sampling data will be highlighted. The fourth chapter, gives an analysis of the data collected in line with the hypothesis stated; an evaluation of the NSE performance, its impact on the economy, recent development and problems impeding its growth and operations. The final chapter (chapter 5) draws a summary and conclusion on the research study, with recommendations which as hoped would enhance the operations of the market, and poses further research questions for further studies aimed at refining ideas already generated.

1.8 Definition of Terms:

Active Market - a stock market with high transaction volumes; such markets usually display high liquidity.

Arbitrage - The purchase of a financial instrument or commodity in one market and the sale of it simultaneously in another market in order to profit from existing price differentials in both markets.

Asset – an item of commercial or exchange value owned by a company, individual or government, etc.

Asset mix - the percentage distribution of assets held by the owner under the various categories of assets such as equities, debt instruments, cash and short-term instruments.

Bear - One who expects a general depreciation in the value of securities or commodities or a particular security or commodity traded on the exchange or over-the-counter.

Bear Market - a general decline in prices of securities or commodities in a stock or commodity market.

Bid - the maximum price investors are prepared to pay on a security on the stock exchange at a given point in time.

Blue Chip - companies which are widely known for good financial performance,

product acceptance, high quality management and regular dividend payment. Blue Chip securities are usually in high demand

Bond -interest-bearing securities (that is debt securities) issued by corporate entities and governments. However, in Nigeria, Federal Government long dated instruments are generally not called bond but stocks.

Bull - one who expects a general rise in the value of securities or commodities, or in a particular security or commodity. Thus, a bull market is such a market experiencing general rise in price.

Capital gains - gains made at the disposal (sale) of securities by an investor. It is the difference between the price of which the securities were bought and the price at which they were sold that is capital gain or loss, if the difference is positive or negative, respectively.

Capitalization issue - a new allotment of shares made in proportion to existing shares out of accumulated reserves. Usually known as "scrip" or a "bonus" issue and such issues only increase the outstanding shares but add nothing to the assets of the company.

Clearing house - an organization, usually a subsidiary or an arm of a futures exchanges (a market for trading in futures contracts), which stands as a counter party in every futures transactions in order to guarantee performance of the contract. The Clearing House thus registers, matches, monitors and settles every transaction.

Clearing System - Procedure put in place by a security exchange to compare trading details between stockbrokers before settlement takes place.

Delisting - The removal of a securities from the official list of a stock exchange resulting usually from the failure of a company to comply with post-listing requirements, maturity of debt instruments, or merger between quoted companies. Once delisted, securities ceases to be traded on the exchange

Dealer- A financial intermediary who buys or sells securities for his own account and not on behalf of clients as stockbrokers do, that is acts as principal in security transaction. He does not earn a commission, but the approved

margin above the transaction price that the dealer resells the securities is his benefit.

Dealing member - a member of a stock exchange authorized to buy and sell securities on behalf of the public or for their own account.

Equity - Ownership capital held by individuals, corporate bodies and sometimes governments in a company-also call ordinary shares.

Exercise price - The price at which the underlying securities of an option can be bought or sold by the holder of the option during a stated period.

Financial intermediary - an institution such as a bank, stock broking firms, or issuing house, which mobilizes, or facilitate the mobilization of funds from surplus to deficit economic units.

Financial Instruments-

(i). A financial product such as stocks, bonds, treasury bill, commercial paper and bankers acceptances which are created to facilitate the flow of funds from surplus to deficit economic units.

(ii). Any instrument which denotes ownership of a financial asset or evidences credit to a company or government.

Price-Sensitive-Information - information about a company, that could influence the price of its securities on a stock exchange. Such information is required by law to be disclosed to the public immediately while insiders are prohibited from taking undue advantage of such information to trade in the market.

Quoted Price - The price at which a security listed on a stock exchange is traded at a given time.

Security - a financial instrument traded on a stock exchange.

Stock - The legal capital of a corporation into shares.

Securities and Exchange Commission (SEC) - a Government agency established by statute to administer securities laws. Such laws empower the agency to regulate the capital market, with the primary aim of protecting investors.

Self-Regulatory Organisations (SROs) - These are membership organizations in the securities industry such as Stock Exchange, National Association of Securities Dealers which set and enforce rules to direct the professional activities of their members, and in some cases, provide trading facilities for members to conduct business in securities.

Stock Exchange - An organization which provides facilities for trading in securities by its members and also sets rules for the admission and trading of existing securities as well as rules to guide the business conduct of members.

Technical Analysis - the study of share behaviour with the aim of anticipating future movements of prices. Charts play large part in this but other aspects of share activity also feature.

Turnover - the volume of business in a security or the entire market. If turnover of ten million, is reported on the exchange on a particular day, this means that ten million shares changed hands.

Broker (stock broker) - A dealing member of a recognized stock exchange who transacts business in securities on behalf of the investing public that is any exchange member who handles orders to buy and sell securities and commodities for a commission.

Jobber - An individual or firm dealing in stock as a principal rather than as a broker. Stockjobbers are not permitted to deal with the public since this function is reserved to stockbrokers.

Security price - The price at which a dealer/Stock broker buys or sell securities for his own account or on behalf of clients.

Stock broking- The function of transacting the business of buying and selling securities on behalf of the investing public by licensed dealers; and it involves taking and executing "selling and buying" orders from clients for a commission which is fixed and supervised by a recognized stock exchange.

REFERENCES

1. Fama, E. (1970): Efficient Capital Market: A Review of Theory and Empirical Work; Journal of Finance, PP 383-390 Volume 25, May.
2. Briston, R.J. (1996): The Stock Exchange and Investment Analysis, George Allen and Unwin, Ltd. London PP.30-85
3. Osaze, B.E. (1997): Understanding the Capital Market, Bofic Consulting Group Ltd. Revised Edition, PP 37 – 41.
4. International Finance Corporation (1995); Emerging Stock Market fact Book, PP 1-6.
5. Osaze, B.E. (1997), PP 51 – 54
6. Uzor, B (1997) : Pricing Disputes Worries Nigerian Stock Exchange, Business Times, P 3 January, 6.
7. Anaeto, E. (1997): Undervaluation of Security Prices Worries. Dunlop, Business Times, P 30 February, 10.
8. Herbert. W.E. (1994): "Towards an Efficient Capital Market in Nigeria", Unpublished Paper Presented at Nigerian College of Accountancy, Jos, Nigeria, PP 1-30.
9. Fama, E, (1965): The Behaviour of Stock Market Prices, Journal of Business, Jan, PP 34-105; January.
10. Alile, H.I and Anao A.R (1986). The Nigerian Stock Exchange: Genesis,

Organization and Operations, Nigerian Stock Exchange Lagos, PP.9-14.

11. Brealey, R. and Myers, S. (1981): Principle of Corporate Finance, McGraw Hill Book Company, New York, U.S.A., PP 254-268.

12. Nigerian Securities and Exchange Commission (SEC) (1997). A Primer on the Capital Market, Research and Market Development Division, Securities and Exchange Commission, Abuja. PP. 1-6.

13 Ekineh, D. S (1997) - Capital Market Glossary, Capital Market Education Series, Securities and Exchange Commission, Abuja, PP 3-52.

14 Osaze, B.E (1985). The effect of Corporate Earnings, Dividends and Volume on Stock Price Movements in Nigeria: 1976-1980, Benin Journal of Social Sciences, Vol. 1, No.1, 1985, PP 83 – 87.

CHAPTER TWO

LITERATURE REVIEW

2.1 An Overview of Capital Market:

Economic freedom leads to the development of markets. Consumers are free to buy the goods they want; they seek the product they want in the market of their choice. Workers can sell their services in the most advantageous markets; producers are free to buy their raw materials where they will, and though possibly not as free as consumers, are relatively free to hire the needed workers in the most advantageous markets. The crucial point, indeed to most market transactions, the price agreed upon by buyers and sellers, performs an economic service of great significance. Market prices and market popularity (or lack of it) guide production. By guiding production, market prices determine the use made of final economic resources. Money and capital markets are the result of financial freedom and can survive only when freedom prevails. Individuals are free to save or spend their income as they choose in the financial markets.

Financial markets exercise tremendous influence in the economic development of nations by facilitating the collection of savings and channeling it to investments. Financial markets exist primarily to facilitate the intermediation of funds transfer between savers and investors. This means that it is responsible for regulating the financial environment of the economy, determining the types and amount of funds to be issued, cost of funds and the use to which these funds are to be put. The financial

market can be defined, therefore, as a place or mechanism for the exchange of financial assets. These assets are not consumables but are sold or bought for money from financial institutions which serve as financial market intermediary; providing borrowers with loanable funds in exchange for bonds, promissory notes, and other financial assets.

The financial market can also be defined, in simple terms, as a medium through which funds are mobilized and transferred efficiently from savers to users of funds. It functions through individuals, institutions and instruments. Thus, if savings equal investments in real assets for all economic units in an economy over all periods of time, there would be no external financing, no financial assets, and therefore no need for money and capital markets. This is because each economic unit would be self-sufficient. However, this is never a reality. Nonetheless, by its singular function of mobilization and transfer, the financial market bridges the savings and investment gap, and stimulates capital formation and economic development.

The financial market is usually classified into two principal segments; broadly differentiated by the tenure of funds in each market: the money and capital markets. The money market, as mentioned earlier, is at the shorter end providing funds to those with cash demand for a period not exceeding one year. This means that, the money market is a place or mechanism under which short-term highly marketable financial assets or securities with little risk, such as treasury bills, are traded.

Capital markets, on the other hand, are characterized by trade in medium and long term funds, whose tenure exceed one year such as long term loans, mortgage bonds, preference stock, Federal government Bonds (also called Eligible

Development Stocks or gilt-edged securities), ordinary shares and industrial loans. It is a complex of institutions and mechanisms through which intermediate funds and long term funds are pooled and made available to business, government and individuals, and instruments already outstanding are transferred. These institutions which traditionally play one role or the other in the transfer of funds from savers to users include the underwriters, securities and exchange commission, Share Registrars, Issuing Houses, Stockbrokers and stock exchange which is considered as the hallmark of the capital market.

The maturity and risk structure of instruments in a financial market distinguishes money markets from capital markets. As such, savers in money market instruments behave as risk averters, while all classes of savers incorporated by capital market can be regarded as risk-takers, because they are willing to assume risk in relation to rewards. Unlike the money market that provide liquidity, the capital market transforms savings into investment, and as such money market investors earn lower rates of interest with relatively high liquidity than capital market.

In a broad perspective, the capital market can be seen as the entire organized financial system, including short-term as well as long-term claims, and financial intermediaries markets and institutions dealing in long-term credit instruments, having maturity of more than one year, including stocks or equities, bonds, term loans, mortgages, etc. Thus, focusing on the demand for and supply of long term funds for financing fixed investment. In a narrowest sense, the capital market is viewed as the locus of the organized market where stocks (common and preferred claims of equity ownership) and bonds (including debenture and convertible bonds)

are bought and sold using services of brokers, dealers and underwriters. This makes the capital market and the stock market to be considered to mean the same thing. The importance of the stock exchange in capital mobilization and exchange between borrowers and investors has made it assume synonymity, in terms of nomenclature, with the entire capital market, rather than as one of the facilitating institutions. As mentioned earlier, the capital market is not a single entity, but a network of specialized institutions linking suppliers and users of medium to long-term funds. This study adopts the capital market as the stock market, that is, a network of individuals, institutions and instruments involved in the efficient channeling of funds from the surplus to deficit economic units.

It could be observed that while the providers of funds essentially comprise of individuals and companies, the users of funds (issuer of securities) are expected to be companies and governments, that is, individuals may not be able to raise money from the capital market as they can do in money market.

In this network of relationships, therefore, the stock exchange plays a central and indispensable role to which it has been variously described as the "hallmark" or "heart" of the capital market. The reason for this is that even though in its strict definition, the stock exchange is a market for trading in outstanding issues, the opportunity it offers for subsequent trading in existing securities has made it a decisive factor in the success or otherwise of many corporate issues and by extension, the efficiency of capital formation in the economy. Being an institution which sees to the efficient allocation of available capital funds to the diverse uses in the economy, and through its extremely sensitive pricing mechanism, the stock exchange ensures

that, much of the total available capital resources are allocated to each firm within each industry as that firm and that industry deserves to have. This takes due regard to their relative contribution to the total societal wealth (or satisfaction) vis-à-vis other firms or industries. The stock exchange's capacity for this function arises from the basic assumption that it approximates to an ideally competitive market where commodity prices reflect their relative marginal utilities impacting on the total societal preferences.

Through its functions, the stock exchange enables governments and industry to raise long-term capital to finance development projects and for the expansion and modernization of industrial/commercial concerns. An efficient stock market mobilizes savings and allocates a greater proportion to those companies with the highest prospective rates of returns after giving due allowance for risk. This allocative function is critical in determining the overall growth of the economy. It therefore means that if resources are not provided to those economic areas, especially industries where demand is growing and which are capable of increasing production and productivity, then the rate of expansion of the economy will inevitably suffer.

The decision at the Abuja summit of OAU Heads of States in 1991 that each country in Africa should set up a stock exchange as a way of promoting a balanced financial system, and also, as an element of the proposed African Economic Community must have emanated from the difficulties, in particular, faced by many development finance institutions in developing countries. The awareness that the stock exchange rate has become a credible alternative source of supporting equity and long term investment financing has propelled many economies to use stock markets

as conduits for channeling long term funds to their productive sectors. As at 1998 there are sixteen stock exchanges in Africa that are members of the African Stock Exchange Association (ASEA) while at least five other African countries Cameroon, Madagascar, Angola, Mozambique, and Tanzania – have indicated their intentions to establish stock exchanges as soon as possible.

To the individual investor, the stock exchange presents an ideal setting for the smart and daring speculator to make a fortune with relatively little effort in terms of contributing anything of substance to nation's output; but also a remarkably easy means for the unwary to lose fortunes through false judgement. In the nation, it can also be seen as a mechanism (barometer) which can measure and detect the symptoms of an impending economic boom or decline long before the predicted prosperity or decline actually occurs. This is because in the stock market, security prices are extremely sensitive to change in economic conditions and trends which are a reflection of the total psychology, or judgement of persons using the stock exchange among whom the professional investment economist and analyst exerts the greatest influence.

2.2 Segments of the Capital Market:

Furthermore, the Nigerian capital market, like its counterparts elsewhere has basically two segments, the primary and the secondary markets.

The primary market (also called the new issues market) is the market for the initial offer of securities when the government or company makes its initial contact with the public while in search of public funds. It provides the vehicle for

governments and corporate entities to raise fresh capital (cash) through the issuance of securities. Securities are the investment products (financial instruments) created and issued by corporate bodies and governments which are in need of funds to finance expansion or development projects, to ensure the smooth and easy transfer of funds in the capital market. In this market, participants include the issues company, the general public, the Securities and Exchange Commission issuing houses and stock broking firms. Instruments raised in the primary market become tradeable on the secondary market as existing securities.

The secondary market is the second segment of the capital market. It is so called because it enables investors to trade in securities that had been earlier issued in the primary market. Thus, the market provides a mechanism that enables investors to buy or sell existing securities. Secondary market, unlike the primary market securities that are sold just once, they do change hands among investors several times. The secondary market provides liquidity for investors who have already acquired shares at the primary market and wish to trade them off. It should be noted that the primary market has no physical trading location, but however, most secondary markets can be identified by a central trading location for securities transactions. Stock exchanges and over-the-counter (OTC) markets, which are highly specialized and organized markets, are examples of the secondary market institutions. Since these markets are especially markets for buying and selling existing securities, investors who had earlier purchased securities in the primary market and wishes to sell them would do so in the secondary market.

A security cannot have a good price at the primary market if the secondary market is non-existent or inactive. The interdependency of the two market is so strong that one cannot flourish without the existence of the other. For instance, investors would be unwilling to participate in new issues for fear that when they want to sell at a future date, they would be unable to do so. Conversely, the non-availability of enough securities for trading would discourage participation in a secondary market as it could encourage "buy and hold" activities and thus create illiquidity. Moreso, the secondary market price of a security usually influences the price at which subsequent primary issues of a company are sold. Liquidity is a major attribute of a well-functioning secondary market. Therefore, the mutual interdependence of the two markets is strengthened by the fact that any factor disrupting or reducing the marketability of securities, or undermining investors' confidence and faith will adversely affect both the new issues (primary) market and the secondary market. Infact primary securities are issued by investment bankers while the secondary securities, as mentioned, are traded on organized (stock exchange and OTC) markets.

In Nigeria, the secondary market is further subdivided into two – the First-tier securities market or the main exchange for large and fully quoted companies, and the second-tier securities market (SSM) for lower-large" companies (that have not attained these and other entry requirements in the main exchange). Shares of companies quoted either on the First-tier or second-tier securities market are traded on a daily basis.

In sum, the operations of capital market institutions are vital to the economy as they affect income level, prices and employment. Their role in the creation of money and liquidity make them indispensable to the nation's economic system. Capital market development is a precondition for sustained development and as such its importance in developing countries, particularly Nigeria, cannot be overemphasized. The credence to this assertion lies in the fact that economic growth and capital market development go hand in hand; and the growth phenomena and the stock market are not mutually exclusive at any stage in the development process, but complementary.

2.3 The Regulatory Bodies of Capital Market:

The capital market is a highly specialized market that trades in intangible instruments not amenable to physical examination. Commodities traded can be seen and examined in traditional markets, which most households are familiar with. This makes for easy assessment. However, this is not the case with the capital market, as its instruments are intangible and complex, making quality assessment not as easy as with commodities. The complexity is increased by the fact that investors cannot transact their business directly but have to go through approved intermediaries, and as a result, if investors are unprotected, by the law, they could be susceptible to sharp practices. The market is built on integrity and confidence, and activities which undermine these would hinder its development, that of the financial market and indeed the economy. Therefore, to build and maintain confidence in the integrity of the capital market, regulation becomes necessary to protect investors and the market.

Regulation of capital markets popularly takes the form of establishment of effective framework of legislation, and institutions to administer such legislation. As a common practice, dual layer regulation of the capital market is the case with most countries. That is, self-regulation by self-regulatory organization (SROs) and statutory regulation, administered by a government agency established by statute to undertake such functions. However, the extent of statutory regulation vis-à-vis self-regulation varies from country to country.

a) **Statutory Regulation:**

Statutory regulatory bodies are set up by legislation and they cover the entire market – primary and secondary markets. This implies that, statutory regulation is broader in scope and authority than self-regulation. As a matter of fact, the SROs fall under the regulatory over-sight of the statutory agency. Such oversight includes the approval of the rules of the SROs before they become effective. Statutory regulation also takes the form of registration of intermediaries and securities for public subscription, surveillance of trading activities, inspection of the books of intermediaries, investigation of complaints and the enforcement of the securities laws, regulations and rules made thereunder. It is, therefore, the primary responsibility of the statutory regulator to protect investors and to ensure the stability of the market through its activities. In Nigeria, the Securities and Exchange Commission (SEC) is the only statutory regulatory body.

b) **Self-Regulation:** Statutory regulatory agencies, such as SEC, often delegate some of their functions to industry groups known as self-regulatory organization. These are non-statutory organizations or associations owned by member-firms engaged in the same trade such as stockbroking, to provide trading facilities and/or regulate the activities of members. They include stock exchange, associations of securities dealers and other organizations designated as such by the statutory agency. These organisations license their members, set trading, listing and other rules, monitor trading and examine the books of their members; and in addition, investigate rule violations, discipline members and arbitrate on dispute. In Nigeria, these include the Nigerian Stock Exchange, the to be Abuja Stock Exchange and National Association of Securities Dealers (NASD). It is mandatory for their rules and regulations to be approved by the Nigerian Securities and Exchange Commission (SEC).

2.3.1 The Nigerian Securities and Exchange Commission (NSEC):

The Nigerian Securities and Exchange Commission (NSEC) is the apex regulatory body for the Nigerian Capital Market. It was set up under the Securities and Exchange Commission Decree No. 71 of 1979 and re-enacted as Decree No. 29 of 1988 principally to protect the interest of investors and to oversee the even and orderly development of the capital market.

The NSEC can be rightly said to be the brain child of the committee on the review of the Nigerian Financial System which presented its report to the Federal

government in 1976. This committee which is popularly referred to as the Okigbo Committee recommended, in its report that a Securities and Exchange Commission should be established. As stipulated in section 6 of the NSEC decree of 1979, the Commission, among other things, has the function of registering securities, determining the amount, the price, and the time at which securities are to be sold either through offer for sale or subscription, register stock exchanges and securities dealers and their agents, and maintaining surveillance over securities market to ensure orderly, fair and equitable dealing in securities.

The amendment to SEC Decree of 1988, was enacted to liberalize the capital market. The Decree, among others transferred from the commission to the issuing House, the function of pricing new offerings as well as allotment of shares in the capital market and enhanced the powers of SEC to oversee the activities in the market so as to ensure orderly conduct of transaction.

Some of the liberalization policy initiatives included the privatization and commercialization programme which has considerably increased the number of equity listings on the NSE; the debt conversion programme aimed at reducing the stock of Nigeria's external debt while stimulating new investment; the establishment of Unit Trust (Mutual Fund) schemes in the country so as to encourage the participation of small investors in the Nigerian Capital Market (NCM), as well as improve securities demand; and the deregulation of the market which commenced with the discontinuation of official pricing of securities in the markets which as a result has highly stimulated capital market activities.

2.3.2 The Central Bank of Nigeria (CBN):

The Central Bank of Nigeria (CBN) is the major financial institution charged with the responsibility of overseeing the orderly growth and development of the financial system – the economy at large, the money market and the capital market. The CBN was established under the Central Bank Act of 1958, and as section 4(1) of the act provides "the principal objects of the Bank shall be to issue legal tender currency in Nigeria, to maintain external reserves, to safeguard the international value of the currency, to promote monetary stability and to act as sound financial adviser to the Federal Government."

From this section, one can deduce that CBN performs two basic functions:

a) the service function of issuing legal tender currency; acting as banker and financial adviser to government; and acting as bankers' bank.

b) The policy making functions of formulating and executing the nation's monetary policy; accelerating economic development by promoting the growth of the financial markets for the effective mobilization of investible funds; and maintaining monetary stability.

The CBN is the principal agent of government for the control and supervision of the banking industry, since it determines the total volume of domestic credit, the interest rate structure an participates fully in balance of payment management. Its various regulations are aimed at maintaining the integrity of the banking and financial system, promoting monetary stability and protecting balance of payments. It is an

overall body of the financial system and not specifically a statutory regulatory body to the capital market alone.

2.3.3 National Association of Security Dealers (NASD):

This was established in 1994 as a self-regulating organization of the capital market to operate over-the-counter (OTC) securities market. It sets rules and regulations for the operation of the OTC market, standardizes practices in the market, establishes and enforces fair and equitable dealings in securities transactions on the OTC (SEC, 1994).

The stock exchange presents these features and more in its regular operations in the course of aiding the mobilization of capital for pursuing economic expansion and for creating goods and services for the satisfaction and well-being of the general citizenry. Though this study addresses itself specifically to the stock exchange in Nigeria, particularly the Nigerian Stock Exchange, that is the behaviour of its security prices; as a background however, it would be desirable to consider first the origin of the stock exchange.

2.4 The Origin of Stock Exchange Market:

The stock exchange only obtained a formal constitutional building of its own at the beginning of the 19th Century, but by that time, organized dealing in stocks and shares had been going on for well over a hundred years. Stock exchange literature suggest that the practices that have gradually metamorphosed into the stock exchange as it is known today took their roots or emanated from the "burgeoning

trade in agricultural and other commodities developing in some of the major European centres during the middle ages" Alile and Anao (1986:10). Like several other features of modern financial system, including banking and insurance, the stock market developed during the years of commercial and intellectual ferment. During this period, it was a common practice at these trade fair centres that traders gather at a place on appointed days to strike bargains on commodities.

Trade in these markets was frequently conducted on credit. As time went on, instruments such as bills of exchange and notes came to be used as evidence of the credit and as instrument of effective settlement. These documents, later on, became possible to be also traded or discounted. Anao and Alile (1986:11) noted that the trade in these documents appears "to be the for bearer to the trade in other forms of securities such as bonds issued by government or equity shares issued by commercial firms."

For most of the early stock exchanges that sprang up in many European centres, the pattern of development from trade in commodities to trade in securities was roughly the same. For example, there was developed stock exchange where shares of companies were publicly sold during the 17th Century in Amsterdam that before then was a major trading centre in Europe. Also, the periodic meetings of traders in coffee houses in London (Great Britain) to strike bargains amounted to a formal stock exchange which by 1773 it had moved to its own premises. However, this wind of change did not leave any trading centre, and as such stock exchanges developed with time in virtually the same way in other trading centres in Berlin, Copenhagen, Philadelphia, and so on. In the same way, in New York traders had

been meeting at 68 Wall Street to engage in commodity trade before a formal association of merchants took place from about 1792 to form the nucleus of the New York Stock Exchange.

Three important factors could be identified to have spurred the early development of the stock exchange:

i) the initial impetus provided by the prior existence of trade as explained above.

ii) the development of allied financial institutions such as banks and insurance companies to meet the growing demand of expanding volume of trade and commerce at the same period;

iii) government's frequent need of funds with which to meet its expanded obligations due to its increasing complexity.

The stock exchange was thus needed because the growing financial institutions themselves needed capital to finance their own operations; such funds could only be readily obtained through the sale of securities assisted by the stock exchange. Also, government resorted to the sale of securities through the facilities offered by the stock exchange.

It is instructive that stock exchanges are not found in socialist economies. This is because the task of capital allocation is performed by a central (government) authority. The stock exchange has the image of a completely private club of individuals which is more or less self regulated. The opportunities and challenges offered by the emerging free enterprise economies of the middle ages and the era of the industrial resolution bequeaths to the stock exchange a character which remains

typical of it today, that of a purely capitalist institution. This means that the emergence of the institution of the stock exchange as a spontaneous reaction of enterprising businessmen had the central task of the mobilization of funds in the hands of myriad individuals who save and the footing and channeling of such funds into productive uses.

The stock exchanges in the U.S.A., however, are in slightly different category because of the Securities and Exchange Commission (SEC) Acts of 1933 and 1934 which established a public commission that literally controls the exchanges. A large measure of autonomy is however actually enjoyed in practice by the exchanges. Notwithstanding, others have experienced over time a major or minor inroad by government through legislations that seek to control or regulate the operations of the stock exchanges, such as the Nigerian Stock Exchange (NSE) fall into this category. The extend to which the NSE fits into or diverges from the traditional mould remains to be identified.

2.5 The Development of the Nigerian Stock Exchange:

Activities that are reminiscent of the practices of the organized and modern stock market in Nigeria dates back to antiquity. A thrift form of capital market such as "Ojo", "Esusu" and "Adashi" were widely practiced, and are still maintained in some parts of the country even today. However, the Ten Year Plan Local Loan Ordinance promulgated in 1946, which provided for the floatation of 3000,000 (N600,000) loan stock bearing interest at $3^{1/4}$ percent could be traced as the earliest

critical incident leading to the establishment of a stock market in Nigeria. (Source: The Nigerian Stock Market in Operation, P.19)

In 1951, the creation of a loan fund for financing some public utilities was another attempt at capital accumulation in the public sector. This scheme funded from publicly collected revenues was used to issue soft loans (bearing low interest rates and easy repayment terms) to assist in the development of the nation's vital corporations. These and similar endeavours forming part of the implementation strategy for the Ten Year Development Plan (1946-1955) constituted the first significant attempts made under the British colonial Administration to give investment opportunities to Nigerians, thus marking the take-off of capital market development in Nigeria.

The late 1950s witnessed an upsurge of private industrial investments pursued mainly through the diversion of some of the profits earned from purely trading activities into industrial projects and also to expanding the existing local commercial undertakings. This and other issues led to extensive debates among politicians, academicians, financial experts and businessmen as to the desirability of an organized capital market in Nigeria. Such other issues included the following:

- The need to mobilize finance to embark upon development programme;
- Increasing pressure from nationalists;
- The need for government to finance the growing budget deficits as from 1958;
- The deteriorating balance of payment deficits as from the late 1950s.

Coupled with the approaching independence, prompted the government into taking necessary steps towards the establishment of a capital market in Nigeria. Asabia (1983) noted that "unlike developments elsewhere, government initiative is dominant and the securities market owes a great deal to the government in its origin and development"; and even today, the government has continued to play a significant role in the operation of the stock market.

As a result, in 1958, a committee under Professor Barback (Director of the Nigerian Institute of Social and Economic Research) was appointed to consider the ways and means of fostering shares market in Nigeria. The committee that became known as the Barback Committee published in 1959 their report recommending among others:

- The creation of facilities for dealing in shares;
- The establishment of rules regulating transfers; and
- Measures to encourage savings and issue of securities of government by the government and other organization.

In pursuance of its role in respect of the development of a capital market, the CBN floated in 1959 the first Federation of Nigeria Development Loan of N4 million on behalf of the government. Though the attempt of institutionalizing a Nigerian capital market could be traced to 1959, it was only in 1960 that the stock exchange was incorporated as a follow-up to the report of the Barback committee; with the registration name "The Lagos Stock Exchange (LSE)" established by the Lagos Stock Exchange Act of 1961. It is the first stock exchange in the West African region and sixth in Africa continent. It is a non-profit organization (any excess of

income over expenditure or its accumulated reserves are not available for distribution as dividend to the company's shareholders whose liability is limited to their shareholdings only), and a private company limited by guarantee, with membership drawn from financial institutions and Nigerian individuals with proven integrity and experience in finance and business.

The Nigerian Stock Exchange commenced business in 1961 with 3 equities and 5 government securities into its listing. This initial list comprised 1st and 2nd development stocks of the Federation of Nigeria which were issued in 1959 and 1961, industrial securities, and the stock of some British companies already operating in Nigeria which were quoted on the London stock Exchange. However, trading on the Lagos Stock Exchange (LSE) during the early years was extremely poor because of the low rate of capital formation at the time and the oblivion surrounding the mechanics of stock exchange dealings and poor communication. This is evident by the fact that during the first nine years of operation (1962-1970), only four new issues of industrial securities were handled by the exchange, with the federal government stock dominating the market, regularly accounting for between 90 and 98 percent of the annual turnover of the exchange which rarely exceeded N15 million. In view of the recognition of the importance of a wide scope of the stock market activities, evidenced by the recommendations of the Okigbo Commission, among other things the decentralization of the exchange so as to bring the benefits of capital market operation near to a greater section of the citizenry and thus enhance the performance of the market's function. The federal government in 1977 transformed the Lagos Stock exchange into the Nigerian stock Exchange with

branches in Lagos, Kaduna and Port Harcourt. The Kaduna and Port Harcourt stock exchange, opened in 1978 and 1980 respectively, was to serve as trading floors of the main stock exchange in their regions following the acceptance of principle of decentralization with the option for a national stock exchange which had branches in different parts of the country. The branches have since increased from three to six by 1990 with Kano branch opened in 1989, Onitsha and Ibadan branches opened for business in February and August 1990, respectively. The overall responsibility for quotations and enforcement of rules and regulations continues to be retained by the National Council of the Exchange.

Since the establishment of the Nigerian Stock Exchange, the government recognized the need to promote growth in stock market activity. Accordingly, there have been various measures and incentives emanating from government in the form of legislation, and fiscal and monetary measures towards improving the activities of the market. Significant among the government policy interventions which had a strong and lasting impact on the growth of the capital market include the Income Tax Management Act 1961, the Exchange Control Act 1962, the Insurance Miscellaneous Act 1964, the Nigerian Enterprises Promotion Decree 1972 and 1977, the Capital issues Commission Decree 1973, the Securities and Exchange Commission Decree 1979 and 1988, and the Privatization and Commercialization Decree 1988 and in addition the abolition of exchange controls towards encouraging foreign direct investment by the government in the 1990s. Increased awareness that

economic growth can be fostered through new investment, the indeginisation laws were also repealed to stimulate foreign direct investments in the country.

Over the thirty-eight years of its existence, the Nigerian Stock Market has witnessed a slow but steady growth. However, much of the trading in securities had been concentrated in the Lagos area. The growth of securities listed in the market has had an upward trend. Starting with three equities, five federal government stock by 1961, the number rose to a total of 60 securities that is 13 equities, 8 industrial stocks and 39 government stocks by 1971. By 1981, the number had risen to 93 equities, 22 industrial stocks, 79 government stocks making a total of 194 securities listed, and by 1996 the market had a total of 272 listed securities, out of which 183 were equities, 43 Industrial loans and preference shares, and 46 gilt-edged or government stocks. Of this total, 40% represent government stocks in value. The growth in equities had been encouraging since 1961, but despite the fact that government stocks dominated the market in its first twenty-five years of existence, the number of equities have risen tremendously. By 1997, there were about 184 equities of which 165 are on the main market and 19 on the second-tier securities market (SSM), 56 corporate bonds, 23 federal government stocks, 3 state government bonds and 1 local government bond that were listed in the NSE. Despite this growth rate of equities, there has been a very peculiar feature of the total quoted securities in the NSE. Until 1990, the value of transactions on the NSE has been dominated by government securities, ranging between 94 percent by 1961 to 88.5 percent by 1989 of the total value. In terms of number of transactions, dealings in government securities are much smaller than dealings in industrial stocks. For

instance, before the end of 1961, there were a total of ninety-two transactions in government stocks compared to 242 transactions in industrial securities. On the whole, transactions in industrial stocks have far exceeded those in government securities, the lowest being 52 percent in 1970 and frequently ranging above 96 percent especially in the 90s. The value of transaction of government securities in the 1990s have been in the down trend, amounting to only N42.7 million in 1991 (that is 31.4%) of the total transactions and by 1995, there was no transaction in government securities. (See Appendix I).

Market activities remained dull and unimpressive during the first ten years of its operation, as far as the growth of equities are concerned with only 13 equities, as stated earlier, with government stocks dominating. The promulgation of the two Nigerian Enterprises Promotion Acts of 1972 and 1977 added impetus to both trading activities and growth in equities. These acts had the greatest potential in stimulating dealings in industrial stocks. Reflecting the efforts of various companies to comply with the requirements of these Acts, the increased pace of economic activity and the growing confidence in the Nigerian economy, five industrial stocks were offered to the public in 1971 through the public, representing the highest number of industrial stocks offered in the market in any single year since the Exchange was set up in 1961. As a consequence of the 1972 Act, 22 new companies were listed by the end of 1974 bringing the total number to 34 listed equity securities. The 1977 indigenization Act had more impact on the market; between 1977 and 1980 alone, 56 new equities were listed (39 companies listed in 1979 alone) and by 1996, there were a total of 267 listed securities as mentioned earlier.

In Nigeria, like many developing economies, the decades of 1980s was a particularly difficult and can rightly be considered the toughest period in the nation's economic history. The glut in the crude oil market, which arose from the worldwide recession at the beginning of the decades, plummeted crude oil prices and severely affected the Nigerian economy. As a result, there was the decline in the balance of payments and the phenomenal increase in the external debt from N1.9 billion in 1980 to N101.3 billion in 1987 and by 1990, the external debt stood at N214.5 billion. ($29.1 billion). (Source: NSE Handbook, 1991). Especially in the first half of the 1980s, production in many industries fell significantly owing to inadequate input supplies. As a result, many companies folded up or suspended operations. Saddled with severe and persistent economic problems, various policies were initiated by the government to ameliorate the situation. The most far-reaching of all the measures was the introduction of Structural Adjustment Programme (SAP), in mid 1986. SAP employed measures aimed at restructuring Nigerian economy towards a path of sustained growth and development. Specific measures under the SAP, among others included: liberalization of the foreign exchange market, rationalization of the public sector; liberalization of trade through the abolition of export and import licensing system, and adoption of market based pricing system. As a consequence, SAP raised interest rates through deregulation, devalued local currency, made imports more expensive including industrial raw materials and components and led to a cutback in industrial capacity utilization. Stock values had to drop and became less and less attractive to issue equity, many of which were undersubscribed.

Two major government policies in place – privatization/commercialization, and Debt conversion were put in place also became operational during the second-half of 1980s. As a result of these policies, at the end of 1996, Federal government holdings in 88 enterprises had been fully or partially divested through public offerings of 1,486,772,063 shares to 800,000 new shareholders created, and also about $527 million external debt had been converted under the Debt Conversion Programme before 1990. (Source: Nigerian Stock Exchange Handbook, 1996)

In spite of the economic depression, however, the capital market recorded impressive growth. As a matter of fact, some policies initiated to ameliorate the economic problems have had favourable impact on the market. There was an upsurge in the number of quoted equities from 91 in 1980 to 131 in 1990 and by 1997 there were 184 equities (165 are on the main market and 19 on the SSM), on the average approximately six equity listings annually between 1980 and 1997 that is 17 years period. However, the figure would have been higher, but for a number of merger arrangements that were consummated between some quoted companies during this period.

Measured by market capitalization (which is the total value of all equity securities listed on a stock exchange – a function of market price of quoted equities and the size of their issued and paid-up capital), the NSE witnessed almost three fold increase from N4.5 billion in 1980 to 12.9 billion by 1990. By the end of 1997 total capitalization had risen to over N409 billion (US$4.7 billion), 17 percent of Nigeria's GDP. (See Appendix I). Total new issues raised through the capital market depicts the increasing popularity of the capital market as a source of long

term finance among business concerns and state governments alike. In fact one could rightly say here that it was until 1990s that the Nigerian Capital Market began to play an important role in the mobilization of resources for the industry. The banking sector especially the commercial banks, remained the most important source of finance in the economy despite the tremendous growth in the financial institutions of the capital market. The crash of the money market in the early 1990s vis-a-vis the ensuing bank crisis can be said to have precipitated a gradual increase in capital market activity. This was buttressed by the changes in government policies concerning the financial sector, particularly the new emphasis on guided deregulation which led to the pegging of interest rate, increased share capital requirement of finance institutions (that is banks, insurance companies, and other finance houses), and stricter prudential regulations. For instance, new issues stood at N378.8 million in 1980 and by 1995, they had risen to N3,910.2 million, with 1990 being the highest of N99,645 million, bearing in mind that no Federal Government Development Loan stocks were issued during the year. Comparing the percentage of new issues to the Gross Fixed Capital Formation (GFCF) - a useful indicator since proceeds from new issues are usually channeled into investments in fixed assets and capital formation in the economy, new issues represented 3.5 percent in 1980 to 2.5 percent in 1995. (Source: Compiled from Data supplied by SEC, 1996).

Financial institutions are important agents (financial intermediaries) in filling the saving/investments gap. Thus, the growth, efficiency, innovativeness of these

institutions do enhance economic and capital market development. The major changes that have occurred within the last few years in the market include the following:

- The regulatory bodies (Securities and Exchange Commission and the Nigerian Stock Exchange) has approved the sale of offshore shares and stock to foreign investors in a bid to further encourage foreign inflow into the capital market. They also approved the establishment of the Unit Trust Schemes (avenues for garnering the little pools of funds of small investors and increasing capital formation).
- The introduction of the second-tier securities market (SSM) in 1985 to attract smaller companies to the capital market; the National Economic Recovery Fund (NERFUND), established in 1986/87 mainly as a source of capital in the market for small and medium scale industries. The aim of this fund has been to improve the capital formation process by requiring all companies to contribute some percentage of their profits over a two-year period in the fund that then became a major source of venture capital for these types of companies. Since the establishment of SSM, 29 companies were quoted in the market and 8 have already graduated to the main stock exchange listing.
- Furthermore, the National Deposit Insurance Corporation (NDIC) was established to protect bank depositors' funds through ensuring capital adequacy of banks and ensuring that the banks are not in liquidity problems. Central Bank of Nigeria (CBN) also raised the capital based of commercial and merchant banks from N20 million and N12 million in 1989 to N50 million and N40 million in 1991

for indigenous enterprises that may eventually seek listing on the main stock exchanges in Lagos and Abuja.

These recommendations gave rise to the establishment of the Abuja Stock Exchange (ASE) in January 1998 and the reverting of the Nigerian Stock Exchange to Lagos Stock Exchange. The establishment of the Abuja Stock Exchange (ASE) is expected to bolster competition and improve investment services and stock business in the country. It would have distinct characteristics and listing requirements that will be suitable to the economy, particularly the corporate sector. It primary objective would be to ensure that more companies (both local and foreign) are attracted to the stock market and to provide incentives to small or family-size companies to seek quotation on the stock exchange.

2.5.1 **Membership of the Exchange:**

The membership of the Lagos Stock Exchange is made up of owners or shareholders of the stock exchange, who may be individuals or institutions. Application for membership is open to firms or institutions (mostly financial); as well as individuals who by virtue of their experience have made valuable contributions to the exchange or the nation via the public service and/or the private sector. Each member on admission to membership of the Exchange, is entitled to five shares worth N100 in total. Since the exchange is a non-profit-making organization, no dividends are paid to its members. The intrinsic value of membership, therefore, is the prestige of being called "member of the Lagos Stock Exchange".

respectively, so as to make the banking sector a much stronger participant in the capital formation process. Within the same period, more commercial and merchant banks were licenced, raising their number from 105 in 1989 to 149 in 1991.

- Also, in a bid to ensure the speedy delivery of share certificates to investors and settlement period after a transaction has taken place hence enhancing efficiency and quantity of services, the Central Securities Clearing System (CSCS) Ltd was introduced in 1998. It is a subsidiary of the Exchange and a computerized clearing house where all securities listed on the NSE and their register of members are under custody. With an electronic book entry from, all security transactions on the NSE are being processed and concluded within five working days that is T+5.

As a result of increased awareness of the importance of the capital market to funds mobilization, the government in pursuance of its economic reforms in 1996 established a panel on the Review of the Nigerian Capital Market (hereinafter the Odife panel). A major recommendation of the Odife Panel is the demonopolisation of the Nigerian stock Exchange by establishing a National Stock Exchange in Abuja, the Stock Exchange of Nigeria Limited (SEN), and the renaming of the Nigerian Stock Exchange (NSE) to the Lagos Stock Exchange Limited (LSE). Guided by the evidence that the NSE had limited success in achieving the objective of fostering the growth of indigenous companies in the capital market, the Odife Panel also recommended for the establishment of 12 unpretentious mini stock exchanges, Capital Trade Point (CTP) in different cities which will serve as nurturing grounds

The membership is usually categorized into two:

a) ordinary members and

b) dealing membership.

a) **Ordinary Membership:** A member (individual or institution) who has, in accordance with the Articles of the Exchange, taken up five share (N20 each) of the issued share capital of the exchange, and has been admitted into the register of member is called an Ordinary member of the exchange and such person can be described as "member of the Lagos Stock Exchange".

To be considered for membership, any interested party needs to apply to the exchange, with application seconded by two existing members one of whom need to be a member of the Exchange's council. In considering an application for membership, the financial integrity, professional suitability and experience in finance and related discipline are paramount.

c) **Dealing Membership:** This is a member (an individual or institution), who in addition to being admitted to ordinary membership of the exchange, is also licensed by the council of the exchange to transact business in stocks, shares, debentures, bonds and other specified securities on the floors of the stock exchange and agrees to be subject to the rules and regulations of the exchange. Dealing Clerks represent them on the floors of the exchange. A dealing member is usually referred to as a stockbroker. Such a member also does not receive any dividends but the only remuneration is in the form of brokerage commission. Fees for investment counseling and issuing houses fees constitute other sources of income. The commission charges are fixed and

supervised by the exchange. They buy and sell securities either as principals at their own risks or as agents for the general public. An applicant for dealing membership will upon admission be required to pay, in addition to the payment for five shares of N20 each, a deposit of N10,000 in cash or any easily realizable security, pay annual dealership fee of N500 and maintain an effective presence in at least two of the branches of the exchange, with eight Clerks – six authorized and two unauthorized.

The government of the Exchange is the sole responsibility of its council which is charged with the policy making task. The council is made up of individuals and financial institutions drawn from the larger membership and so also are the members of the branch councils drawn. The official business of the exchange is conducted through committees of the council such as the Quotations Committee which consider applications for quotation and recommends to council for approval or rejection. The Exchange's branch councils are where its trading floors are located. The branch councils have elected members from members affiliated to the branch. The branch councils in turn elect representatives to the national council of the Stock Exchange during the annual general meetings. Apart from running the affairs of the various branches of the stock exchange, the branch councils also are solely responsible for the initial vetting of applications for membership of the stock exchange and making the necessary recommendations.

2.5.2 Functions and Objectives of the Nigerian Stock Exchange:

The stock exchange has as its main function the task of assisting in the mobilization and location of a nation's capital resources among numerous competing alternative uses. It provides opportunities for small and large investors alike to buy and sell government securities, and stocks and shares of companies at "fair and equitable" prices. This is because share prices on the exchange reflect a fair market appraisal of the securities quoted and this aids in the ascertainment of price ranges to be expected for new issues. The price of the individual securities are determined by demand and supply in which buyers and sellers from different geographical areas are brought together. Changes in a firm's evaluation result in changes in the supply and demand for its securities, ultimately resulting to a new price for the securities. In general, it performs the role of spreading the ownership base and subsequent benefits to the large public thus preventing the growth of monopolies and concentration of the nation's wealth in the hands of a few individuals. The NSE fulfills the following functions within the economy:

i) It provides a means for raising funds to assist companies to expand and modernise;

ii) It provies a means for allocating the nation's real and financial resources between various industries and companies;

iii) It provides liquidity for the investment funds from the stand point of individual for the economy;

iv) It is a measure of confidence in the economy and serves as an important barometer for the economy;

v) Through its pricing mechanism, it provides industrial management with som idea of the current cost of capital and this can be important in determining level and rate of investment;

vi) It can act as a reliable medium for broading the ownership base from the erstwhile family dominated firms.

The activities of the members of the exchange both dealing and ordinary-play a significant role in the achievement of the stock exchange objectives through the performance of the aforementioned functions. As stated in its Memorandum of Association, the objectives of the Nigerian Stock Exchange include the following:

a) To create an appropriate mechanism for capital formation and efficient allocation of resources among competing projects.

b) To provide special financing strategies for those projects with long term gestation periods.

c) To maintain discipline in the capital market.

d) To broaden share ownership practice.

e) To maintain fair prices for securities.

To achieve these aforementioned objectives, the Nigerian Stock Exchange (NSE) 1990 pointed out that the stock exchange is the only perfect type of organized market in that the commodities traded on it have little or no costs, are imperishable and entirely standardized. Also, it is organized because only the dealing member companies of the exchange are allowed to trade on its trading floors on behalf of their numerous clients and there is a regime of rules and regulations to guide and guard the conduct of all the operations. It enables the holders of securities to convert

them into cash quickly and without inconveniences and also at a comparativ moderate cost; and by evaluating the securities it acts as a barometer of the state c health of the individual companies. The exchange makes sure that quoted companies disclose the fullest information in their annual accounts and reports, submit quarterly progress statements and keep within the statutes and requirements of the exchange in the publication of their annual reports and payments of benefits in the form of dividends to shareholders.

2.6 Theoretical Framework of Stock Price Behaviour:

During the past three decades, much time and effort have been devoted in the field of finance to examine the behaviour of certain speculative prices such as those of securities and commodity futures. Research efforts have been directed, in particular, to study price behaviour of common stocks or equity shares as they are popularly called in Nigeria with a view of determining the underlying stochastic processes which generate short term fluctuations in prices of these shares. These researches have been carried out to wade the continuing controversy of the extend to which the past history of common stocks prices can be used to make meaningful predictions concerning the future prices of the stocks. In order words, the main question is how can the movement or behaviour of stock prices be determined in order to predict meaningful future prices of stocks?

Many studies have been carried out to provide answers to this question to a large scale in developed stock exchanges such as Bachelier (1900); Working (1934); Kendall, (1953); Osborne, (1959); Gordon, (1962); Solomon, (1963); Walter, (1963);

Modigliani and Miller, (1961); Fama, (1965, 1970, 1991); Ball and Brown, (1968); Taylor, et al, (1978), among others. Similarly, studies have also been carried out in some emerging stock markets such as in the Nigerian stock exchange – Uzoaga and Alozieuwa, (1973); Oyejide, (1975); Osaze, (1983, 1985, 1989); Eriki, (1994). The results of some of these researches have been inconclusive about the relationship between variables (dividend trends, earnings per share, economic viability, trading volume, etc.) and the stock price movement (Osaze, 1985). Most of the researches carried out conclude that stock prices have information content. For example, Taylor and Vickrey (1978) tested the information content of stock dividend announcement and came to the conclusion that the market reacts positively to stock dividends on their ex dates.

The main thrust of these studies have been to determine the causes of stock price movement and to what magnitude this occurs. This study is with the agreement of these past findings that stock price have information content. However, studies on the causes of stock price movement and the behaviour of stock prices itself have been conducted independently. The main concern of this study therefore, is to examine empirically whether the movement of stock prices in the emerging stock markets, Nigerian Stock Exchange in particular, is rich in information concerning its future movement (that is whether stock prices "fully reflect" all available information). In other words, whether successive price changes of a stock are independent of each other. And to identify the predominating factors that influence these stock price movements in the market.

The attempt to generate possible answers to the behaviour of stock prices have generated three schools of thought: the fundamental analyst, the technical analyst, and the Random Walk theory. Historically, there have been essentially two schools of thought concerning security valuation and the behaviour of security prices. The one, known as "Chartist" or technical analysis school maintains that discernible trends exist in share price movement and that these could not only be "discovered but also be exploited profitably" whereas the other referred to as the fundamental or intrinsic value analysis school assumes that at any point in time an individual security has "an intrinsic value which should in principle be equal to the discounted value of the future stream of income from that security," Gupta (1973:30). In essence, the fundamentalists attempt to estimate the intrinsic worth of a security by considering key economic and financial variables and then decide as to what investment action is called for in a given situation depending upon whether the actual price is above or below its intrinsic value.

In the 1960s, however, a "counter theory", first labeled "random walk" and later a theory of "efficient markets' has been advanced to explain fluctuations in share prices and turnover. This theory casts serious doubts about the usefulness of traditional security analysis for describing and predicting share price behaviour. It therefore mean that an exciting and extremely important debate has arisen in the literature between those who adhere to traditional security analysis and those who believe in the notion of the "efficiency" of the securities markets.

These schools differ fundamentally in approach. Before proceeding to describing the random walk theory, which constitute our theoretical framework, it would only be appropriate to discuss first, in brief and general terms the first two of these approaches to describing and predicting stock price behaviour.

2.6.1 Technical Analysis School:

The technical analyst or the "chartists" as they are commonly called believe that they can discern patterns in the price volume movements, and that by observing and studying the past behaviour patterns of stocks, they can use this accumulated historical information to predict future price movements in the security. The technical analysis is based on the widely accepted premise that security prices are determined by the supply of and demand for securities. The word "technical" implies the study of the market itself and not of those external economic factors that are reflected in the market. As a result, Reilly (1979:412) concluded that a belief in technical analysis and the notion of efficient markets are in direct opposite. The tools of technical analysis are therefore designed to measure supply and demand. Typically, technical analysts record historical Financial data on charts, study these charts in an effort to find meaningful patterns, and use these patterns to predict future prices. Some charting techniques are used to predict the movements of a single security; some are used to predict the movements of a market index; and some are used to predict both the action of individual securities and the market action. Therefore, in essence, technical analysis involves the study of historical price and volume data, either for one stock or a group of stocks and deducing the future trend

from the analysis. This means that the technicians endeavour to predict future price levels of a stock by examining the past data from the market itself.

Although several chartist theories exist in the literature, they all make the some basic assumption: that the past behaviour of a security's price is rich in information concerning future behaviour. "History repeats itself in these patterns of past price behaviours --- thus, if through careful analysis of price charts one develops an understanding of these 'patterns', this can be used to predict the future behaviour of prices and in this way increase expected gains." Fama (1965:340). By contrast, the theory of random walks says that the future path of the price level of a security is no more predictable than "the path of a series of accumulated numbers" Fama (1965:34). Levy (1967: 83), summarises the rationale behind the technical analysis school: "The basic assumption of technical theorists is that history tends to repeat itself. In other words, past patterns of market behaviour will recur in the future and can thus be used for predictive purposes. In statistical terminology, the stock market technician relies upon the dependence of successive price changes."

As true believers of this philosophy, technical analysts or chartists assert that they can discern patterns in price or volume movement and that by studying the past behaviour patterns of a given share or groups of shares they can predict its (their) future price behaviour. Thus, to a pure technician, all data of importance, are internal to the stock market. To them it is an exercise in fultility to evaluate a host of detailed information as the fundamentalist attempt to do. They believe that ultimately the diverse opinions of analysts and investors (who are supposed to evaluate these factors) will be reflected in the price and volume activity of the shares.

They, however, assert that price and volume analysis incorporates one function that is not explicitly incorporated in the fundamental approach namely the psychology of the market. "The market is only 10 percent logical and 90 percent psychological." Malkiel, (1975:97). Edwards and Magee (1958: 3) on technical analysis asserts that: It is futile to assign an intrinsic value to a stock certificate.

The technician views price changes and their significance mainly through price and volume statistics. His bag of tools, or indicators, help measure price-volume, supply-demand relationships for the overall market as well as for individual stocks. They seldom rely upon a single indicator, as no one indicator is insatiable; they place reliance upon reinforcement provided by groups of indicators. This is mainly because technical analysis contend that stock prices are determined mainly as a result, not only of investors perception of the intrinsic value of a stock, but also the intangible market sentiment and emotions which cannot always be quantified. Advocates of technical analysis, therefore, content that information is gradually disseminated from the informed professional to the investing public; hence the movement of stock prices to a new equilibrium does not occur rapidly but takes place over a period of time.

Furthermore, the argument of technical analysis is that certain stock price patterns tend to be repetitive and hence when they are identified, they can be detected when they re-appear and prediction is then possible on which "the appropriate Buy, Hold or sell decision is then taken before the pattern is completed" Osaze (1997:193). According to Graham et al (1962), technical analysis agrees that stock prices do indeed fluctuate around their intrinsic values but also contend that

fundamental analysis does not account for the impact of investor emotions often demonstrated in as unscientific and sometimes irrational manner. It is further argued that accounting income statements on which fundamental analysis is based on are inadequate because they are fraught with inaccuracies, manipuation and misleading information.

Some of the tools or techniques used by the technical analysts to measure supply and demand, and forecast security prices include the Dow Theory, charts, confidence index, Breadth, of market, relative strength, trading volume, and so on.

The Dow Theory is one of the oldest and most famous technical tools; it was originated by Charles Dow who founded the Dow Jones Company. The horrendous stock market crash of 1929 in the U.S.A. that followed the forecast using the Dow theory which correctly stated that the bull market was over and a bear market had started drew much favourable attention to the Dow theory. The Dow theory is used to predict reversals and trends in the market as a whole or for individual securities. According to Charles Dow,

> The market is always considered as having three movements, all going at the same time. The first is the narrow movement from day-to-day. The second is the short saving, running from two weeks to a month or more; the third is the main movement, covering at least four years in its duration. (1983:436)

Adherents of the Dow theory refer to these three cyclical trends as minor (day-to-day meaningless random wiggles) fluctuations, secondary movements (the restraining force on the primary trend, tending to correct deviations from its general boundaries), and the primary trends (long range cycle that carries the entire market

up or down or the bull or bear market cycle). Dow used the behaviour of the stock market as a barometer of business conditions rather than as a basis for forecasting stock prices themselves. The theory assumes that the majority of stocks follow the underlying trend of the market most of the time. The key indicators of the Dow theory are:

i. A Bull market – which is indicated as a possibility when an intermediate decline in the industrial average or stock market index stops just above the bottom of the last immediate drop. A Bull market is confirmed after this has happened that is, when the next intermediate rise in the index goes above the preceding peak; and

ii. A Bear Market – which is indicated as a possibility when an intermediate rally in the index fails to break through the top of the previous intermediate rise. A Bear market is conformed after this has happened, when the next intermediate decline breaks through the low of the previous one. This is because there is selling pressure due to increases in business and earnings; distress selling of otherwise sound securities regardless of value.

The industrial average is the Dow-Jones Industrial Average which indicates the market action of the stocks of thirty major industrial companies on a weighted basis. In other words, a bull market is a general rise in prices of securities in a stock market; and a bear market is a general decline in prices of securities in a stock market.

The Dow theory is regarded as the fountain head in all technical analysis. Since its origination at the turn of the twentieth century, it developed in somewhat haphazard manner and is mainly confined to market practitioners. Being highly subjective in nature, technical theories have been constantly under attack in the academic world particularly the random walkers, who hold diametrically opposed views on the ability of past prices and volume statistics of predicting future share prices.

2.6.2 Fundamental Analysis School:

The fundamental school, on the other hand, maintains that at any point in time *an individual security has an intrinsic value that should, in principle, be equal to the* present value of the future stream of income from that security discounted at an appropriate risk-related rate of interest. The actual price of a security, therefore, is considered to be a function of a set of anticipated returns and anticipated capitalization rates corresponding to future time period. Prices change as anticipation change which in turn change as a result of new information. The fundamentalist, thus, argue that in case there is "something less than complete dissemination of information, the actual price of a security is generally away from its theoretical value" Fisher and Jordan (1975:72). This means that the market can often be wrong in appraising the value of a company.

The fundamental analyst forecasts stock prices on the basis of economic, industry and company statistics. Therefore in the fundamental approach, the security analyst or prospective investor is primarily interested in analysing factors such as

economic influences, industry factors and pertinent company information such as product demand, earnings, dividends, and management, in order to calculate the intrinsic value for the firms securities. The fundamentalist reaches an investment decision by comparing this value with the current market price of the security. Osaze (1997:190) highlighted such fundamental factors as follows:

1. Company – Related Factors:
   a) earnings and growth rate
   b) dividends stability and growth
   c) the growth potential of the company
   d) the quality of the company's management
   e) merger and acquisition arrangements
   f) labour unrests
   g) market conditions for raw materials, components and finished goods.
   h) Innovations and technological break through
2. Industry-Related Factors:
   a) the demand and supply situation for the industry's goods.
   b) Raw material costs and regularity of supply for the industry.
   c) Effects of government policies, bank credit availability to the industry and impact of inflation on the industry.
3. Economic-Related Factors:
   a) the general economic outlook and business performance.
   b) interest rates, inflation and changes in money supply.
   c) budget directions on employment and balance of payment.

d) levels of investment and consumption.

e) strength of the currency vis-à-vis other international currencies.

4. Political Factors:

a) political stability and the possibility of loss of investment and drop in business activities as a result of the outbreak of hostilities.

b) change of government and possibilities of new government policies that might affect business activities.

5. Volume of Trading:

a) the volume of trading, to some extent actually measures the degree of investors' emotions regarding a stock and sometimes it takes volume of trading to really move the price of a stock.

6. Money Supply:

These tends to be a close relationship between money supply and stock prices because as the supply increases, disposable incomes also increase, inflation increases and the demand for variable income securities in the form of shares also increase. This causes the nominal prices of stocks to increase at the same rate as the general price level.

7. Earnings and Dividends:

Both earnings and dividends tend to lead to increases in stock prices in Nigeria as they act as measures of the attractiveness of a stock.

Basically, the fundamental analyst's approach involves working to analyse a firm's financial statements, its competitors, the condition of the economy,

governmental actions that may affect the firm, and other factors that may affect the future value of the firm's common stock. Fundamental analysts largely ignore the unpredictable short-run swings that constantly alter the stock markets current price. "The fundamental analysis of stock valuation is a forward-looking process in determining the value of a stock" Reilly (1979:393). The principal decision variables, therefore, take ultimately the form of future earnings, dividends and risks involved. The fundamentalist makes a judgement of the stock value with a risk-return framework based upon earning power and the economic environment.

This school of thought believes that at any point in time, there is a basic intrinsic value for the aggregate stock, and that its value depends upon the underlying economic value (for example, the present and future earnings and risk variables). Relying upon this reasoning, the fundamentalists attempt to estimate the real worth of a security and then decide as to what investment action is called for in a given situation depending upon whether the actual price is above or below its intrinsic value. For instance, if the market price of a security is below its intrinsic value, it should be purchased. Selling decision is called for when the prevailing price is above the intrinsic value.

The fundamental analyst, therefore, believes that a "stock is better bought when the prevailing market price is below the intrinsic value and sold when the market price is above the intrinsic value of the stock" Eriki (1994:3). Thus, the market will eventually see "the error of its ways" Dreman, (1977:33) and following this policy an above-average market performance can be obtained. The justified price or intrinsic value is the ultimate price arrived at after all the factors must have

been taken into consideration. It is compared with the prevailing market price to ascertain whether the stock is over-valued or under-valued in the market.

This, therefore imply that investors or shareholders should divest their shares when the intrinsic value is less than the market value, because they are over-valued. On the other hand, if the intrinsic value is greater than the market value, that is the share is under-valued in the market, an investor should buy that share because as time goes on, the market would come to realise the real worth of the share and as such, the price will then go up thus resulting in capital appreciation for the shareholders.

The main difference between the technical and fundamental approaches is that the technicians ignore all of the fundamental factors that are central to the fundamentalists' determination of security value and concentrate on the market information which is not of much consideration to the fundamentalists. "It is somewhat an exercise in futility to evaluate accurately a myriad of detailed information as the fundamentalist attempts to do" Fisher and Jordan (1987:451). That is, to a true fundamentalist, market information is a secondary consideration as he believes that "price will eventually return to true value" Gulpta (1973:54). The fundamentalist reaches an investment decision by comparing the intrinsic value with the current market price of the security; but the technical analysts believe that they can discern pattens in price or volume movements, and that by observing and studying the past behaviour patterns of given stocks, they can use this accumulated historical information to predict future movements in the security.

2.6.3 Random Walk School:

Although there are several different arguments posed by the technical and fundamental analysis about the price behaviour of stocks in the market upon which profits can be made, there is the major underlying theory of stock price behaviour which contends that the market is efficient, so efficient that one cannot beat it with any technique. This is the third school of thought which has been termed as random walk or efficient market school. Originating in a doctoral dissertation by a French Mathematician, Louis Bachelier in 1900, titled "Theorie de La Speculation", the Theory of Random walks is in sharp contrast with both the technical and fundamental schools of thought for describing and predicting share price behaviour. However, this "counter" theory did not receive much attention in the literature until the publication of two studies – one by Roberts and the other by Osborne in 1959. Since then a number of empirical studies have been conducted on different sets of data for varying periods for testing the appropriateness of the model to describe stock price behaviour. Although, the outcome was predictable mathematically, it lacked economic content since it was purely an empirical phenomenon at the beginning. When later tests showed that changes in stock prices were largely random, attempts were made to "cloth" the empirical results with economic content which led to the development of the theory of Efficient Capital Markets.

The Random Walk Theory: Can a series of historical stock prices or rates of return be an aid in predicting future stock prices or rates of returns? In its simplest form, it implies that price changes cannot be predicted from earlier changes in any

"meaningful" manner. The empirical evidence in the random walk literature existed before the theory was established. That is to say, empirical results were discovered first, and then an attempt was made to develop a theory that could possibly explain the results, generically called the Random-Walk theory. The fundamental ideas behind the theory of random walks in stock prices actually involves two separate hypotheses:

i) that successive price changes (or successive one period returns) of individual securities are independent over time and that

ii) the price changes conform to some probability distribution (that is its actual price fluctuate randomly about its intrinsic or theoretical value).

By implication, it means that price changes occur without any discernible patterns or trends, and that prices contain no useful information as to their future price behaviour. Fama, the most ardent advocate of the hypothesis observes:

> The theory of random walks implies that a series of stock price changes has no memory – the past history of the series cannot be used to predict the future in any meaningful way. The future path of the price level of a security is no more predictable than the path of a series of accumulated random numbers (1965:56).

By this theory; it means that at a given point in time, the size and direction of the next price changes is random with respect to the stock of knowledge available at that point of time. As such, the past history of share price will not enable an investor to obtain an above–average return.

The random-walk analyst sees the stock market as a perfect one in which stock prices reflect all available information. In statistical terms, the theory of random walk says that successive price changes are independent, identically distributed variables, that is, the series of price changes has no memory – the past cannot be used to predict the future in any meaningful way. This also means that, the statistician reserve the term random walk to describe a series that has a constant expected change each period and a constant degree of variability. In statistical terms, independence means that "the probability distribution for the price change during time period t is independent of the sequence of price changes during previous time periods, t-1" Fama (1965:35). That is, knowledge of the sequence of price changes leading up to time period t is of no help in assessing the probability distribution for the price change during time period t. More precisely, independence means that;

$$Pr(xt = x/xt\text{-}1, Xt\text{-}2\text{-----}) = Pr\,(xt = x);\ldots\ldots\ldots \text{Equation 1}$$

Where the term on the right of the equality sign is the unconditional probability that the price change during time t will take the value x; whereas the term on the left is the conditional probability that the price change will take the value x, conditional on the knowledge that previous changes took the values of xt-1, xt-2, etc.

The above expression implies that the entire distribution of returns is independent of the preceding sequence of returns. In the words of Fisher (1971:18), "the past history of stock price movements, and the history of stock trading volume, do not contain any information that will allow the investor to do consistently better than a buy–and-hold strategy in managing a portfolio."

Fama et al (1969:41) noted that "any distribution is consistent with the theory as long as it correctly characteristics the process generating the price change." This, however, implies that the shape of the probability distribution is not specified for the general theory of random walks. It only assumes that price changes conform to some given probability distribution. However, knowledge of the form of distribution of price changes is important for both investors and researchers for determining riskiness of investment in common stocks.

It is note worthy that the proponents of the random walk theory recognise that stock price movements are not strictly independent, that is there is some dependence in the series of successive price changes. However, they argue that a small degree of dependence in successive price changes does not reject the practical utility of the theory since the same may not be useful to make money in the stock market.

> We can probably never hope to find a time series that is characterised by perfect independence. Thus, strictly speaking, the random walk theory cannot be a completely accurate description of reality. For practical purposes, however, we may be willing to accept the independence assumption of the model as long as the dependence in the series of successive price changes is not above some "minimum acceptable" level. Fama (1965:35)

It therefore means that, the independence assumption is an adequate description of reality as long as the actual degree of dependence in the series of price changes is not sufficient to allow the past history of the series to be used to predict the future in a way which makes expected profits greater than they would be under a buy-and-hold strategy. A stock market trader or investor has a much more practical criterion for judging what constitutes important dependence in successive price

changes. For the investor's purposes, the random walk model is valid as long as knowledge of the past behaviour of the series of price changes cannot be used to increase expected gains.

2.6.4 The Theory of Efficient Capital Market:

The concept of an "efficient capital or stock market" has stimulated both insight and controversy since Fama (1965) introduced it to the financial economics literature. The term "efficiency" models the stock market in terms of reaction of prices to the flow of information. Randomness of stock market prices does not imply that the changes in the prices of common stocks "just happen by chance" or are uncaused; it does not also imply that the market is senseless" or "irrational" in the determination of prices of stocks. The continued quest for the explanation of the randomness of stock prices lies in "understanding the market making mechanisms". Lorrie and Hamilton (1973:79). This has led to the development of the theory of efficient markets.

The theory characterises a market as being in competitive equilibrium with respect to some set of information. Information, particularly, in the public domain occupied a central role. This is primarily because it simplified the theory's predictions about expected returns from using information (costless, consistent with public information's private cost), and also because it fits best with the early theory's assumption of objective information. Thus, the idea germinated in Roberts (1959) and Fama (1965), that the action of competing maximizing investors explain the random walks observed in stock prices which grew to the concept of capital market

efficiency can be seen as a restrictive model of competitive price behaviour, particularly adapted to researching the flow of public information to the market.

It has been mentioned earlier that the main purpose of the capital market is to transfer funds between lenders (savers) and borrowers (producers) efficiently. Individuals or firms having excess of productive investment opportunities with anticipated rates exceeding the market-determined borrowing rates without enough funds to take advantage of all these opportunities together with lenders having excess funds after exhausting all their productive opportunities with expected returns greater than borrowing rate (and willing to lend such funds because the lending rate is higher than what they might otherwise earn) need an efficient market to facilitate fund transfer. The borrowing /lending rate is used as an important piece of information by each producer, who will accept projects until the rate of return on the least profitable project equates the opportunity cost of external funds (the borrowing/lending rate). Allocational efficiency of a market, therefore, means that prices are determined in a way that "equates the marginal rates of return (adjusted for risk) for all producers and savers." Copeland and Weston (1988:330). This means that resources are optimally allocated to productive investments at the benefit of all producers. On the other hand, operational efficiency deals with the cost of transferring funds, which is the focus of market efficiency theory.

It should be noted that an efficient capital market is not necessarily a perfect capital market. A perfect capital markets assumes perfect competition in the securities market (that is, participants are price takers); markets are frictionless (that

is, no transaction costs or taxes, perfect divisibility and marketability of assets, etc.), information flow is costless, and received simultaneously by all in the market; and that all individuals are rational expected utility maximizers. It, therefore, mean that under these conditions of a perfect capital market, a securities market will be both allocationally and operationally efficient.

Under these assumptions, Samuelson (1965) and Mandlebrot (1966) content that properly anticipated prices vibrate randomly and that securities markets will assuredly be efficient. However, Fama (1970:387) argued that such stringent conditions are not necessary for a market to be efficient and for prices to fluctuate randomly, moreso, they are not usually the characteristics of the real world markets.

The capital market efficiency is a much more restrictive notion of perfect capital market in the sense that in an efficient capital market, prices fully and instantaneously reflect all available relevant information ,that is, when assets are traded, prices are accurate signals for capital allocation. Relaxing some of the perfect capital market conditions make it more conducive for capital market efficiency. For example, a capital market can still be efficient even if it is not frictionless that is prices will still fully reflect all available information if, for example, securities traders have to pay brokerage fees. Furthermore, there can be market efficiency even if there is imperfect competition in the product market. Copeland and Weston (1988) argued that a firm can reap monopoly profits in the product market, the efficient capital market will determine a security price that " fully reflect the present value of the anticipated stream of monopoly profits."

Capital markets are operationally efficient if intermediaries who provide this service of channeling funds from savers to investors, do so at the minimum cost that provides them a fair return for their services. Also, assets prices are correct signals in the sense that they fully and instantaneously reflect all relevant information and are useful in directing the flow of funds from savers to investment projects that yield higher returns. Therefore, we can assert that efficient markets, to a limited sense imply operational efficiency as well as assets prices that are allocationally efficient.

The random walk hypothesis is the root of the concept of efficient capital market. Basically, the random walk is "based on the premise that the market is efficient; that operators and investors are rational and profit optimising, and competing keenly with roughly equal access to informtion in trying to predict the future course of prices", Osaze (1997:203).

The fundamental ideas behind the theory of efficient markets are that in a free and competitive market such as a stock market, the prices of financial assets should reflect all publicly available information and that these prices should adjust very rapidly to new information. Market efficiency also mean that stock prices "follow a random walk" Kendall (1953:16), that is, price changes are as independent of one another as the gains and losses of a gambling. This means that competition among investment analysts lead to a stock market in which prices at all times reflect "true value", that is, equilibrium price that incorporates all available information to investors at the point in time. Price changes will occur, and thus reflect random motion since they always have to reflect all relevant information as soon as new information arrives the market. By definition, new information cannot be predicted

ahead of time (otherwise it will not be new information). In other words, if stock prices already reflect all that is predictable, the stock price changes must reflect only the unpredictable, and as such the series of price changes must be random.

Furthermore, Reilly (1979) posits that an efficient market is one in which security prices adjust rapidly to the infusion of new information, and current stock prices fully reflect all available information "including the risk involved" Similarly, Brokington (1980:233) sees an efficient market as one that assimilates and responds to new information so rapidly that there is no source of information which will enable an individual investor to gain a permanent advantage over others. It is implicit in these view that: security prices adopt instantly and without bias to new information received in the market; and that expected return is compatible with the risk involved.

Since in an efficient market at any given time stock prices are assumed to reflect all available information, one would expect the current price of a given security to be a good estimate of its intrinsic value owing to competition among market participants. However, in an ideal situation, intrinsic value of a security cannot be determined precisely due to uncertainty. There will be differences of opinion among market participants as to the value of each share. As a result, the actual prices wonder randomly around the intrinsic value. The explanation given by the efficient market theorists, however is that competition among investors will ensure that these discrepancies are not too large to be used profitably by investors.

As stated earlier, the proponents of the Efficient Market Theory (EMH) contend that "in an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected 'instantaneously' in actual prices" Fama (1965:56). In a dynamic economy, intrinsic values can themselves change as a result of new information. Niarchos (1972) noted that "since one piece of information by definition must be different from previous one in order to be new, the effect of it on stock prices will be different from anything that may have happened earlier--- the time to time price changes should be random movement." As such, if new information is "gradually" known to the market participants, successive price changes will exhibit dependence, but if the adjustment to new information is "instantaneous" successive price changes will be independent.

Three forms or variants of E.M.H. have emerged in the literature as follows – the weak form, the semi-strong form, and the strong form; which tend to describe different degrees of market efficiency. These are partitions of the fair game model which is the theory which best expresses the efficient market hypothesis. The fair game model says that on average there will be no difference between the actual change in security prices and the expected change in security prices across an interval of time i.e the stock market is a fair game if expected price increases, given available information, are, on average, equal to actual price increases.

a) **The Weak Form of the E.M.H.:**

This form states that current prices fully reflect what is knowable from the study of historical patterns, and as such there is no benefit - as far as forecasting the

future is concerned – in examining the historical sequence of prices. This form corresponds to the random walk model which assumes that "current stock prices reflect all historical data". Fama (1970:383). The current stock prices reflect all stock market information, including the historical sequence of prices, price changes and any volume information. Hence, no investor(s) has monopoly access to any information which can earn above-average returns. Osaze (1997:201) puts it that "share price behaviour confirms to the random walk of a drunkard whose next step cannot be predicted on the basis of his last step", and therefore there can be no relationship between past price changes and future price behaviour.

It could clearly be asserted that if the weak form of the efficient market hypothesis is true, it is a direct repudiation of technical analysis. If there is no value in studying past prices and past price changes, there is no value in technical analysis. This is because technicians place considerable reliance on the charts of historical prices.

In the literature, the weak form of the E.M.H. has generated a lot of statistical testing in mostly America and United Kingdom and by mid-1960s it was generally accepted by academic researchers that stock price changes did not follow a pure random walk but were random enough to prohibit unusual profits based on a knowledge of past price changes. For example, Kendall (1953) presented evidence that sequences of stock price changes approximated a random walk; Osborne (1959) examined stock prices to see whether they confirmed to certain laws governing the

motion of physical objects e.g. Brownian motion and reported a very high degree of conformity between the movement of stock prices and the law governing Brownian motion. Fama's (1965) work is considered to be one of the most definitive studies of the random walk model ever conducted. He examined the daily proportionate price changing of 30 industrial stocks in the Dow-Jones Industrial Average (DJIA) for approximately five years, ending 1962, and concluded that "the evidence produced by the serial correlation model seems to indicate that dependence in successive changes is either extremely slight or completely non-existent" (1965:34). These evidence produced supports the weak form of the E.M.H. which admits that stock price changes are not completely independent, but independent enough to frustrate any attempts to devise successful trading rules based on past price history. Other researchers include Roberts (1959), Alexander (1961), Mandelbrot (1963), Fma and Blume (1966), Jensen and Benington (1970) and a host of others.

The evidences highlighted above were only in the American stock Exchanges. However, in recent years, attempts have been made in other countries to investigate the behaviour of stock prices. The empirical results have been less decisive either in refuting the applicability of the random walk model (weak form of E.M.H.) or accepting it as a valid description of share price movements in those countries. For example, Niarchos (1972) conducting the tests on Athens Stock Exchange (Greece) concluded that "....tests supported the independence assumption of the random walk model" (1972:11). However, Kemp and Reids' (1971:47) study on the British Stock Market reported that "... share price movements were conspicuously non-random over the period considred"; Jennergren and Korsuold (in Elton and Gruber 1975),

who analysed stock prices from the Oslo Stock Exchange (Norway) and Stockholm Exchange (Sweden) concluded that "the random work model is probably not a very accurate description of share price behaviour on the Norwegian and Swedish stock markets" (1975:53).

Furthermore, some researches have attempted also to investigate whether securities markets other than organized markets are efficient in the weak form. Such as Hagerman and Richmond (1973) who examined monthly returns of securities traded on the over-the-counter market in the U.S.A. conclude that "the evidence indicates that monthly returns of stocks traded over the counter are serially independent: (1973:908).

The general acceptance of the weak form of the E.M.H led researchers in finance to begin to explore the markets that led to such price change, sequences. In other words, in addition to information implied by the sequence of past price changes, what other information might be incorporated into today's price?

b) **<u>The Semi-Strong Form of the E.M.H:</u>**

The semi-strong form says that current prices of stocks not only reflect all informational content of historical prices, but also reflected all publicly available knowledge about the corporations being studies. This means that efforts by analysts and investors to acquire and analyse public information will not yield consistently superior returns, for example, corporate reports, corporate announcements, information relating to corporate dividend policy, forthcoming stock splits, and so forth. Samuel and Wikes (1980: 446)

adjudged the semi-strong form as being concerned with "the question of whether it is worth same effort to acquire and analyse this public knowledge with the hope of gaining superior investment results." Since there is no information advantage, any analysis based on information already made public cannot earn greater trading profits.

Whether or not the users of information differ amongst themselves about the significance of new information, the implication of semi-strong efficiency is that the prices that are actually arrived at in such a market would invariably represent the best interpretation of the information. It would, therefore, be futile for investors to search for bargain opportunities from an analysis of published data, such as corporate reports. In effect, the semi-strong form maintains that as soon as information becomes publicly available, it is absorbed and reflected in stock prices, and even if this adjustment is not the correct one, immediately, it will in a very short time be properly analysed by the market. Sometimes prices will overadjust and sometimes they will underadjust because the market is merely efficient not perfect, however, these adjustments are not predictable enough to permit superior returns. Thus, current price of a security "should approximate to its intrinsic value" Gupta (1973:58), the calculation of which is the main objective of the fundamental analysis.

A number of empirical studies have been carried out to test the validity of the semi-strong form of the E.M.H. The initial major work in this form, for instance, is apparently the study of stock splits by Fama, Fisher, Jensen and Roll in 1969, who examined the possibility that announcements of stock splits and stock dividends may have favourable effects on stock prices. Hausman, West and Largay (1971)

examined several studies of stock splits and concluded that buying stocks on or after the split announcement date does not lead to unusual profits. Also, Ball and Brown (1968) studied the effects of actual versus expected annual earnings on future price changes and concluded that average price changes after announcement date was so small that "in/out transaction costs would more than offset it." Tests of the semi-strong form of the EMH however, have tended (but not unanimously) to provide support for the hypothesis.

c) **The Strong Form of the EMH:**

The strong form posits that share prices reflect not only what is publicly known about a stock but also what is knowable. It maintains that not only publicly available information is useless but also information to an investor/analyst. It therefore means that if the Nigerian Stock Market were strongly efficient, even an insider would not be able to profit from his privileged position as the case maybe since the market is not only already aware of it but has instantaneously incorporated the information in its price adjustment mechanism. Specifically, no information that is available, be it public or "inside", can be used to consistently earn superior investment returns. Osaze (1997:203) observed that the strong form demands "efficient and perfection". That is, instantaneous adjustment of prices to new public information and that all information is readily available to every one simultaneously, respectively. Tests of the trading of specialists on the flour of the stock exchanges and also tests of the profitability of insider trading suggest that the possibility of excess profits due to their use of special information exists. However, many tests of the strong form of the EMH deals with tests of mutual-fund performance. Fischer and

Jordan (1987:544) observed that researchers have found that mutual funds do not seem to be able to earn greater returns (after sales expenses) than those that can be earned by investing "randomly in a large group of securities and holding them".

In Nigeria, researches that has been conducted on the NSE market has largely concentrated on the investigation of the influence of financial variables on equity share prices. For instance, Uzoaga and Alozieuwa (1973) studied the effect of dividend policy on the economic indigenisation, Oyejide (1975) on the analysis of company dividend policy in Nigeria; Osaze (1983) on the effect or corporate earnings, Dividends and volume on stock price movements in Nigeria from 1976 to 1980 concluded hat majority of investors, due to the fact that investment education is still at infancy, prefer to receive dividends that is the "bird-in-the-hand" theory and as such the value of pay out earnings influence their investment decision. Also Osaze's (1989) studies confirm the view that PE ratios information is not fully reflected in security prices on the Nigerian capital market in as rapid a manner as argued by the semi-strong form; Eriki (1994) study on the efficiency of the Nigerian Stock Exchange concluded that the market was not efficient and that institutional behaviour was still influential in the market. Undoubtedly, these studies are quite useful in their own right, yet the question of "efficiency" of the stock market in pricing shares has not received much attention. Also, it is still not conclusively resolved which has the greater influence on stock price movements. Infact on the NSE, it seems that earnings growth expectations are valued more than dividends by a greater number of knowledgeable Nigerian investors who regularly monitor corporate performance. This includes the stock brokers who, using their price- fixing powers, often

immediately reflect corporate performance in terms of profitability and earnings per share in stock prices even before dividends are declared. And, others prefer only the growth of payout dividends, while some admire the trading volume of some companies. All these respective preferences influence share price movement.

Although some researchers have questioned the validity of the Efficient Market Hypothesis (EMH); Williamson (1970:162) believes that price/earnings (PE) ratios are indicators of the future investment performance of a stock (that low PE stocks will tend to out perform high PE stocks that is Price Ratio hypothesis), implying that stock prices are biased as indicated by this PE ratios, and also Osaze (1989) as mentioned above, efficiency implies that no one investor can consistently beat the "market averages" and also that the nation's capital resources are being allocated efficiently, which forms the basis of the study.

Fama (1991) on his later review extends the overage of the weak form test (which only concerned with past prices) to encompass the burgeoning work on forecasting returns with variables like dividends yields and interest rates and calls it "tests for return predictability"; the semi-strong form have also been renamed 'events studies" and the strong form tests relabeled "test for private information."

In conclusion, the random walk model and the efficient market hypothesis have been extensively tested in the U.S.A. and to a lesser extent in other countries. Available evidence validates the applicability of the model especially in the U.S.A. However, empirical results in respect of some countries are rather less decisive, either in refuting or accepting the applicability of the model as a valid description of share price behaviour, in those countries. In Nigeria, there has been less investment

research and available studies provide only limited evidence infavour of the Random walk theory. Due to the overwhelming importance of the stock exchange to national economic growth, this study is sought as a step to awaken researches in this important area of finance.

2.7 Determinants of Stock Price Movements:

Pricing of securities is basically a process of estimating return and risk. Risk here means the variability of returns. Securities must be measurable and estimated for, to be considered worth investing in. Pricing and valuation of securities in both the primary (new issues) market and secondary market is different. In fact, it is done by different regulatory bodies and is affected by different factors. In Nigeria, security pricing in the new issues market is determined by the Securities and Exchange Commission, in conjunction with the Nigerian Stock Exchange, Issuing Houses, Stockbrokers, Investment Advisers and quoted corporate bodies of the market. The price of a share traded in the secondary market is really a function of the forces of supply and demand for that share. The attractiveness of the share in terms of returns it offers investors and the risks associated with earning those returns on the other hand determines the demand and supply of the share.

The value of equity security equals the present value of its future income. In other words, the value of a security is the discounted value of a future stream of dividends. In fact, investment objective is mainly about the earning of a certain percentage of return in consonant with a certain level of risk. In view, funds are invested in companies with high potential future earning capacity in line with

reasonable level of risk associated with that firm in the industry. This risk-return characteristic of all investments is reflected in the current market price of the securities. The current market price is said to be a good pointer of future earning power of a firm.

Issuing houses consider the exercise of appropriate pricing important to avoid under-and over-valuation of the securities. In the case of over-valued securities, the issuing house, especially if the issue is underwritten, would end up not being able to mobilize sufficient funds. Most of the securities will be taken up by the underwriters and as such eventually be narrowly held due to lack of sufficient public demand. On the other hand, under-valued securities lead the issuing house to end up raising less money than would have been the case had the securities been appropriately valued. This shakes investors confidence in the market. This is because equity shares are the most complicated securities than those of fixed income securities in terms of pricing.

Furthermore, activity of any stock exchange is often an indicator of economic performance and flurry of activity is measured by the movements and behaviour of stock prices in that exchange. The determinants of stock price behaviour have been proposed by researchers to include earnings, dividends and to an extent trading volume in a stock. However, the hierarchy of the prepotency of these factors has been a point of departure, although, the importance of each of these factors, however, have not been refuted.

In a bid to reduce the controversy of what causes share price behaviour, several models have been developed in the literature that try to give some direction

as to what the value of a share should be in the secondary market. These arguments are often referred to as Dividend Relevance and Irrelevance. Dividend is that portion of an organizational earning that is distributed to shareholders as compensation or return on their investment. Dividend valuation models recognize dividend as the critical variable that determines the investment worth of equity stock. In specific terms, the appraised value of equity stock, V, is presumed to be the sum of the present value of its stream of dividend capitalized at a rate, r, appropriate to the risk level of the firm.

$$Vo = \frac{d1}{(1+r)} + \frac{d2}{(1+r)} + \text{----------} + \frac{dn}{(1+r)} \text{ -------- equation (1)}$$

The implicit assumption here is that equity stock is held in perpetuity and therefore the owners would expect no other income apart from dividends.

Although, the significance of future returns in the investment decision of an investor is widely accepted, there is no unanimous agreement on which particular variable among dividend and earnings should be incorporated in the investor's decision model. Some have argued that forecasted earnings should be used in the model – Dividend Irrelevance proponents, while some strongly advocated for the inclusion of dividend in the model - Dividend Relevant proponents; and yet some have proposed a combined use of earnings and dividends in linear regression models.

The proponents of the predominance of dividend payments on stock price behaviour include Lintner (1956) who argued that the payment of a dividend is a clear proof that the company has been able to generate cash as a result of its

operations. He posits that a change in the dividend of a company whose policy has been one of dividend stability may be regarded as a signal by the managers of the company that they have changed their expectations of the future.

Gordon (1962) argued that the market value of a firm as adjudged by the share price is related to its dividend policy. This model – Gordon's dividend capitalization model – posits that the value of a share depends on the dividend income that the investor expects to earn capitalized at an appropriate discount rate. The basic argument here is that the market value of stock equals the present value of an infinite stream of future dividends, where dividends per share is expected to grow when earnings are retained, hence

$$Po = \frac{Do\,(1+9)}{(1+Ke)t} \quad \text{or} \quad \frac{Do}{Ke-g}\,t \text{ ----- equation } 3$$

Where: Po = Prevailing price of the share
Do = Anticipated Dividend Stream
Ke = Required Rate of Return
g = Earnings/Dividends growth rate
t = Time period in years

Gordon further indicated that uncertainty on the part of investor increases at an increasing rate so that they will value near dividends proportionately more highly than dividend payable in the more distant future.

Walter's (1963) model shows clearly the importance of the relationship between the firm's internal rate of return, r, and its cost of capital, k, in determining the dividend policy that will minimize the worth of shareholders and as such influence share price behaviour, hence

$$P = \frac{D}{K} + r\,\frac{(E - O)}{K}$$ ---------- equation 3

Where: P = Market price per share
D = Dividend per share
E = Earnings per share
R = Internal rate of return (average)
K = Cost of capital or capitalization rate.

Graham et al (1962) also viewed the whole valuation problem as being that of finding the present value of future payments (dividends). "The standard method of valuation of individual enterprises, consist of capitalising the expected future dividends at an appropriate rate of return". In an empirical research to examine the superiority of dividends over earnings in the determination of market prices of equity shares, they concluded that earnings are a poor predictor of future earnings potential because they are subject to random influences and distortion introduced by accounting conventions whereas dividends are increased only when it seems that they can be maintained at the new level.

Also, Solomon (1963) escapulated the dividend relevance argument with the fact that dividends often offer tangible evidence to a firm's ability to generate cash and therefore the dividend policy affects share price. Further studies by Ball and Frown (1975) concluded that dividends are responsible for nearly all the gains ultimately realized by the investor. The came to this conclusion because market value in most cases depends primarily on the dividend rate.

A more sophisticated argument for a relationship between the value of the firm and the dividend payout is that although the dividend decision cannot change the present value of cash payments to shareholders, it can affect the temporal pattern of

payments. This is the "bird-in-the-hand" theory which explains why investors are often willing to pay a premium in order to acquire stocks with higher than average rates of dividends.

These arguments of Dividend Relevance, to our view, appar more appealing and convincing that investors attitudes to different patterns of cash dividends does affect market prices of securities – some may prefer stable dividend payments over the years, some indifferent to the magnitude of payments but only to risk ability. Notwithstanding, dividends depend on earnings and therefore it is extremely difficult for a firm to separate dividend policy from its earnings. Earnings must be positive for appropriation to dividend and retention purposes as assumed by the dividend relevant proponents. In effect, the argument is between dividends and earnings retention as they influence share price behaviour perse.

The counter argument by the dividend relevance proponents is that investment decisions are completely independent of dividend policy. In other words, a firm's future earnings constitute a major determinant of its current stock value. This, a firm can pay any level of dividends it wishes without affecting investment decisions since dividend policy does not affect shareholders' wealth.

The major advocates of this school – Modigliani and Miller (MM) (1961) argued that in the longrun equilibrium situation, the value of two otherwise identical companies would be the same, regardless of their dividend policies.

The major problem with this school is the unwholesome assumptions of capital market perfection and tax free investment climate. Most capital markets,

especially emergying markets like that of Nigeria are imperfect. Moreso, in Nigeria there is the presence of dividend withholding taxes and other real life situations, reduces the MM argument to mere theoretical speculation.

In the above discussion, our aim was to establish those variables to be incorporated in an investors decision model which influences stock price bahaviour to be examined on the NSE. However, our apparent support of the proponents of the use of dividend in the valuation of shares should not be seen as a dismissal on our part of the relevance of reported profits to the stock behaviour. "No compnay pays dividend out of the 'blues', it must be out of profits earned over the years." Gunkat (1980:32). Earnings figure on the Daily Official list of NSE is equally important – income may be withheld for expansion of the productive capacity (Return on Investment) or other types of Investment.

In Nigeria, studies of Uzoaga and Alozievwa (1974) and Oyejide (1975) focused more on the trends in dividends payments growth and factors responsible thereof, Osaze (1985, 1989) focused on the investment performance of equity securities in relation to these variables. However, little emphasis was laid in these studies on the predominant of these factors that influence stock price behaviour and as such influencing the efficiency of the market. If at all, in recent years, non of such findings have been carried out in a market which had undergone structural changes, inflation, growth, technological innovations, internationalization, and above all an increased awareness of the citizenry of the operations and importance of the stock market.

Also, some researchers have also come up with the view that volume is a strong determinant of stock price movement. For example, Ying (1966) found a correlation between price and volume in the NYSE and concluded on the basis that volume is a measure of the investor's emotions. However, these issues have been inconclusive in most markets especially the deficiency of literature emanating from emerging stock markets like Nigeria. This study puts in mind these controversies and inconclusive findings in an attempt at filling in the growing body of knowledge the Nigeria stock Exchange price behaviour.

REFERENCES

1 Alile, H.I & Anao, A.R (1986) The Nigerian Stock Market in Operation, Jeromeloiho & Associate ltd, Ikeja Lagos p 10-11

2 Gupta, L.C (1973) The Random Walk Theory of Stock Market Price Behaviour a survey, Bombay, Macmillan India, p. 30

3 Reily, K. F (1979) Investment Analysis and Portfolio Management, Ninsdale, Illinois, The Dryden Press, p. 412

4 Fama, EF (1965) The Behaviour of Stock Market Prices, Accounting Research, p 34

5 Levey, R.A (1966): Random Walk: Reality or Myth, Financial Analyst Journal, Vol 23, No6, p.83

6 Malkeil, B.G (1975) A Random Walk Down Wall Street, New York, WW Norton & Company Inc, P. 97

7 Edwards, R.D & Magee, J (1958) Technical Analysis of Stock Trends, Spring field, Mass p.3

8 Osaze, B.E. (1997) Understanding the Capital Market, Bofic Consulting Group ltd, Revised Edition, p. 193

9 Graham, B. et al (1962) Security Analysis, McGraw Hill Book Company, New York, USA.

10 Francis, J. C. (1983) Management of Investments, International Student Edition, McGraw Hill int. New York, p.436

11	Fisher, D.E. & Jordan, R.J (1987)	Security Analysis and Protfolio Mangement, PHI, 4th edition, p. 72
12	Osaze, B.E. (1997) Opcit,	p.100
13	Reily, K.F. (1979) Opcit,	p393
14	Eriki, P.O. (1994)	Evaluation of the Eficiency of the Nigerian Stock Market, Accounting Frontier Vol. No.
15	Fisher, D.E. & Jordan, R.J. (1987)	Opcit, p451
16	Gupta, L.C. (1973) Opcit,	p54
17	Fama, E.F. (1965) Opcit,	P.56
18	Fisher, B. (1971)	Implication of the Random Walk Hypothesis for Portifolio Management, Financial Analysis Journal, Vol. 17, No2, p18
19	Fama, E.F. (1965) Opcit	P35
20	Lorrie, J.H & Hamilton, M.T (1973)	The Stock Market Theories and Evidence, Homewood, Illinois, Richard D Irwin inc. p79
21	Roberts, H.V. (1959)	Stock Market Patterns and Financial Analysis, Journal of Finance, Vol 14, No1
22	Fama, E.F. (1970)	Efficient Capital markets – A Review of Theory and Empirical Work, Journal of Finance Vol 25, No2, p387

23	Copeland, I & Weston, J.E (1988)	Financial Theory and Corporate Policy, Addison-Wesley Publishing Company, California, USA, 3rd Edition, p330
24	Osaze, B.E. (1997) Opcit,	p203
25	Kendall, M.G. (1953)	The Analysis of Economic Time Series part 1 prices; Journal o the Royal Statistical Society, Series A (General) vol. 116, p16
26	Brockington, R.B (1980)	Financial Management East Leigh DP Publication, 3rd Edition, p233.
27	Lorrie, J.H. & Hamilton, M.T. (1973)	Opict, p80
28	Fama, E.F. (1965) Opcit,	p56
29	Fama, E.F. (1970) Opcit,	p383
30	Osaze, B.E. (1997) Opcit,	p201
31	Fama, E.F. (1965) Opcit,	p34
32	Niarchos, N.A (1972)	The Stock Market in Greece: A Statistical Analysis Greece, Athens Stock Exchange, p11
33	Kemp. A.G. & Reid, G.C. (1971)	The Random Walk Hypothesis and the Recen Behaviour of Equity Prices in Britain, Economica, vol 38, p47
34	Samuel, J.M & Wilkes (1980):	Management of Company Finance, Thoma Welson, 3rd edition, p446

35 Gunkat, S.P.M. (1980): "The Extent to Which Published Accounting Information is Used by The Nigerian Investing Public in Their Investment Decisions", Unpublished MSc Accounting & Finance Thesis Submitted to The Department of Accounting, A.B.U. Zaria, P.32

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION:

It is generally accepted that for a researcher to have a valid basis for conclusion, some methods of data collection, selection and analysis must be adopted. In view of these, this Chapter sets the various methodologies used in the study. That is, the research procedures for collecting and analyzing the data, and also the methods (models) used for testing the hypotheses are described in this chapter.

3.2 Sources of Data Collection:

The objective of this study was to empirically examine the behaviour of security prices on the Nigerian Stock Exchange (NSE) and also to determine the predominant factor among earnings per share, dividend per share and trading volume that influence the movement pattern of the security prices on the market.

Both the primary and secondary sources of data were used in this study. The main source (primary) was the daily official list of Companies quoted on the NSE which was used to extract the share prices, dividend per share and earnings per share of the companies within the period of study-1994 to 1997. Also, discussions were conducted with some officials of the Lagos and Kaduna branches of the Exchange. While a questionnaire method was used to sample the opinions of investors and /or

their agents so as to match empirical results through share price examination with actual responses from the market participants or actors. In light of this, questionnaires were sent to all the six branches-Kaduna, Kano, Ibadan, Onitsha, Port-Harcourt, and Lagos.

The secondary sources included Newspapers – Business Times, Daily Times, Vanguard, etc. Which usually furnished the researcher with current developments in the market. Committee reports such as the Odife Panel's Report, NSE annual reports, International Finance Corporation (IFC), Central Bank of Nigeria, Federal Office of Statistics and seminar papers and journal or acticles on the stock market operation were used. The Lagos and Kaduna Stock Exchange libraries and the President Kennedy Library, Ahmadu Bello University, Zaria was also extensively used. However, taking into consideration the fact that the secondary data are subject to an inherent danger of inaccuracy due to careless compilations, emphasis on reporter's sensation, among others, this source was carefully used as only supportive to the primary source and not as the main working source.

3.3 Research Method Used:

The choice of the method to be used by a researcher for the acquisition, analysis and interpretation of data is very important, and it depends on the problem at hand. The research method adopted for this study is the descriptive approach. However, other methods were used only as supplements. For example, the historical method would be used to assist the researcher in analysing the developmental trend of the market.

The descriptive method is adopted because descriptive research gives a picture of a situation or a population. As Ndagi (1984:8) puts it, "descriptive research is concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs, attitudes, on going process." It is thus that research method which specifies the nature of a given phenomenon. Since the capital market has a lot of complexities as far as explaining it is concerned, a systematic means of informing people about its situation is therefore ideal. In fact, for proper understanding, it needs to be synthesized. Therefore, descriptive research is basic for assessing the situation as a prerequisite to inferences and generalizations. Osuala (1993:146) affirms this by concluding that "while descriptive research is a prerequisite for finding answers to questions, it is not in itself sufficiently comprehensive to provide answers." This is basically because descriptive research cannot establish cause and effect relationships. However, since the ultimate goal of scientific research is the deduction of generalization that provide the basis for making predictions, this method assumes a key role in the intermediate process en route to final generalizations.

Descriptive research can be identified by four major types- case study, correlation study, cross-sectional and longitudinal study, and sample survey study.

A case study entails the detailed description and analysis of everything that is in the history or development of a phenomenon (person, institution, event or community), and does not generalize to other groups. A correlational study is concerned with the establishment of relationship among the variables as well as predicting future occurrence. A cross-sectional study is that in which data are

collected at one point in time, but different subgroups are sampled with the basic assumption of homogeneity; longitudinal study entails data to be collected on the same phenomenon at different points in time. Though longitudinal study is time consuming and tedious, the data extracted over the study period, 1994 to 1997 about various prices of securities could be said to have used longitudinal study.

The sample survey study describes population characteristics by the selection of an unbiased sample. If the population is small, all units in the population in a descriptive research could be more appropriate to be used. For a study like this, efficiency of design imposes on the researcher an effort to determine a sufficient sample. In fact, the general rule is to select a sample that is as small as it needs to give an adequate description of the whole. Therefore, sample survey was considered most appropriate for this study of the other types of descriptive research mentioned above. A sample survey study describes both large and small populations by selecting an unbiased sample; the result of which will then be used to make generalization on the population. It was used to secure data from the analysis of records maintained for on-going activities of the stock exchange.

Survey study was conducted because the researcher is interested in the accurate assessment of the characteristics of the whole population of quoted companies on the exchange. Since studying the whole population is not feasible, samples were drawn from the population from which inference will be made about the characteristics of the quoted population.

Also, through survey study, the incidence, distribution and interrelations among variables such as dividend per share, earnings per share could be determined, and as such, a more reliable comparism and evaluation is assured.

Survey study however, could only be used as a step in scientific research, and so cannot be generally capable of testing specific hypothesis. In fact, the investigation of any problem in research must begin with a survey of its nature before performing a rigorous and more structured research. Data are obtained for survey study mainly through the use of interview, questionnaire, observation and sometimes telephone, panel methods. The results of the sample are generalized to the population from which it is drawn.

3.4 Method of Data Collection:

The methods used in collecting data for the research were mainly questionnaire and interview.

Interview is a face-to-face conversation carried out by the researcher with th definite aim of obtaining certain information. Unstructured interview was adopted i this study. Due to the fact that unstructured interview is more flexible and suited t getting varied and sundry responses, and that, it is most appropriate for getting insigh into a particular situation in the early stages of investigation, it was used by th researcher to get some clarification about the activities of the Exchange. Th management staff of the Kaduna branch and some investors and/or their brokers we interviewed in order to assess their opinions about the market as far as the investme decision is concern. Also, questionnaire, which is a way of getting responses

questions by using a form which the respondent fills by himself was also used. Questionnaire constitutes the first attempt at true scaling and is really advantageous when the sample size is large enough to make it uneconomical for reasons of time or funds as interviewing every subject. A total of two hundred questionnaires were distributed to both the management staff of the Nigerian Stock Exchange (NSE) and Securities and Exchange Commission (SEC), and the investors, brokers, financial intermediaries and other participating population of the market in all its branches in the Federation. The questionnaire was made up of both structured and unstructured (open) questions. Structured in the sense that there were some questions which needed "Yes" or "No" and unstructured in the sense there were some questions which would enable the respondents to express their views as freely and fully as possible to the questions on the subject matter. To facilitate responses, the questions were designed carefully to avoid ambiguity, by making them short and straight to the point, and also the total number of questions were small enough to be completed within a few minutes. Most of the questions were structured so as to facilitate completion. A total of 113 responses were received- 32 from investors, 28 from brokers, 26 from financial intermediaries, 8 from market analyst and regulators, and 20 from the management staff of NSE and SEC.

Though, it was mentioned above that interview and questionnaire were used, the researcher also deemed it necessary to observe the trading activities on the floor of Kaduna branch of the Exchange so as to understand how the marketing of securities is done in the main stock market. Thus to a lesser extend, observation was implored.

3.5 Selection of Sample:

In the process of research, it is often not possible to cover the whole population especially the case of exceedingly large number of individuals, subjects or events in a particular research even when it is finite. This is because the resource and circumstances of research are often tight. Sampling is therefore implored as a mechanism of choosing designated quantities or proportion as representation (or samples) of the whole population.

Basically, there are two types of samples that may be selected in the process of a social research:- random (or probability) sample and non-random (or non-probability) sample. Though both samples could be useful, the preference of one over the other may variously be influenced by "the subject matter of the research, the specific standards applied by the researcher in relation to the kind of data that are described and also the researcher's specific needs" Imoisili (1996:67). However, research experience has shown that bias in the selection process using non-random samples may contaminate the quality of the research results.

Unlike non-random sample, a random sample is the selection of available population elements into that sample based purely on chance of occurrence. Some common examples of random samples include simple random sample, systematic sample, stratified sample and cluster sample. For the purpose of this study stratified sample is used.

Stratified sampling involves a procedure whereby categories of elements in a specified research population are selected into the sample and under a careful arrangement of random choice. This method avoids the possibility of undue

proportion of one type of unit appearing in the sample. Thus, in stratified sampling the population of N units is divided into a sub-population called strata. As such, each sub-group may be treated as a separate or independent population from which a representative sample will be obtained. These subgroups may be by demographic characteristics such as industry, age, geographical location, size or other perceived social and economic attributes of the elements making up the total population. Drawing samples from these strata is in a way, therefore, that these peculiar attributes of population elements are also represented.

In the search for usable data on the behaviour of securities prices in the NSE and variables influencing such stock price behaviour in the market, stratified random sampling is adopted. The reason for this is to avoid a situation where companies selected might be from the same industry or that some industries may not be represented in the sample. This will at least, reduce sampling error. Quoted companies are grouped under the respective industries as found on the NSE –Daily Official list (Equities) for the purpose of this research. The adopted classification include Agriculture, Airlines, Automobile & Tyre, Banking, Breweries, Building Materials, Chemicals & Paints, Commercial Services, Computer & Office Equipment, Conglomerates, Construction Engineering Technology, Food/Beverages & Tobacco, Footwear, Healthcare, Industrial/Domestic Products, Insurance, Machinery (marketing), Managed Funds, Packaging, Petroleum (marketing), Printing & Publishing, and Textiles. Attention will be given purposely only to equity security companies quoted on the main Stock Exchange (First-tier market) on or before 1990. The aim is to get as clearly and precisely as possible the picture of the market. This

group of quoted companies was used because these companies have acquainted to the stock market operations/procedures, and also well known to investors and/or their agents (brokers)over the time. In which case, they are already matured enough to depict a picture of the market. Choosing stocks of similar characteristics enable processing of data more feasible and result more reliable about the representative population. Equity securities dictate the economic activities and as such could be used as the sampling frame to determine the level of efficiency or otherwise of the stock exchange as far as its operations are concerned.

As mentioned above, stratified random sampling will be used for this study, and that the strata will be adopted from the classification of companies on the official list of the NSE. Two of every other company will be selected from each stratum as representative sample. Since, there are twenty-three strata, a total of 46 companies are expected to be selected, that is, about 25 percent of the total quoted companies as at 1997. However, in a situation where only one company belong to an industry, only that company will be selected, and where only two companies belong to an industry, all will be selected. From this analysis, a total of 40 companies were selected. The reason of selecting only this total is to reduce the volume of data and thus make processing more feasible. Other considerations that affected the sampling were cost and time.

Furthermore, the four years period – 1994 to 1997- was selected for the sampling since the study was a longitudinal time-series. Two factors were responsible for the choice of this time frame.

First, the period avoided the rather abnormal and untypical era of serious economic recession in Nigeria occasioned by the political and economic instability especially the vagaries of inflation which had plagued the economic activities in the early 1990s, as well as the effect of Structural Adjustment Programme (SAP) Decree of 1986 which led to the total overhauling of the entire Nigerian economic system.

Second, major changes such as the introduction of the Automated Trading System (ATS), The Central Securities Clearing System (CSCS), and the establishment of Abuja Stock Exchange (ASE) would have introduced avoidable bias in the survey entities in the sense that many quoted stocks on the Exchange were dormant in the market due to these sudden changes. The poor market activities occasioned by investors trying to avail or understand the system before going into any transaction weakened the market activities. The period considered relevant was then sorted as the appropriate period when investors' confidence were to an extend, reasonable about the market, implying that operations of the exchange could be considered normal.

3.6 Data Analysis Techniques:

The purpose of this study was to empirically test the behaviour of security prices on the Nigerian Stock Exchange, that is, testing whether successive price changes of a security are random as propounded by the Random Walk Theory and the Efficient Market Hypothesis (EMH). In statistical terms, random or independence means that the probability distribution for price change during time period t is independent to the sequence of price changes during previous time periods. This

means that it will be of no use assessing the knowledge of the sequence of price changes that lead up to time period t. Thus, an individual investor cannot use knowledge of past prices of a security to increase expected gains at the expense of another.

In order to test each hypothesis raised in the research, data (primary and secondary) derived from official list and other records, questionnaire will be presented and analyzed using percentage change, trend analysis of variables, and statistical methods such as Serial Correlation and Runs Test where applicable. The main approaches of testing independence will be followed in the first hypothesis.

The first test will adopt the Serial Correlation model, and the second test will make use of the runs test. These, two methods are used to ensure that conclusions to the study about the independence of prices are correct and valid based on the data collected.

Prices of the forty securities used for the study are summarized first into monthly prices of each security, that is, the monthly prices are the market prices on the last day of the month. Secondly, the monthly prices are used to calculate the quarterly average price of each stock. Thus, there will be sixteen different prices for each of the forty stocks. This is to reduce the volume of data to handle so as to avoid errors and inaccuracies. This choice was motivated on the assumption that, if the successive changes of the individual stock prices are independent, it would be expected that average successive changes over the month and subsequently per quarter will equally be independent. Thus, the time period t to be used in the analysis

is a quarter of a year and the total t will be equal to 16 over the four years study period.

3.6.1 Serial Correlation:

Since, the Random-Walk theory is interested in testing for independence between successive price changes, serial correlation tests are particularly appropriate. These tests check to determine if price changes or proportionate price changes in some future periods are related. For example, it is interested in seeing if price changes in a period, **t+1**, are correlated to price changes in the preceding period, t. If they are correlated, graphically they will lie on the same straight line.

In other words the term serial correlation refers to the lag relationship in time series samples. Consider for example, the trend equation

$$y_t = a + bx$$

We say that the dependent variable y is serially correlated if the value of **Y** in period 1 , is correlated with the value of **Y** in period **t −1, t-2** and so on. Autocorrelation and lag correlation are sometimes used to describe this dependent relationship. According to Chou (1963:443), "autocorrelation mean the lag relationship in the population, serial correlation means the lag relationship in a sample and lag correlation means the lag relationship between two different time series." Thus, serial correlation coefficient provides a measure of the relationship between the value of a random variable in time t and its value in preceding periods. It is concerned with describing the extent to which a dependence exists between two variables by measuring the degree of volatility of the data values. The less the

volatility of the data points, the stronger the correlation. The strength of this correlation is defined by the correlation coefficient (R). The numeric value of R lie between -1 and +1 inclusive that is $-1<R<1$. A value of R = 0 signifies that there is no correlation between the prices. If R is positive, then there is a direct correlation, and R, negative implies an inverse correlation. Thus, values close to unity indicate high correlation and values close to zero indicate absence of correlation.

Therefore, values close to zero, whether negative or positive indicate rejection of the null hypothesis (H_o) that the NSE is not efficient, successive price changes are dependent, in acceptance of the alternative hypothesis (H_a). Values close to unity will lead to the acceptance of the Null hypothesis (H_o).

The serial correlation model used for the study is stated as follows.

$$R = \frac{Cov\,(P_t, P_{t+1})}{\sqrt{VP_t \; VP_{t+1}}} = \frac{n\Sigma P_t P_{t+1} - (\Sigma P_t)(\Sigma P_{t+1})}{\sqrt{[n\Sigma P_t^2 - (\Sigma P_t)^2]\;[n\Sigma P^2_{t+1} - (\Sigma P_{t+1})^2]}}$$

where

t. = One period of time which equals one quarter of a year

P_t = The average quarter price of the stocks for time t

P_{t+1} = The average quarter price of the stocks one period leading

n. = The numbers of quarters within the period under consideration that is the numbers of bivariate value P_t and P_{t+1}

Cov. = Covariance of P_t and P_{t+1}

V. = Variance of P_t and P_{t+1}

3.6.2 Runs Test Model:

Using correlation coefficient to evaluate the possibility of independence in a particular series of price changes might be dominated by extreme values. This means

that an extremely large or extremely low value or the two in the series can unduly influence the results of the calculation used to determine the correlation coefficient. To overcome this possible short coming, the runs test will be conducted to further test the randomness of price changes on the Exchange.

Runs tests ignore the absolute values of the numbers in the series and observe only their sign. A run occurs in a series of numbers whenever the changes between consecutive numbers change sign. A run is a sequence of price changes of the same sign. For example, in a bear market, a security price that declines for 10 consecutive trading days will generate nine negative daily price changes but one negative run. For stock prices, there are three different types of runs:- positive changes (+), negative changes(-) and zero (0). The positive changes (increases) and negative changes (decrease) are the major concern, a no change or zero has no effect on the result but serves as a starting point to identify a decrease or an increase in share prices. In observing the signs, the researcher merely counts the number of runs-consecutive sequence of signs in the same direction. For instance, the sequence of ----+ - + has four runs.

The total succession of identical signs is denoted R, for a run. Also, let n_1 denote number of pluses and n_2 denote number of minuses and N, total numbers of observed events that is $n_1 + n_2 = N$. The value of R is determined by observing the events of the sequence of n_1 and n_2 that occur. If either n_1 or n_2 is greater than 20, the theoretical sampling distribution of R is approximately normal and the test will always be two-tailed. The sampling distribution of R is approximately normal with

3.7 Justification of the Research Method Used:

As stated earlier, the descriptive research method was adopted for this study because the study is concerned with the collection of data for the purpose of describing and interpreting existing conditions, prevailing practices, beliefs, attitudes and on going processes on the Nigerian Stock Exchange.

Particularly, the sample survey method was conducted in order to make accurate assessment of the characteristics of the whole population of quoted companies by selecting randomly from the population samples from which inferences are made.

The questionnaire (structured and open) and unstructured interview have been used for the collection of data against other method because opinions of participant (that is investors, brokers/dealers, financial intermediaries) and management of the Exchange need to be obtained before a better conclusion can be drawn.

The literature suggests certain variables that should be employed in measuring investor reaction to stock performance. These include the dividend per share (DPS), Earning per share (EPS) as well as the price-earning ratio (PE). While the DPS or payout ratio determines how a "bird-in-the-hand" investor gets influenced in his reation to the stock, the EPS is a determinant of the corporate performance of the stock from which dividends are often, if not always, declared. The PE ratio indicates a rough payback period of stock and is also more importantly, often an indicator of investors' confidence in the future performance of a stock. Together with Return on Asset employed (ROA) and EPS, PE ratio also to an extent influences stock price movement. These measures are often an influence of investor behaviour, but what still

remains unresolved is the extent and direction of that influence on stock prices on the Nigerian Stock Market.

3.8 Recapitulation of the Chapter:

The purpose of this study, as stated earlier, was to empirically test the behaviour of security prices on the Nigerian Stock Exchange and to determine the predominant factor between earnings per share and Dividends per share that influence the stock behaviour. This chapter dealt with the sources of data, research method used, method of collecting data such as questionnaire and interview. Also models such as the Serial Correlation, Runs Test, and trend analysis were adopted for testing the hypotheses raised. In the next chapter, chapter four, the researcher will present and analyze the data in a bid to establishing the degree of efficiency of the NSE as regards the behaviour of its stock prices.

REFERENCES:

1. Ndagi, J. O. (1984) Essentials of Research Methodology for Nigerian Educators, University Press Ltd. Nigeria, p.8.
2. Osuala, E.G. (1992): Introduction to Research Methodology, African – Fep Pubilishers Limited, Nigerian, Revised Edition.
3. Imoisili, C.I. (1996) Social Reseach Methods for Nigerian Students, Malthouse Press Limited, Ikeja, Nigeria, p.67
4. Chou, Y. (1969) Statistical Analysis with Business and Economic Applications. Holt, Rine Hart & Winston, Inc, New-York Pp 442 – 444.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

The activity in any stock exchange is often an indicator of economic performance, and the flurry of activity is measured by the movement of and behaviour of stock prices in that exchange, Nigeria inclusive. This chapter is concerned with the establishment of the level of efficiency of the Nigerian Stock Exchange by testing for randomness or independence of successive price change of the stocks as adjudged by the Random Walk Theory or Efficient Market Hypothesis. It will also try to identify the more predominating factor between dividend pay out and earning declared that influence the established stock price behaviour in the market.

The chapter will be divided into the following sections: Section one will try to determine the efficiency of the market by testing the first hypothesis using serial correlation test and runs tests and also the response from the questionnaire about the market efficiency. Section two will try to determine the more predominating factor influencing stock prices between Dividend Per Share (DPS) and Earning Per Share (EPS). Section four will try to assess investors' views about the impact of trading volume on their buy or sell decision that thus influences price movement. The last section will delve into summary of findings.

The method adopted in this chapter is that each data will be presented, analyzed, before the next data is presented. This is to avoid overcrowding which can make reference to the data clumsy and confusing.

4.2.0 Determination of NSE Market Efficiency.

The hypothesis to be tested is stated as follows:-

H_0 The Nigerian Stock Exchange is not efficient, successive price changes of stocks are dependent on preceding prices.

H_1 The Nigerian Stock Exchange is efficient, successive price changes of stocks are not dependent on preceding prices.

4.2.1. Test of hypothesis Using Serial Correlation Test.

This test was adopted to determine whether price changes in some future period (t+1) are related to the preceding period (t). In order to establish this relationship, the following procedure is adopted: First, the average quarterly price (p) for each quarter (t) as in table 4.2.1 is computed by adding the prices of the months in that quarter (see appendices III to IV) and dividing by three (3).

That is: $\frac{Pm_1 + Pm_2 + Pm_3}{3}$ Where Pm = Each month's price.

The average quarterly prices are computed for each company for the sixteen quarters period. Second, these prices for each period of all the companies are added up to get an overall sample price which is then used as Pt or Pt + 1 in the formula stated to calculate the correlation coefficient.

$$R = \frac{n\Sigma P_t P_{t+1} - (\Sigma P_t)(\Sigma P_{t+1})}{\sqrt{[n\Sigma P_t^2 - (\Sigma P_t)^2]\ [n\Sigma P^2_{t+1} - (\Sigma P_{t+1})^2]}}$$

where Pt = average quarterly price of stock at time t .

Pt + 1 = Average quarterly price of stock at time t + 1 leading

n = 16 (number of bivariate values pt and pt + 1)

TABLE 4.2.1
QUARTERLY AVERAGES FOR SERIAL CORRELATION TEST

		1994				1995			
	NAME OF COMPANY	1	2	3	4	5	6	7	8
1	Grommac Inds. Plc	0.54	0.54	0.54	0.53	0.60	0.71	0.86	0.92
2	Okitpupa Oil Palm Plc	0.83	0.91	0.97	1.19	0.78	0.79	0.83	0.85
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Brisco Plc	1.61	1.65	1.75	1.55	1.60	2.05	2.88	2.75
5	First Bank of Nig. Plc	4.61	3.39	3.75	3.75	4.00	2.93	8.87	9.65
6	Union Bank Nig. Plc	1.43	2.10	2.35	2.96	2.64	3.31	6.47	5.99
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.83	0.85	0.85	0.85	0.81	0.79	0.79	0.79
9	Ashaka Cement Plc	4.50	3.68	3.21	3.48	4.23	5.74	9.35	10.39
10	WA Portland Comp. Plc	4.48	4.59	3.35	4.01	5.29	8.34	13.45	16.87
11	Berger Paints Plc	4.10	3.45	3.16	3.04	2.49	3.80	6.28	7.35
12	Nigeria German Chemecals Plc	3.99	3.75	3.77	3.77	3.84	3.38	8.53	9.79
13	Chellarams Plc	0.50	0.50	0.50	0.49	0.47	0.45	0.40	0.43
14	Morison Industries Plc	1.87	1.99	1.34	1.79	1.87	2.40	4.17	4.40
15	Thomas Wyatt Nig Plc	1.05	1.06	0.92	1.08	1.31	2.02	3.13	3.89
16	WTN Plc	1.05	1.03	0.65	0.50	0.67	0.73	2.45	3.23
17	A.G Leventis Nig. Plc	1.50	1.50	1.50	1.43	1.37	1.66	3.35	3.12
18	UTC Nig. Plc	1.00	1.00	0.91	0.90	0.94	0.80	1.67	1.69
19	Arbico Plc	1.18	1.23	1.27	1.39	1.35	1.48	1.75	2.15
20	Roads Nig. Plc	0.50	0.50	0.50	0.50	0.49	0.36	0.19	0.17
21	7up Bottling Comp. Plc	2.65	2.46	2.36	1.39	1.79	1.18	2.74	2.19
22	Tate industries Plc	0.50	0.50	0.50	0.50	0.49	0.39	0.31	0.32
23	Bata Nigeria Plc	0.57	0.53	0.50	0.50	0.52	0.50	0.50	0.50
24	Lennards (Nig) Plc	0.33	0.35	0.37	0.38	0.40	4.19	1.52	1.52
25	BCN Plc	1.41	1.16	1.04	0.95	0.94	0.79	0.46	0.46
26	Smithkline Beecham Nig. Plc	5.50	3.42	3.29	3.67	4.74	5.47	5.37	6.14
27	Liz_Olofin and Company Plc	0.61	0.53	0.50	0.49	0.55	0.50	0.50	0.47
28	Vono Products Plc	3.29	3.36	3.19	3.04	3.07	2.65	2.44	2.34
29	Allco Insurance Plc	4.09	4.87	3.45	3.25	3.93	4.76	3.96	4.51
30	West Africa Prov Ind Coy Plc	1.37	1.37	1.39	1.44	1.46	1.39	1.19	0.91
31	Blackwood Hodge (Nig) Plc	2.04	2.02	1.89	1.77	1.66	0.90	0.47	0.50
32	Stokvis Nig. Plc	0.17	0.15	0.15	0.14	0.15	0.05	0.14	0.14
33	Abplost Products Plc	1.10	1.10	1.10	1.01	0.90	0.87	0.99	0.91
34	WA Glass Ind Plc	0.50	0.50	0.50	0.50	0.50	0.43	0.40	0.40
35	African Petroleum Plc	4.87	5.01	4.82	5.48	6.30	9.36	15.33	20.06
36	Total Nigeria Plc	10.14	7.13	7.47	8.07	8.53	12.34	24.36	28.68
37	Daily Times Plc	0.51	0.52	0.50	0.50	0.46	0.30	0.29	0.30
38	University Press Plc	0.98	1.00	1.00	0.96	0.88	0.57	0.84	0.94
39	Enpee Ind. Plc	1.58	1.53	1.46	1.36	1.35	0.92	1.33	1.30
40	United Nig. Textile Plc	4.44	4.44	3.82	3.51	3.81	3.55	3.82	4.25

Table 4.2.1 countinued.

		1996				1997			
		9	10	11	12	13	14	15	16
	NAME OF COMPANY								
1	Grommac Inds. Plc	0.96	1.21	1.06	1.09	1.88	2.70	2.56	2.54
2	Okitpupa Oil Palm Plc	0.85	0.90	0.91	0.91	0.96	1.02	1.02	1.00
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51
4	RT Brisco Plc	2.86	3.22	3.20	3.16	3.29	3.50	3.34	3.34
5	First Bank of Nig. Plc	7.83	6.67	7.02	7.10	14.10	15.84	12.60	12.60
6	Union Bank Nig. Plc	4.96	6.36	6.81	6.40	12.12	14.00	10.36	11.10
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.79	1.02	1.14	1.14	1.09	0.95	0.90	0.90
9	Ashaka Cement Plc	10.76	10.05	14.27	18.13	14.10	13.42	11.45	10.00
10	WA Portland Comp. Plc	18.61	25.46	28.01	41.07	57.87	64.33	54.30	46.87
11	Berger Paints Plc	7.43	7.85	6.73	4.91	4.47	4.10	3.73	3.60
12	Nigeria German Chemecals Plc	10.00	10.10	8.60	8.67	8.72	9.30	9.20	9.07
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	4.49	4.43	4.23	4.21	4.17	4.10	3.90	3.80
15	Thomas Wyatt Nig Plc	4.71	7.17	7.55	8.63	5.23	4.33	3.51	2.68
16	WTN Plc	3.46	4.32	6.14	7.83	6.95	6.10	5.43	5.05
17	A.G Leventis Nig. Plc	2.38	1.30	0.93	1.57	2.16	2.47	2.13	2.00
18	UTC Nig. Plc	1.51	1.23	1.05	0.88	0.83	1.31	1.37	1.19
19	Arbico Plc	1.64	1.15	1.19	1.36	1.37	1.40	1.44	1.50
20	Roads Nig. Plc	0.25	2.90	0.25	0.37	0.70	1.15	1.53	1.79
21	7up Bottling Comp. Plc	1.71	2.11	1.95	1.39	1.76	2.37	2.05	2.67
22	Tate industries Plc	0.36	0.14	0.12	0.12	0.13	0.18	0.20	0.20
23	Bata Nigeria Plc	0.50	0.50	0.50	0.50	0.78	1.23	1.00	0.70
24	Lennards (Nig) Plc	1.18	0.85	0.75	0.66	0.74	0.80	0.66	0.56
25	BCN Plc	0.42	.21	0.26	0.26	0.26	0.26	0.26	0.26
26	Smithkline Beecham Nig. Plc	5.77	7.07	8.48	8.44	7.45	6.37	5.30	3.87
27	Liz_Olofin and Company Plc	0.47	0.21	0.21	0.18	.17	0.16	0.16	0.16
28	Vono Products Plc	2.58	2.44	2.47	2.34	2.64	3.10	3.08	2.90
29	Allco Insurance Plc	4.93	7.63	6.67	10.81	13.8	15.08	10.10	5.92
30	West Africa Prov Ind Coy Plc	1.02	0.84	0.85	0.78	0.90	1.05	1.05	1.05
31	Blackwood Hodge (Nig) Plc	0.77	0.51	0.62	0.92	0.92	0.92	0.92	0.92
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplast Products Plc	0.82	0.81	0.84	0.89	0.91	0.96	0.96	0.96
34	WA Glass Ind Plc	0.43	0.40	0.40	0.40	0.40	0.40	0.40	0.40
35	African Petroleum Plc	21.36	24.95	28.76	40.92	54.85	57.13	45.78	30.72
36	Total Nigeria Plc	30.96	37.38	43.19	53.35	68.93	59.59	52.80	46.63
37	Daily Times Plc	0.30	.46	0.53	0.52	0.51	0.50	0.50	0.50
38	University Press Plc	0.85	0.98	1.17	1.33	1.50	1.57	1.57	1.50
39	Enpee Ind. Plc	1.17	2.47	3.03	3.20	3.20	3.20	3.20	3.05
40	United Nig. Textile Plc	4.13	5.77	7.43	7.02	6.75	6.28	5.03	4.30

SOURCE: Compiled from NSE Daily Official List (equities) 1994 to 1997, (Appendix III to VI).

TABLE 4.2.2 CORRELATION COEFFICIENTS FOR THE 16-QUARTERS PERIOD – 1994-1997

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0.924857														
2	1	0.959013													
3		1	0.973624												
4			1	0.974475											
5				1	0.879883										
6					1	0.883931									
7						1	0.992457								
8							1	0.993332							
9								1	0.978955						
10									1	0.987699					
11										1	0.983933				
12											1	0.977756			
13												1	0.984950		
14													1	0.996323	
15														1	0.981912
16															1

SOURCE: Computed from the Quarterly Averages of Prices for 1994 to 1997

From the computation, the values of the correlation coefficient are highly positive. On the average the prices range above 0.97 or 97%. This is with the exception of the 6th quarter and the 7th quarter with values of 0.87 and 0.88 respectively. This period falls between April to September 1995. These results can be attributed to the repeal of the Nigerian Enterprises Promotion Decree, 1989 and the Exchange Control Act of 1962 and their replacement by the Nigerian Investment Promotion Decree No.16 of 1995 and the Foreign Exchange (Monitoring and Miscellaneous Provisions) Decree No.17 of 1995 which led to foreign portfolio investors investing in the market. The bulk of trading in the market was in equity with a growth rate of 97% and also share price of many listed companies recorded substantial gains. Source: NSE fact book (1995:13).

The overall high coefficients show strong relationships between successive prices of stocks of the companies selected. This strong positive relationship that exists between the successive price changes of stocks on the NSE means that a high degree of predictablility or patterns can be very possible in the market. This shows also that, there is little or no randomness in the prices of stocks and can be concluded that the market is grossly inefficient as stipulated by the Random walk theory or the Efficient Market Hypothesis (EMH). Therefore, the null hypothesis which states that the NSE is not efficient, successive price changes of a security on the market are dependent on preceding prices is acceptable at the expense of the alternative hypothesis.

4.2.2 Test of Hypothesis Using Runs Test.

The Runs test is adopted to further test the degree of independence in successive price changes. This is to confirm whether the findings under serial correlation test about the Nigerian Stock Exchange (NSE) can be relied upon. Basically, this test was adopted to avoid the problem that may arise when correlation coefficients may be dominated by extreme values, that is when extremely large or extremely low value(s) or both in the series can unduly influence the results. The Runs test ignored absolute values of the price in the series and observed only their signs.

TABLE 4.2.3

QUARTERLY SIGN CHANGES FOR RUNS TEST

	NAME OF COMPANY	1	2	3	4	5	6	7	8
1	Grommac Inds. Plc	0	0	0	-	+	+	+	+
2	Okitpupa Oil Palm Plc	0	+	+	+	-	+	+	+
3	Bewac (Nig) Plc	0	0	0	0	0	0	0	0
4	RT Brisco Plc	0	+	+	-	+	+	+	-
5	First Bank of Nig. Plc	0	-	+	0	+	-	+	+
6	Union Bank Nig. Plc	0	+	+	+	-	+	+	-
7	Champion Brew Plc	0	0	0	0	0	0	0	0
8	Premier Breweries Plc	0	+	0	0	-	-	0	0
9	Ashaka Cement Plc	0	-	-	+	+	+	+	+
10	WA Portland Comp. Plc	0	+	-	+	+	+	+	+
11	Berger Paints Plc	0	-	-	-	-	+	+	+
12	Nigeria German Chemecals Plc	0	-	+	0	+	-	+	+
13	Chellarams Plc	0	0	0	-	-	-	-	+
14	Morison Industries Plc	0	+	-	+	+	+	+	+
15	Thomas Wyatt Nig Plc	0	+	-	+	+	+	+	+
16	WTN Plc	0	-	-	-	+	+	+	+
17	A.G Leventis Nig. Plc	0	0	0	-	-	+	+	-
18	UTC Nig. Plc	0	0	-	-	+	+	+	+
19	Arbico Plc	0	+	+	+	-	-	+	+
20	Roads Nig. Plc	0	0	0	0	-	-	-	-
21	7up Bottling Comp. Plc	0	-	-	+	+	-	+	-
22	Tate industries Plc	0	0	0	0	-	-	-	+
23	Bata Nigeria Plc	0	-	-	0	+	-	0	0
24	Lennards (Nig) Plc	0	+	+	+	+	+	-	0
25	BCN Plc	0	-	-	-	-	-	-	0
26	Smithkline Beecham Nig. Plc	0	-	-	+	+	+	-	+
27	Liz_Olofin and Company Plc	0	-	-	-	+	-	0	-
28	Vono Products Plc	0	+	-	-	+	-	-	-
29	Allco Insurance Plc	0	+	-	-	+	+	-	+
30	West Africa Prov Ind Coy Plc	0	0	+	+	+	-	-	-
31	Blackwood Hodge (Nig) Plc	0	-	-	-	-	-	-	+
32	Stokvis Nig. Plc	0	-	0	-	+	-	+	0
33	Abplost Products Plc	0	0	0	-	-	-	+	-
34	WA Glass Ind Plc	0	0	0	0	0	-	-	0
35	African Petroleum Plc	0	+	-	+	+	+	+	+
36	Total Nigeria Plc	0	-	+	+	+	+	+	+
37	Daily Times Plc	0	+	-	0	-	-	-	+
38	University Press Plc	0	+	0	-	-	-	+	+
39	Enpee Ind. Plc	0	-	-	-	-	-	+	-
40	United Nig. Textile Plc	0	0	-	-	+	-	+	+

Table 4.2.3 continued

	NAME OF COMPANY	9	10	11	12	13	14	15	16	n_1 +ve	n_2 -ve	N n_1+n_2	R
1	Grommac Inds. Plc	+	+	-	+	+	+	-	-	9	4	13	5
2	Okitipupa Oil Palm Plc	0	+	+	0	-	+	0	-	9	3	12	7
3	Bewac (Nig) Plc	0	0	0	0	0	0	0	+	1	-	1	1
4	RT Briscoe Plc	+	+	-	-	+	+	-	0	9	5	14	8
5	First Bank of Nig. Plc	-	-	+	+	+	+	-	0	8	5	13	8
6	Union Bank Nig. Plc	-	+	+	-	+	+	-	+	10	5	15	9
7	Champion Brew Plc	0	0	0	0	0	0	0	0	-	-	-	-
8	Premier Breweries Plc	0	+	+	0	-	-	-	0	3	5	8	4
9	Ashaka Cement Plc	+	-	+	+	-	-	-	-	8	7	15	5
10	WA Portland Comp. Plc	+	+	+	+	+	+	-	-	12	3	15	4
11	Berger Paints Plc	+	+	-	-	-	-	-	-	5	10	15	3
12	Nigeria German Chemicals Plc	+	+	-	+	+	+	-	-	9	5	14	8
13	Chellarams Plc	+	0	0	0	0	0	0	0	2	4	6	2
14	Morison Industries Plc	+	-	-	-	-	-	-	-	7	8	15	4
15	Thomas Wyatt Nig Plc	+	+	+	+	-	-	-	-	10	5	15	4
16	WTN Plc	+	+	+	+	-	-	-	-	8	7	15	3
17	A G Leventis Nig. Plc	-	-	-	+	+	+	-	-	5	8	13	5
18	UTC Nig. Plc	-	-	-	-	-	+	+	-	6	8	14	5
19	Arbico Plc	-	-	+	+	+	+	+	+	11	4	15	5
20	Roads Nig. Plc	+	+	-	+	+	+	+	+	7	5	12	4
21	7up Bottling Comp. Plc	-	+	-	-	+	+	-	+	7	8	15	10
22	Tate industries Plc	+	-	-	0	+	+	+	0	5	5	10	4
23	Bata Nigeria Plc	0	0	0	0	+	+	-	-	3	5	8	5
24	Lennards (Nig) Plc	-	-	-	-	+	+	-	-	7	7	14	5
25	BCN Plc	-	-	-	0	0	0	0	0	-	9	9	2
26	Smithkline Beecham Nig. Plc	-	+	+	-	-	-	-	-	6	9	15	7
27	Liz_Olofin and Company Plc	0	-	0	-	-	-	0	0	1	9	10	6
28	Vono Products Plc	+	-	+	-	+	+	-	-	6	9	15	10
29	Alico Insurance Plc	+	+	-	+	+	+	-	-	9	6	15	8
30	West Africa Prov Ind Coy Plc	+	-	+	-	+	+	0	0	7	5	12	7
31	Blackwood Hodge (Nig) Plc	+	-	+	+	0	0	0	0	4	7	11	4
32	Stokvis Nig. Plc	0	0	0	0	0	0	0	0	2	3	5	5
33	Abplast Products Plc	-	-	+	+	+	+	0	0	5	6	11	4
34	WA Glass Ind Plc	+	-	0	0	0	0	0	0	1	3	4	3
35	African Petroleum Plc	+	+	+	+	+	+	-	-	12	3	15	4
36	Total Nigeria Plc	+	+	+	+	+	-	-	-	11	4	15	3
37	Daily Times Plc	0	+	+	-	-	-	0	0	4	7	11	6
38	University Press Plc	-	+	+	+	+	+	+	-	9	5	14	6
39	Enpee Ind. Plc	-	+	+	+	0	0	0	-	4	8	12	5
40	United Nig. Textile Plc	-	+	+	-	-	-	-	-	5	9	14	7

SOURCE: Complied from Quarterly Averages of Stock Prices for 1994 -1997

The following notations were used in the study.

The following notations were used in the study.

n_1 = Number of pluses or positive sign changes.

n_2 = Number of minuses or negative sign changes

$N = n_1 + n_2$ or total number of sign changes.

R = Runs.

In a bid to analyze the data presented in table 4.2.3 above, the following outcomes were reached:

Total number of runs -R = 205

Total number of companies = 40

Despite the fact that Champion Breweries Plc. (No7) on the list had no sign change at all during the review period for the purpose of these analysis, the number of companies studied will still be 40.

In order to establish the position of the run of each company to the median, the total number of runs is divided by the number of companies that were selected in the sample. Thus, the median = $\frac{205}{40} = 5.125$

The tabulation or presentation of the next table will be based on the guidelines that:

i. Companies whose run values fell below the mean were ascribed the minus (-) sign.

ii. And companies whose run values fell above the mean were ascribed the plus (+) sign.

Table 4.2.4 Position of Runs to Median

S/no	Company Name	Run	Position of run to median
1	Grommac Inds. Plc	5	-
2	Okitpupa Oil Palm Plc	7	+
3	Bewac (Nig) Plc	1	-
4	RT Briscoe Plc	8	+
5	First Bank of Nig. Plc	8	+
6	Union Bank Nig. Plc	9	+
7	Champion Brew Plc	-	
8	Premier Breweries Plc	4	-
9	Ashaka Cement Plc	5	-
10	WA Portland Comp. Plc	4	-
11	Berger Paints Plc	3	-
12	Nigeria German Chemicals Plc	8	+
13	Chellarams Plc	2	-
14	Morison Industries Plc	4	-
15	Thomas Wyatt Nig Plc	4	-
16	WTN Plc	3	-
17	A.G Leventis Nig. Plc	5	-
18	UTC Nig. Plc	5	-
19	Arbico Plc	5	-
20	Roads Nig. Plc	4	-
21	7up Bottling Comp. Plc	10	+
22	Tate industries Plc	4	-
23	Bata Nigeria Plc	5	-
24	Lennards (Nig) Plc	5	-
25	BCN Plc	2	-
26	Smithkline Beecham Nig. Plc	7	+
27	Liz_Olofin and Company Plc	6	+
28	Vono Products Plc	10	+
29	Afico Insurance Plc	8	+
30	West Africa Prov Ind Coy Plc	7	+
31	Blackwood Hodge (Nig) Plc	4	-
32	Stokvis Nig. Plc	5	-
33	Abplast Products Plc	4	-
34	WA Glass Ind Plc	3	-
35	African Petroleum Plc	4	-
36	Total Nigeria Plc	3	-
37	Daily Times Plc	6	+
38	University Press Plc	6	+
39	Enpee Ind. Plc	5	-
40	United Nig. Textile Plc	7	+

From table 4.2.4 above, the following analysis could be derived:

Mean of runs (median)	=	5.125
Total number of n_1 (+sign)	=	14
Total number of n_2 (-sign)	=	25
Number of runs (r)	=	14

Substituting these values in the formula stated,

$$Z = \frac{r - \frac{(2n_1 n_2 + 1)}{n_1 + n_2}}{\sqrt{\frac{2n_1 n_1 (2n_1 n_2 - n_1 - n_2)}{n_1 + n_2)^2 (n_1 + n_2 - 1)}}}$$

The value for Z can be computed as follows:

$$Z = \frac{14 - \frac{2 \times 14 \times 25 + 1}{14 + 25}}{\sqrt{\frac{2 (14) (25) [2 (14) (25) - 14 - 25]}{(14 + 25)^2 (14 + 25 - 1)}}}$$

$$Z = \frac{14 - \frac{(700 + 1)}{39}}{\sqrt{\frac{700 [700 - 14 - 25]}{1521 (38)}}}$$

$$Z = \frac{14 - (18.948717)}{\sqrt{\frac{700 (661)}{57798}}}$$

$$Z = \frac{-4.948717}{\sqrt{\frac{462700}{57798}}}$$

$$Z = \frac{-4.948717}{\sqrt{8.0054673172}}$$

$$Z = \frac{-4.948717}{2.8293935}$$

$$Z = -1.7490380889$$

Or

$N_R = 18.948717$

$\delta_R = 2.8293935$

$R = 14$

$$Z = \frac{14 - 18.948717}{2.8293935}$$

$$= \frac{-4.948717}{2.8293935}$$

$$= -1.7490380889$$

From the appendix VII (Values of the Standards Normal Distribution Function), the Z value of -1.749 or –1.75 gives us a probability of 0.0401 under one-tailed test or 0.0802 under the two-tailed test which will be used to test the hypothesis.

The hypothesis was tested at a 5% level of significance. The critical values of Z for a two-tailed tests lie between –1.96 and + 1.96. Since the value of Z is -1.75, which lies within the acceptance region, the null hypothesis was accepted. Moreso, testing the hypothesis at a 5% level of significance that is probability is 0.05 show clearly that the value of 0.0802 is greater than 0.05. This goes to confirm the null hypothesis that the Nigerian Stock Exchange is not efficient, and successive price changes are dependent on preceding prices of stocks, that is share price behaviour is not random. The possibility of a correct decision in this case is 95%.

This result further strengthens the result from the serial correlation test that successive price change of stocks on the NSE is dependent on preceding prices, and as such the market is far from being called an efficient market according to the Efficient Market Hypothesis (EMH) or the Random Walk Theory. Share prices not being random means that there is a degree of predictability, and therefore, the current prices of stocks do not fully reflect all the information that is contained in the historical sequence of prices as stipulated by the Random Walk theory or the Weak Form of the EMH. This implies that on the NSE, there is benefit in examining the historical sequence of prices as far as forecasting the future is concerned. It therefore means that, the role of the market in determining and setting stock prices to reflect their fair values vis a vis the automatic interpretation of the corporate body of publicly available information about a company's performance and prospects, is a far cry.

4.2.3 Responses from Questionnaire on NSE's Efficiency:

The responses are arranged taking into consideration some basic features of market efficiency as postulated by the random walk theory as follows:

a) Whether there are opportunities of predicting future share prices based on past information of a company

TABLE 4.2.9

Respondent	Yes		No	
	No of Responses	% of Responses	No of Responses	% of Responses
Investor	20	65	11	35
Brokers	18	60	12	40
Financial Intermediaries	14	54	12	46
Market Analyst/Regulation	03	50	03	50
Management of NSE/SEC	16	80	04	20
Total Responses	71	63	42	37

SOURCE: Compiled by Author from questionnaire responses.

From the above presentation of the responses as to whether there are chances of predicting future prices based on past information of a company's performance, it could be observed that in the overall 63% or 71 respondents accept this fact with only 42 or 37% of the respondent refuting. About 65% of investors confirm this assertion. The Brokers in the market support the investors with 18 Responses or 60% of their total responses. The stockbrokers are dealing members of the Stock Exchange who provide specialized and expert services to anyone (an investor) who wants to buy or sell shares. Their opinion of the market adds more weight to that of the investors since in most cases the brokers are agents of investors and as such conversant with the market operations. Furthermore, every actor of the market including financial intermediaries, market analyst and regulators are of the opinion that there are chances of predicting future prices of stocks on the market. Even the management staff of NSE and SEC supports this fact by 80% of the responses.

Even though there is high applause to this conviction about the market with a total number 71 or 63% of respondents, a total number of 42 or 37% of the respondents still support the fact that the future prices cannot be predicted based on past information. The finding does not mean that there is absolute certainty in prediction but the probability of making a successful forecast is high. The issue of speculating or gambling still prevails but opportunities of gambling successfully are wider. Thus, the properties of a stock exchange being a market where prices cannot be predicted ahead of time is not true in the case of NSE, at least to 63% of the respondents in this study.

b. Whether patterns exist in stock price movement to such an extent that a smart investor can take advantage of it.

TABLE 4.2.10

Respondent	Yes		No	
	No of Responses	% of Responses	No of Responses	% of Responses
Investors	20	65	11	35
Brokers	19	68	09	32
Financial Intermediaries	14	54	12	46
Market analyst/regulators	3	37	5	63
Management of NES/SEC	15	75	5	37
Total Responses	71	63	42	37

SOURCE: Compiled by Author from questionnaire Responses

Further responses from the participants of the market reveal that about a total number of 71 or 63% of responses support the fact that patterns can be discerned in stock price movement and as such a smart investor can take advantage of this to make abnormal profits. The management of NSE/SEC had a total of 15 or 75% of this

responses supporting this feature in the market. The responses by investors, brokers and financial intermediaries were strongly in support of this feature. However, market analyst and regulators refuted this with 63% of their total responses. This can be attributed to legaliste reasons, in that, market regulators may not wish to expose their weakness on grounds that the market is not well regulated.

c. Whether Stock Prices are Appropriately Valued?

TABLE 4.2.11

Respondent	Yes		No	
	No of Responses	% of Responses	No of Responses	% of Responses
Investors	13	42	18	58
Brokers	06	20	24	80
Financial Intermediaries	11	46	13	54
Market Analyst/regulators	11	57	03	43
Management of NES/SEC	10	66	08	44
Total Responses	44	40	66	60

SOURCE: Compiled by Author from questionnaire Response

Common stock valuation is one of the most controversial issues on the Exchange floor. This is due to several factors that influence the price of variable income security, factors inherent and fundamental to the stock, factors outside the issuing company's control such as economic, business, political and psychological factors that must be considered. With the case of the NSE, the pricing mechanism, functioning and operations of the pricing system are not accepted by many of the respondents; about a total number of 66 or 66% of the responses. Most respondents interviewed complained that the stock prices are not the true reflection of the intrinsic value of the stocks of the company quoted. From the above table, brokers the main

group concerned with this pricing issue strongly refuse the fact that prices are appropriately valued by 80% or 24 of their total responses. Also the investors with 58% or 18 of this responses and financial intermediaries with 54% or 13 of their responses support the fact that prices are not a true reflection of the true value of stocks.

These are the groups who strive for adequate and appropriate pricing of stocks on the exchange and complaints of undervalued or overvalued stocks or shares of quoted companies, among other reasons are common in the market. One of the reasons for the operation of the parallel market outside the Stock Exchange floor in the past years was as a result of the pricing problem. It might not be surprising for a total number of 16 or 66% of the respondents of the management of NSE/SEC and a number of 4 or 57% of market analyst and regulators to accept the fact that prices are appropriately valued. They are the market operators and need to support their efforts. Thus, in the overall, their views could be overlooked in this case. However, a total number of 66 or 66% of the total responses supported the fact that stocks are not appropriately priced, with only 34% placing reliance on the markets pricing mechanism.

d. Whether there are chances of abnormal profits as a result of insider dealings.

TABLE 4.2.12

Respondent	Yes		No	
	No of Responses	% of Responses	No of Responses	% of Responses
Investors	19	59	13	41
Brokers	18	70	12	30
Financial Intermediaries	16	100	-	-
Market analyst/operators	4	67	2	33
Management of NES/SEC	10	66	8	44
Total Responses	67	66	35	34

SOURCE: Compiled by Author from questionnaire Responses

From table 4.2.12 above, it can be observed that all groups of respondents accept the fact that there are chances of abnormal profit as a result of an investor trading in the securities of a quoted company based on unpublished price-sensitive information of the company. A total of 67 or 66% of the respondents support this fact. The responses from the financial intermediaries show 100% in support, while 66% of management of NSE and SEC, 59% of investors, 70% of brokers and 67% of market analyst and regulators are also in agreement. The low percentage of 59%of investors, which is the lowest in this issue should not be surprising since they are the ones who seek unpublished information about the companies they wish to trade in their shares. Even though in the developed or considered efficient stock markets this issue of insider trading has not been completely wiped out, that of the NSE is very prevalent. One of the difficulties of accepting the applicability of the strong form of the Efficient Market Hypothesis (EMH) in determining market efficiency has been the issue of insider dealings.

e. Whether the Market can be said to be Efficient.

TABLE 4.2.13

Respondent	Yes		No	
	No of Responses	% of Responses	No of Responses	% of Responses
Investors	06	19	26	81
Brokers	14	47	16	53
Financial Intermediaries	-	-	15	100
Market Analyst/Regulators	03	50	3	50
Management of NES/SEC	12	60	8	40
Total Responses	35	34	68	66

SOURCE: Compiled by Author from Questionnaire Responses

Judging from the foregoing analysis that delved into some basic features of an efficient market, one can conclude that the market is not efficient. For further confirmation to this issue, the responses on the market's efficiency specifically were received. A total number of 68 or 66% of the responses show that the market is not efficient. This can be broken down with investors having about 81% of their responses to this fact, financial intermediaries wholly (100%) in support that the market is not efficient and also brokers with 53% of their responses. These responses show that the participants are not convinced of the market's level of efficiency. Perhaps, they take the market only as a last resort of capital as it ought to be.

Blending these findings with the high positive correlation coefficients of above 0.95 on the average and the result from the runs test within the study period, it could be concluded that the Nigerian Stock Exchange is not efficient and that successive price changes of securities are dependent on preceding prices.

The market might not, however, be adjudged to be totally inefficient in its operational character. From the serial correlation test, it was found that prices are not

correlated about the coefficient of 0.05 on the average; also under the Runs test, about 5%, and 34% of the total respondents show that the market is at least efficient. Thus, the market could be said to be at a very low level of the Weak form of the EMH.

4.3 Determination of Predominant factor Influencing Stock Price Movement:

Literature suggests certain variable that should be employed in measuring investor reactions to stock performance – among which include earnings per share (EPS) and Dividends per share (DPS). The analysis that is discussed hereunder is done first on quarterly groups and second on the overall sample. That is, companies that usually pay dividends in respective quarters of the year are grouped together and the price selected for each is that end of quarter average price. This is to avoid any bias on the sample when only the end of year average price is considered.

TABLE 4.3.1: DATA ON DPS, EPS AND STOCK PRICE FOR 1994 TO 1997

		1994			1995		
	NAME OF COMPANY	DPS	EPS	PRICE	DPS	EPS	PRICE
	1ST Quarter Group Companies						
1	Premier Breweries Plc	0.06	0.07	0.83	0.06	0.07	0.81
2	Arbico Plc	0.12	0.76	1.18	0.12	0.76	1.35
3	Tate Industries Plc	0.05	00	0.50	0.05	00	0.49
4	Daily Times Plc	0.06	00	0.51	0.05	00	0.46
	First Quarter Group Averages	0.07	0.21	0.76	0.07	0.21	0.78
	2nd Quarter Group Companies						
5	Okitipupa Oil Palm Plc	0.07	00	0.91	0.07	00	0.79
6	First Bank of Nig. Plc	0.50	1.56	3.39	0.50	1.40	2.93
7	Union Bank Nig. Plc	0.15	0.53	2.10	0.15	0.53	3.31
8	Ashaka Cement Plc	0.25	0.90	3.68	0.25	0.86	5.74
9	Lennards (Nig) Plc	0.05	0.06	0.35	0.05	0.17	1.40
10	Liz-Olofin and Coy Plc	0.05	0.08	0.53	0.05	0.08	0.50
11	Allco Insurance Plc	0.25	0.42	4.87	0.25	0.29	4.76
12	Total Nigeria Plc	1.40	3.75	7.13	3.20	5.42	12.34
	2nd Quarter Group Averages	0.34	0.91	2.87	0.91	1.09	4.00
	3rd Quarter Group Companies						
13	Grommac Inds Plc	0.05	0.08	0.54	0.05	0.31	0.86
14	Bewac Nig. Plc	0.05	00	0.50	0.05	00	0.50
15	Champion Brew Plc	0.02	00	0.10	0.02	00	0.10
16	W.A. Porland Comp Plc	0.25	2.41	3.35	0.50	0.79	13.45
17	Berger Paints Plc	0.25	0.34	3.16	0.30	0.87	6.28
18	Morison Industries Plc	0.15	0.52	1.34	0.20	0.65	4.17
19	WTN Plc	0.10	0.13	0.65	0.10	0.37	2.45
20	AG Leventis Nig Plc	0.20	0.33	1.50	0.20	0.32	3.35
21	UTC Nig. Plc	0.09	00	0.91	0.09	0.12	1.67
22	Bata Nigeria Plc	0.05	00	0.50	0.05	00	0.50
23	Smithkline Beecham Nig Plc	0.32	0.45	3.29	0.20	0.39	5.37
24	Blackwood Hodge Plc	0.17	00	1.89	0.17	0.04	0.47
25	Stokvis Nig Plc	0.06	00	0.15	0.06	00	0.14
26	Abplast Product Plc	0.02	0.05	1.10	0.05	0.13	0.99
27	W.A. Glass Ind Plc	00	00	0.50	00	00	0.40
28	African Petroleum Plc	0.80	1.43	4.82	2.00	6.28	15.33
29	United Nigeria Textile Plc	0.25	0.23	3.82	0.25	1.12	3.82
	3rd Quarter Group Averages	0.17	0.35	1.65	0.25	0.67	3.52
	4th Quarter Group Companies						
30	R.T. Briscoe Plc	0.15	0.27	1.55	0.16	0.37	2.75
31	Nigeria-German Chemicals Plc	0.22	1.66	3.77	0.22	1.10	9.79
32	Chellarams Plc	0.10	0.05	0.49	0.20	0.67	0.43
33	Thomas Wyatt Nig Plc	0.20	0.45	1.08	0.30	0.45	3.84
34	Roads Nig Plc	0.10	00	0.50	0.10	00	0.17
35	7-up Bottling Comp Plc	0.20	0.28	1.39	0.20	0.28	2.19
36	BCN Plc	0.11	00	0.95	0.11	00	0.46
37	Vono Products Plc	0.20	0.18	3.04	0.20	0.26	2.34
38	West African Prov Ins Coy Plc	0.15	0.20	1.44	0.15	0.04	0.91
39	University Press Plc	0.05	0.23	0.96	0.05	0.14	0.94
40	Enpee Ind. Plc	0.06	0.16	1.36	0.10	0.42	1.30
	4th Quarter Group Averages	0.14	0.32	1.50	0.16	0.34	2.30

Table 4.3.1 continued

		1996				1997			
	NAME OF COMPANY	DPS	EPS		PRICE	DPS	EPS		PRICE
	1ST Quarter Group Companies								
1	Premier Breweries Plc	0.06	00		0.79	0.06	00		1.09
2	Arbico Plc	0.15	0.27		1.64	0.15	0.27		1.37
3	Tate Industries Plc	0.05	00		0.36	0.05	0.39		0.13
4	Daily Times Plc	0.06	0.20		0.30	0.60	00		0.51
	First Quarter Group Averages	0.08	0.12		0.77	0.22	0.17		0.50
	2nd Quarter Group Companies								
5	Okitipupa Oil Palm Plc	0.07	0.07		0.90	0.07	0.07		1.02
6	First Bank of Nig. Plc	0.50	1.38		6.67	0.56	1.40		15.84
7	Union Bank Nig. Plc	0.25	0.72		6.36	0.50	1.20		14.00
8	Ashaka Cement Plc	0.30	2.29		10.05	0.18	0.91		13.42
9	Lennards (Nig) Plc	0.15	0.18		0.85	0.15	0.18		0.80
10	Liz-Olafin and Coy Plc	0.05	0.08		0.21	0.05	0.08		0.16
11	Alico Insurance Plc	0.25	0.48		7.63	0.25	0.44		15.08
12	Total Nigeria Plc	5.00	5.96		37.38	2.00	3.74		68.93
	2nd Quarter Group Averages	0.82	1.40		8.76	0.47	1.00		16.16
	3rd Quarter Group Companies								
13	Grommac Inds Plc	0.15	0.25		1.06	0.20	0.37		2.56
14	Bewac Nig. Plc	00	2.00		0.50	00	00		0.50
15	Champion Brew Plc	0.02	00		0.10	0.02	00		0.10
16	W.A. Porland Comp Plc	0.75	6.57		28.01	0.80	6.57		3.73
17	Berger Paints Plc	0.40	0.68		6.73	0.40	0.52		3.43
18	Morison Industries Plc	0.05	0.19		4.23	0.20	0.31		3.90
19	WTN Plc	0.20	0.66		6.14	0.10	0.25		5.43
20	AG Leventis Nig Plc	0.10	0.27		0.90	0.10	0.27		2.13
21	UTC Nig. Plc	0.14	0.17		1.05	0.14	0.17		1.37
22	Bata Nigeria Plc	0.10	0.19		0.50	0.10	0.19		1.00
23	Smithline Beecham Plc	0.20	0.29		8.48	0.25	0.37		5.30
24	Blackwood Hodge Plc	0.18	0.41		0.62	0.18	0.15		0.92
25	Stokvis Nig Plc	0.07	00		0.14	0.07	00		0.14
26	Abplast Product Plc	0.05	0.60		0.84	0.06	0.02		0.96
27	W.A. Glass Ind Plc	00	00		0.40	00	00		0.40
28	African Petroleum Plc	2.00	2.72		28.76	2.00	2.72		45.78
29	United Nigeria Textile Plc	0.30	1.04		7.43	0.35	1.04		5.03
	3rd Quarter Group Averages	0.28	1.41		5.64	0.29	0.76		7.86
	4th Quarter Group Companies								
30	R.T. Briscoe Plc	0.17	0.37		3.16	0.17	0.37		3.34
31	Nigeria-German Chemicals Plc	0.50	1.73		8.67	0.50	1.69		9.07
32	Chellarams Plc	0.05	0.19		0.50	0.10	0.35		0.50
33	Thomas Wyatt Nig Plc	0.35	0.89		8.63	0.35	0.54		2.68
34	Roads Nig Plc	0.10	00		0.37	0.10	0.17		1.79
35	7-up Bottling Comp Plc	0.20	0.29		1.39	0.30	0.60		2.67
36	BCN Plc	0.11	00		0.26	0.11	00		0.26
37	Vono Products Plc	0.20	0.27		2.34	0.20	00		2.9
38	West African Prov Ins Coy Plc	0.05	0.17		0.78	0.10	0.23		1.05
39	University Press Plc	0.10	0.30		1.33	0.10	0.11		1.50
40	Enpee Ind. Plc	0.10	0.58		3.20	0.15	0.79		3.05
	4th Quarter Group Averages	0.17	0.43		2.78	0.20	0.44		2.62

SOURCE: Compiled from Daily Official List of NSE (equities) for 1994 to 1997

TABLE 4.3.2 QUARTERLY GROUP AVERAGE VARIABLE SUMMARIES

	1994	1995	1996	1997	Mean Growth Rate %	Correlation Coefficients to Price
1st Quarter Group Variable Averages						
Dividend Per Share (DPS)₦	0.07	0.07	0.08	0.22	63.1	0.99
Dividend Payout Ratio (DPR%)	33.3	33.3	66.7	129.4	65	
Earnings per Share (EPS)₦	0.21	0.21	0.12	0.17	-0.4	0.12
Stock Price (P) ₦	0.76	0.78	0.77	0.50	-33.7	
2nd Quarter Group Variable Averages						
DPS (₦)	0.34	0.91	0.82	0.47	43.77	0.16
DPR(%)	37.4	83.5	58.6	47.00	76.65	
EPS(₦)	0.91	1.09	1.40	1.00	19.65	0.11
P (₦)	2.87	4.00	8.76	16.16	80.95	
3rd Quarter Group Variable Averages						
DPS (₦)	0.17	0.25	0.28	0.29	21	0.91
DPR (%)	48.6	37.3	19.9	38.10	21.56	
EPS (₦)	0.35	0.67	1.41	0.76	51.93	0.55
P (₦)	1.65	3.52	5.64	7.86	71.00	
4th Quarter Group Variable Averages						
DPS(₦)	0.14	0.16	0.17	0.02	12.73	0.79
DPR(%)	43.7	4.71	39.5	45.45	6.71	
EPS (₦)	0.32	0.34	0.43	0.44	11.68	0.87
P (₦)	1.50	2.30	2.78	2.62	15.86	
All Sample Variable Averages						
DPS(₦)	0.18	0.35	0.34	0.30	27.56	0.43
DPR(%)	40.7	50.3	46.1	65	18.67	
EPS (₦)	5	0.58	8	0.60	15.05	0.45
P. (₦)	0.45	2.65	0.84	6.80	59.9	
	1.70		4.49			

SOURCE: Compiled by Author from table 4.3.1
Correlation coefficient of DPS, EPS each in relation to price (P)

4.3.1 Test of Hypothesis

The following hypothesis is posed as frame of reference for this discussion

H_0: That on the Nigerian Stock Exchange, stock price movement is more a function of dividend per share than earnings per share declared.

H_a: That on the Nigerian Stock Exchange, stock price movement is more a function of Earnings per share declared than dividend per share.

(i) **First Quarter Group:**

For the first quarter group presented in the table above, it can be observed that dividend per share was stable between 1994 and 1995, but rose to ₦0.08 in 1996 and to ₦0.22 in 1997 yielding an average growth rate of 63.1%. Dividend payout ratio grew consistently from 33.3% in 1995 to 66.7% in 1996 and to 129.4% in 1997 – and average growth rate of 65%. Earning per share, on the other hand experienced a decline in 1996 to ₦0.12, but rose to ₦0.17 by 1997- with an average negative growth rate of – 0.4%. Stock price of companies in this group rose from ₦0.76 in 1994 to ₦0.78 in 1995 but faced a decline to ₦0.77 in 1996 and ₦0.5 in 1997. With an average negative growth rate of – 33.7%.

As both EPS and stock price had negative growth rates and one might apparently say they are correlated positively. Obviously, the dividend policy in this group was not tied to earnings growth. The correlation between DPS and stock price was very high with a coefficient of 0.99 while the correlation between EPS and stock price had a coefficient of only 0.12. The evidence emanating from these results suggest that the companies who pay dividends in the first quarter of the years studied have little relationship between stock price movement and EPS. The declining stock prices may not be unconnected to the fact that most of the companies in this group paid dividends out of reserves showing a poor performance of this group.

(ii) Second Quarter Group:

In the second quarter group of companies, DPS grew from ₦0.34 in 1994 to ₦0.91 in 1995 and declined to ₦0.82 in 1996 then to ₦0.47 in 1997. This trend was also experienced in the Dividend Payout Ratio (DPR) with DPS having an average annual growth rate of 45.77% and DPR having 76.65%. On the other hand, EPS maintained a consistent rise from ₦0.91 in 1994 to ₦10.9 in 1995 and to ₦1.4 in 1996 but fell slightly to ₦1.00 in 1997 – with an average growth rate of 19.65%. Price had a rapid growth rate of 80.95% from ₦2.87 in 1994 to ₦4.00 in 1995, to ₦8.76 in 1996 and ₦16.16 in 1997. The high DPR growth rate in this group shows that DPS seems to be tied to EPS in contrast to the first quarter group. The high growth rate in price can be seen to be as a result of the fact that companies in this group were companies with performing stocks and also four of them including First Bank of Nigeria Plc, Union Bank Nig. Plc, Ashaka Cement Plc, and AIICo Insurance Co. Plc, were on the top 50 companies by performance indicators on the NSE over the period. Also, the financial industry has been experiencing an appreciation in their stocks within this period. However, the correlation coefficient of DPS to stocks price was rather lower than that in the first quarter group that is only 0.16 though slightly higher than EPS with 0.11. Again DPS is predominating in this group though not with a big margin. Reliance can thus also be placed on EPS since DPS paid were out of EPS as shown by the high DPR. Since DPR is very high, 76.65%, it would appear that the rising stock price in the group may have been induced by the rather high dividends paid during the period giving evidence to the "bird-in-the-hand" theory.

(iii) Third Quarter Group:

The picture is slightly different in the Third Quarter Group where DPS rose throughout from ₦0.17 in 1994 to ₦0.25 in 1995 to ₦0.28 in 1996 and ₦0.29 in 1997 with an average growth rate of 21%. DPR instead had a declining rate within the period, with 48.6% in 1994, dropping to 37.3% in 1995 to 19.9% in 1996 and rising to 38.1% in 1997 with an average growth rate of 21.56%. This may be attributed to asset expansion of companies within this group. EPS also maintained the growth pattern of the DPS, growing from ₦0.35 in 1994 to ₦0.67 in 1995 to ₦1.41 in 1996 and then dropping to ₦0.76 in 1997 – an average annual growth rate of 51.93%. Stock price seem to have been tied to DPS with a persistent rise from ₦1.65 in 1994 to ₦3.52 in 1995 to ₦5.64 in 1996 and to ₦7.86 in 1997 – an average growth rate of 71%. One might again be constrained to argue that the rising DPS must have induced the stock price to rise.

Indeed, the coefficient of correlation for DPS to stock price was high, 0.91 while for the EPS to stock price it evened at 0.55. Like the other groups, the DPS had a greater influence on the stock price movement than EPS. Majority of the companies studied fell in this group.

(iv) Fourth Quarter Group:

Evidence emanating from the fourth quarter group of companies show that the DPS just as in the third group grew consistently throughout from ₦0.14 in 1994 to ₦0.16 in 1995 to ₦0.17 in 1996 and to ₦0.2 in 1997 – average growth rate of 12.73%. The DPR experience the same trend with a slight drop in 1995 to 39.5 % but rose to 45.45% in 1997 – an average growth rate of 6.71%. EPS just like DPS grew

throughout the period from ₦0.32 in 1994 to ₦0.34 in 1995 to ₦0.43 in 1996 and to ₦0.44 in 1997-an average growth rate of 11.68%. The positive growth rates of EPS and DPS show again that DPS was tied to EPS through out the period, though with a low DPR. The coefficient of correlation in this group showed a different trend unlike the other groups. The EPS had a high coefficient of 0.87 to price while DPS coefficient to price was only 0.79. Though all the correlation coefficient are high, the EPS in this group could be said to have a predominating influence on stock price movement than DPS. The stock price grew from ₦1.5 in 1994 to ₦2.3 in 1995 to ₦2.98 in 1996 but had a slight drop to ₦2.62 in 1997 with an average annual growth rate of 15.86%.

(v) All-Sample Averages:

The picture that emerges from the foregoing analysis suggests that inspite the growth in EPS, stock prices have tended to grow in the direction of the growth in DPS in almost all groups except the fourth quarter group companies, as evident by their correlation coefficients. On the other hand, the near similarity of growth rates for EPS and stock price has to be taken note of for the first, third and fourth quarter groups i.e minus 0.4% and minus 33.7%, 51.93% and 71%, 11.68% and 15.86% respectively. Also, the correlation coefficients of DPS to price in the first, second and third quarter groups were extremely high vis-à-vis EPS to stock price

These two conflicting positions create a problem of confidence in the choice of the more important variable. When data for all companies are combined to obtain some single point of reference as in all-sample section in the table above, the picture becomes slightly clearer. However, the problems of averaging are being taken

cognizance of. While EPS maintained a consistent rise with a growth rate of over 15.05%, the DPS consistently dropped after a rise in the second year. Growth rate in DPS averaged 27.56%. In response, the stock price maintained a consistent rising pattern with an average growth rate of 59.9%. From our computations, the correlation coefficient for DPS and stock price was 0.43, and that of EPS and price was 0.45. These shows that EPS has in the overall a more predominating influence on stock price behaviour than DPS on the Nigerian Stock Exchange. This means that the alternative hypothesis is accepted in favour of EPS. Inspite the clear overall picture, it should be observed that averages betray specific companies' trend. Infact, the conflict is not fully resolved in its very essence until when specific companies or industries that tend to show better results are studied in greater detail.

4.3.2 Responses From Questionnaire:

Table 4.3.3

Respondents	**DPS**		**EPS**	
	No of Responses	% of Responses	No of Responses	% of Responses
Investors	18	60	12	40
Brokers	12	40	18	60
Financial Intermediaries	13	50	13	50
Market Analyst/Regulators	4	44	5	56
Management of NSE/SEC	9	45	11	55
Total Responses	56	48	59	52

SOURCE: Compiled from Questionnaire Responses

To further testify the empirical findings, the responses from the questionnaires seem to show the same picture. The overall analysis show that 52% of the responses

are in favour of EPS and only 48% infavour of DPS – still a low margin as in the correlation coefficients. A brake down shows that investors support DPS with 18 of their responses or 60%. This is obvious since most Nigerian investors prefer to buy shares of a company that pays dividend regularly and in an increasing trend, that is, "bird-in-the-hand" investors. The situation reverses as the responses from the other groups of participants are being assessed. A total of 18 or 60% of brokers support EPS, while financial intermediaries evenly support both variable and also market analyst and management of the Exchange support EPS with 56% and 55% respectively.

Evidence from this study however suggests that EPS are a better motivator of stock price behaviour than Dividend per share payments in relation to investment selection. Though it is still not conclusively resolved which has the greater influence on stock price movement because of the close range of their coefficients (0.43 for DPS and 0.45 for EPS), it does seem that EPS growth expectations are valued more than DPS by a greater number of knowledgeable Nigerians who regularly monitor corporate performance. Infact, most of the responses in favour of EPS were from the "Learned" group of the market operations. This includes the Stock Brokers who using their price-fixing powers often immediately reflect corporate performance in terms of profitability and EPS in stock prices even before the declaration of dividends by such corporate bodies.

4.4 Impact of Trading Volume on Stock Price Behaviour:

In a bid to determine the extend to which trading volume affects Stock price

trends, a La Ying (1966), some questions were designed to assess the situation on the NSE as follows:

a). **What Significance Does Trading Volume of a Company have on the Buy or Sell Decision of its Shares**

Table 4.4.1

Respondents	Very Important		Important		Not Important	
	No. of Responses	% of Responses	No. of Responses	% of Responses	No. of Responses	% of Responses
Investors	3	9%	26	74%	6	17%
Brokers	2	7%	19	68%	7	25%
Financial Intermediaries	-	00	14	52%	13	48%
Market Analyst/Regulator	1	17%	02	33	03	50%
Management of NSE/SEC	-		14	70%	06	30%
Total Responses	**6**	**5%**	**75**	**65%**	**35**	**30%**

SOURCE: Compiled by Author from Questionnaire Responses

From the responses, a total of 75 or 65% of the respondents acknowledge the fact that trading volume of a company has an important influence in the buy or sell decision of it's stock; only 5% see volume very important while 30% of the respondents do not look at volume important. Infact all groups of participants take volume important except market analysts that has 50% of their responses that look at volume unimportant for buy or sell decision of stocks.

b). **Trading volume is regarded important only because it serves as a confidence indicator of that company's performance.**

From the table below, one could link up the first issue of the importance of trading volume to the fact that investors consider its influence only as a confidence indicator of that company whose shares are being traded. Infact, a total number of 69 or 64% of the responses are in favour of this.

Table 4.4.2

Respondents	Yes		No	
	No. of Responses	% of Responses	No. of Responses	% of Responses
Investors	18	62%	11	38%
Brokers	20	67%	10	33%
Financial Intermediaries	13	54%	11	46%
Market Analyst	3	43%	4	57%
Management (NSE/SEC)	15	83%	3	17%
Total Responses	69	64%	39	36%

SOURCE: Compiled by Author from Questionnaire Responses

All groups vehemently support this fact individually except market analyst who refute it by 57%. This is in relation to the case above where they did not see any importance of trading volume on the buy or sell decision of a company's stocks. However, volume is a measure of the intensity of investor's emotion. Infact, it takes volume to really move price of stock as observed by the 64% of the responses. It can thus be concluded that trading volume is considered important to the stock price movement only to the extent that it serves as a confidence indicator to investors of a company's stocks on the Nigerian Stock market.

4.5 Summary of Research Findings:

From our analysis, the following findings can be established;

(a) That the NSE is not efficient. This is evident by the high correlation coefficients of 0.97, on the average between successive price changes of stocks on the market within the period. The Runs test results and the response from the questionnaires administered also support this. This means that share prices on the Nigerian Stock Exchange are not random.

(b) That the more predominating factor influencing share price behaviour or movements on the NSE between earnings per share (EPS) and Dividends per share (DPS) is EPS. The results from the test of this hypothesis show that in the overall, EPS has a correlation coefficient of 0.45 to price than DPS with only 0.43 within the review period. Responses from the questionnaire support this fact by 52% of total responses. Thus, EPS can be said to be better motivator of stock price behaviour than DPS payments in relation to investment selection.

(c) That trading volume is only important to the extent to which it serves as a confidence indicator to investors about a company's performance on the Exchange.

(d) Response from the questionnaire and interview conducted suggest that future prices can be predicted with a high degree of certainty on the market; that patterns can be discern in stock price movement to such an extent that a smart investor can take advantage to make abnormal profits. Also, that the Exchange pricing mechanism is not reliable and also that there are dubious activities of

investors, who exploit the market through insider dealings. Other response showed that most companies do not supply their performance reports to the market on time, and also the interventionist forces of the government does not allow free market mechanisms of demand and supply to operate, among others.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction:

In this final chapter of the study, our findings will be summarized so as to enable us draw a conclusion from such findings, and then make recommendations as to areas we feel in our opinion need changes or adjustments as per the subject matter. The chapter is divided into six sections; section two, the summary of the study; section three, conclusion; section four, limitations and problems which were encountered in the course of the research work; section five recommendations, and section six, possible directions for future research.

5.2 Summary:

The main objective of this study was to empirically assess the operational efficiency of the Nigerian Stock Exchange as regard the movement or behaviour of its security prices, that is, whether the successive price changes of stocks are random to be adjudged as being efficient. Also, to determine the more predominating factor between dividend per share (DPS) and earnings per share (EPS) that cause this movement in stock prices. The problem of study was stated to have arisen among other issues, the lacklustre performance of the market since its establishment thirty-eight years ago. The scope surrounded equity securities that are listed on the first-tier (main) security market (FSM), which represent about 90% of the market by the

overall performance indicators of size, capitalization, number of listed Securities, value and volume of trading, etc. The significance of the study was also stated, most importantly to open to the fore what was hitherto not conceived of the market- its level of efficiency.

The literature review for the study discussed the financial market and its classification into two segments, namely money and capital markets. The study adopts the stock exchange as the capital market that in strict sense is the secondary segment of the capital market for the trading in existing securities. Further, the regulatory bodies of the capital market, especially in Nigeria, both statutory and non-statutory, the development of the Nigerian Stock Exchange (NSE) which was mentioned to be the brain child of the Barback Committee in 1953 which started in 1961 as the Lagos Stock Exchange until 1977 when it became the NSE; the membership of the exchange, functions and objectives were discussed. The theoretical framework of this study was basically on the researches that have been carried out about the behaviour of equity shares or common stocks. The main thrust has been to answer the question on how the movement or behaviour of stock prices can be determined in order to predict meaningfully future prices of stocks and also what causes these stock price movements in advanced stock markets. Three schools of thoughts in this issue were discussed as the main schools that attempt to generate possible answers to the behaviour of stock prices. These schools include: The technical analyst school, who argues that they can discern trends in stock price behaviour. The fundamental analyst, who attempt to estimate the intrinsic worth of security by considering key economic and financial variables before an investment

decision is reached. And the Random Walk analyst or Efficient Market Hypothesis theorists which does not see the usefulness in analyzing past prices in order to predict future stock prices since prices reflect all available information about a stock in the market.

Literature on factors that determine stock price movement was also reviewed. This was on the premise of Dividend Relevant and irrelevant argument on the more predominating factor that causes stock prices movement between dividend per share and earning per share. Studies in Nigeria in these areas were also highlighted. The researcher, therefore, concluded that a market that has undergone structural changes, inflation, growth, and increase awareness of the citizenry of its operations and functions, needs a test of its efficiency based on the most recent school, Random walk theory, which has been widely accepted by most researchers, both professionally and in the academia.

As an empirical study, data was collected primarily from the daily official list of the Nigerian Stock Exchange, equities listing. Companies used for the study as samples were selected using stratified random sampling. Also, questionnaire and interview methods were used to obtain information from some participants of the market particularly investors, brokers, financial intermediaries, market analyst, the management staff of NSE and SEC. Both opened and closed questions were used in the questionnaire. Questionnaires were sent to all the six branches of the Exchange and also to some major towns in Nigeria. The techniques used for analyzing the data collected were statistical-runs test and serial correlation, as well as, simple and percentages for the questionnaire responses.

The data obtained were analyzed in terms of the hypotheses stated. The first hypothesis, about the efficiency of the market was tested using serial correlation and then runs test and also by analyzing responses of the questionnaire based on this issue. The evidents generated in this study appears to suggest that the NSE is not efficient. This was evident by the high correlation coefficients from the serial correlation test, the results of the runs tests and also feed back from the respondents to the questionnaires. Findings from testing the second hypothesis, on the more predominating factor influencing stock price behaviour, show that EPS is more predominant than DPS. Other responses suggest that volume is only important to the extent that it serves as a confidence indicator to investment decision of investors. Also, that Government influence on the market affects the free flow of its operations as a Demand/Supply driven market, and that most quoted companies do not supply adequate and timely reports about their performance in the market, among other reasons and as such adversely influencing the operations of the market.

5.3 Conclusions:

The NSE occupies a central place in the Nigerian Capital market. It serves a continuous role as a place for the sale of second-hand or existing securities and for the mobilization of capital resources for industry and Government. The main purpose of such a market is to transfer funds between lenders (sources) and borrowers (producers) efficiently. Most economies use capital market development as a potential conduit for channeling long-term funds into the productive sectors. The paucity of long-term capital for economic development and growth has been a bane of most

developing countries, including Nigeria, and capital market has been one of the focal point as a credible alternative source and mechanism of supporting equity long-term investment financing. In fact, if capital resources are not provided to those economic areas (industries) where demand is growing, and which are capable of increasing productivity, then the rate of expansion of the economy will inevitably suffer.

The NSE has played a predominant role in promoting the level of capital formation and productive investment in the economy since its establishment thirty-eight years ago. The exchange which started with only 19 securities traded on its floor in 1961, now has 264 securities made up of 26 Government Stocks, 57 Industrial loans and 181 equity stocks, all with a total capitalization of approximately ₦335 billion by 1997. Most of the companies listed have foreign/multinational affiliations and represent a profile of various sectors of the economy. The Exchange has recorded significant growth in all its performance indicators such as market turnover, market capitalization, index, foreign investment portfolio transactions, and the new issues market. However, for the market to fully perform the function for which it was established, and thus justify its raison d'etre, it must be efficient in its operational character. Specifically, the raison d'etre relates to its role in determining and setting share prices to reflect their fair value vis-à-vis the automatic incorporation and interpretation of publicly available information about a company's performance and prospects.

An efficient capital market should allocate a greater proportion of a given volume of savings to those companies who provide the highest prospective rates of return after given due allowance for risk. Consequently, the price mechanism, through

the market, should channel funds into the most productive areas reflecting in turn the whole societal needs. This means that information about a company should be widely and cheaply available to all investors and that scarce savings are optimally allocated to productive investment in such a manner as to benefit everyone. Thus, in an efficient market, information must be freely available to rational profit-optimising investors; stock prices must be fairly valued in such a way that the average investor will receive a fair return because the market will be an efficient indicator of earnings potential and risk.

From our findings, it can be concluded that the market is not efficient in its operational character. In other words, successive price changes of security were dependent and as such prices were not appropriately valued. There are chances of correctly predicting future prices, thus prices are not random in the market. Also, the more predominating factor influencing these price movements between EPS and DPS is EPS and that trading volume is just a confidence indicator about a security. In a bid to seek reasons for the poor state of the market, several factors were discovered to be the cause of such a position of the market.

Firstly, the interventionist roles of SEC and NSE on the capital market have partly contributed to this poor performance and development of the market. This is because the pricing mechanism, business volume, and price movements remain under tight control thus creating a shallow and inefficient market. What makes for efficiency in a market is its broadness, depth, and frequency of activity occasioned by high turnover of securities. Also, the 5% rule that sets the upper and lower limits to ·ch equities can rise or drop makes no sense in a free market mechanism.

Another problem raised is the macro-economic instabilities arising from depreciation in exchange rate, high and rising inflation rates, poor quality and high cost of financial services which are themselves of limited range, and also the lack of confidence about the solvency of key financial institutions and the high rate of distress among banks.

Furthermore, the paucity of securities on the market resulting to shallowness of the market has been another reason. The number of listed securities of about 264 of which 184 are equities are so small for the market to have the necessary depth to operate efficiently. Infact, this has led to the low volume of secondary market transactions with less than 2 percent turnover ratio per annum. Also, the low volume of transactions on the NSE is as a result of large bloc of shares held by foreign and institutional investors who hardly trade their holdings; and most Nigerian investors still regard investments like real estate property, as something for keeps for posterity. Most respondents pointed out that this buy-hold syndrome is a very serious problem affecting the market operations.

Another reason is that there is high transaction costs especially higher cost of equity funds relative to debt instruments resulting from higher taxes on equities, absence of deduction from capital losses and higher underwriting expenses such as issuing, printing, distribution and registration costs. This discourages companies above the minimum requirements of being able to be listed on the exchange from seeking to be listed.

Also the infrastructural facilities in the NSE are mostly outdated, inadequate and inefficient. Both the postal and telecommunication systems are inadequate in the

country and this makes trading activities difficult. There is the inadequate flow of market information owing to these poor infrastructural facilities. Market information that could assist interested investors in making rational and informed market decisions do not get disseminated to all investors at the same time or speedily. More so, access to information on listed companies is limited. Most of the investors and brokers who responded complained that some companies have not even sent to the market their reports in the last three years.

Another hallmark has been the low public awareness of the financing possibilities of the stock market. Unlike the money market whose activities are well known, the activities in the capital market are still not well known and understood by most Nigerians. This is evident by the buy-hold syndrome, that characterizes an average Nigerian investor; religious beliefs where some investors are increasingly deferring to as against the more liberal Western investor as confirmed by low performance of the prices of alcoholic beverage stocks e.g. Premier Breweries Plc. and Champion Breweries Plc. in the sample.

The strong aversion to dilution of ownership is another reason. Comparing the total number of listed companies (184as at 1997) with the number of registered and incorporated companies in the country is a strong indication of the underlying problem facing the market. Nigerian investors are unwilling to lose control of the family promoted companies. The high transaction cost and the cost of going public may constitute a disincentive to most of these companies. More so, there is inadequate Government incentives for corporate financing through the stock market.

Other constraints facing the market include: political instability; inhibited capital inflow from foreign investors arising from restrictions placed on foreign investors regarding business to engage in, the maximum level of equity participation and repatriation of earnings and principal; illiquidity due to the shallow depth, breadth of market, low professionalism or limited experience personnel on capital market operations; lack of proper supervision of key players of the market; and the poverty state of an average Nigerian citizen, even if aware may not have the funds to trade in the market.

Conclusively, the importance of the Nigerian stock Exchange to economic development in spite its slow growth and inefficiency cannot be over-emphasized. It will continue to provide avenues for Government and corporate entities to effect optimal financing and capital base broadening. Such sound financial services will, no doubt, serve as hedge against the vagaries of business and economic cycles that have in recent times shaken the basic fabrics of the national economy. The stock market provides the right sign posts that serve as economic indicators and a means through which the needed economic development and recovery could be achieved. Recent developments in the market such as the Central Securities Clearing System (CSCS), the Automated Trading system (ATS), the internationalization of the market among others will have a significant impact on the operation of the market and thus shift the paradigm positively to a more efficient market.

5.4 Limitations to the Study:

This research study encountered some limitations. First of all, the selection of stockprices of the companies within the review period was a tedious process since it involves a large range of data to work with. Also getting the Stock Exchange official list was not easy because the Stock Exchange libraries visited had them haphazardly documented. Also, there was limited literature or absence of literature on the NSE as far as price movement is concern.

Another limitation was the non-responses of most of the questionnaires issued. Out of 200 questionnaires administered, only 113 questionnaires were received from the respondents. Also, some respondents did not complete the questionnaires. The demerits of questionnaires and interviews in obtaining information were also a limitation. For instance closed questionnaire has little depth and limited scope for information yield; misinterpretation of questions; and the bias and psychological influence of the interviewer.

The sampling method used in the study (stratified random sample) could pose different results if the study was conducted using other sampling method, for example, using stratified non-random sampling or industry to industry analysis.

Another limitation was in the interpretation with adequate reasons for the results established from the findings. This is due to the mixed economic indicators and preferences of most investors on the market. Any effort made to explain adequately the results might not be wholly satisfactory.

The scope used in this study could have been, say up to ten years in order to have reasonable conclusions about the market. But the period as from the

promulgation of Structural Adjustment Programme (SAP) until now has undergone a lot of structural changes and may pose a lot of problems to the findings of the study.

The time for the study and funds required for the research was limited. Money was a big problem since it warranted the researcher to frequent the Stock Market floors and to contact some investors and brokers. Though this was done to a limited extend, it would have been possible if enough funds were available. Also, the responses from the questionnaires took a long time to be received from the respondents. Nevertheless, the circumstances were adequate enough for the study to be carried out to its logical conclusion.

5.5 Recommendations:

The study has argued that the NSE as a main source of long-term financing for investment development has remained sluggish in terms of growth, efficiency, activity and fund mobilization. Its operational character remains cumbersome and awareness of its functions limited. As a result, users of the market remain few, securities are still in short supply and participation in the market restricted to few large companies and the Federal Government. Some solutions proffered to mitigate some of these problems and thus improve on its efficiency include the following:

a). Adoption of sound macro-economic policies, namely: Realistic exchange rate, realistic interest rates, and efficient deregulation of the economy. This will enhance an overall socio-political climate, which will stimulate savings and investment, and hence growth.

b). Privatisation and commercialization of Government enterprises, has proved to be the real driving force to the growth of many emerging Stock Exchanges. Privatization in particular quickly increases the size and liquidity of small markets. With the privatization programme in Nigeria, over 23 privatized enterprises have been listed on the NSE since the decree was promulgated. More incentives are desirable to stimulate non-Governmental efforts at broadening the scope of investible securities for domestic and foreign investments.

Also, future privatization exercise should be opened to non-resident participation. This would generate necessary foreign exchange for such enterprises, in addition to international exposure. The experiences of some Latin American Markets in search of funds and listing, through privatization of public utilities are worth emulating. The floating of Ghana's Ashanti's Goldfield Company and the recent application of United Bank for Africa (Nigeria) Plc on the New York and London Stock Exchanges are growing examples towards this drive.

c). No capital market institution works in isolation; and for the entire system to function properly therefore, fiscal policies and incentives that can stimulate both investors and users of long-term funds should be made by Government. This means that, the Government should take cognisance of the fact that the shortcomings in the operation of the market as presently constituted, can only be alleviated by policies which recognizes synergy between the private sector as the engine of

economic growth and development, and government as provider of infrastructure and safe environment conducive for business activities. Government should, for example, redouble its effort in bringing the privatization exercise back on track while removing impediments such as cost of listing which discourage companies from seeking quotation.

d). The institutional framework has to be developed for adequate infrastructure for efficient communication, pricing of issues, marketing of equities, efficient deliveries and settlements. Communication facilities must be adequate to relay information between buyers and sellers. The introduction of an institutional system for transmitting information regarding price, market and quoted companies to the public is necessary for instilling confidence and knowledge about companies. The introduction of the CSCS (an integrated control depository, clearing and settlement system), and the Automated Trading System-ATS (to access stock Brokers' offices anywhere in the country with the central processing units, (CPU) of the Exchange) should be stimulated in the right direction.

e). Increased public awareness about the securities market. Both the market operators and other regulatory authorities could do this. More public enlightenment programmes on capital market related issues should be organized on a more regular basis to cater for diverse interest. Training programmes for financial journalists, putting them in a better stead to report accurately the operations of the Stock Market to

Nigerian's investing public and corporate fund users should be encouraged. In essence, educational programmes should be an integral part of the development and growth of the Stock Market.

f). The reduction of corporate tax for public companies would encourage private companies to go public and enhance their operational efficiency which would ultimately benefit the economy. Public companies are generally believed to be more financially prudent and transparent as their accounts and activities are subject to public scrutiny. These companies are therefore, less likely to evade tax, and since proper accounts are kept and published, the Government will find it easier to collect taxes with only little loss in revenue from corporate tax. Also, tax holidays of say two to four years should be given to newly listed companies to defray the cost of quotation and encourage listing on the Stock Exchange which would deepen the Stock Market for both domestic and foreign investment.

g). The 17% of the GDP of the NSE's market capitalisation as at 1997 is low, indicating that the Exchange has a big potential to attract significant number of new listing applicants from within the economy. Measures to increase new listings which will subsequently increase market capitalization and liquidity should include: the intensification of stock market as a source of long-term finance to industry and Government, promote the use of bonds by companies and Government,

reduce the time frame for processing applications by the NSE to say one week and also effective under-writing of all new issues.

h). Also, listing requirements should be continuously reviewed to meet corporate offshore financing through cross border listing and the employment of instruments such as the American Repository Receipts (ARS) and Global Depository Receipts (GDRs).

i). To enhance competition and enable companies across the country to benefit from the Stock Market, Government should give necessary support to the private sector to establish regional stock exchanges. This formed part of the recent report of the Odife's panel on Capital Market Reform that gave rise to the Abuja Stock Exchange (ASE). Our opinion is that the government should provide the necessary support and incentives rather than direct involvement.

In conclusion, in the emerging market environment, following the internationalization of the NSE market, consideration for these factors should be imperative because if the market fails to meet the speed and efficiency standards, the capital meant for it will invariably be invested elsewhere, possibly resulting to net capital out-flow. In the case of Nigeria as a newly liberalized market, the capital inflow may be less than optimal if concurrent effort is not made to enhance the speed and efficiency of its operations. The market has grown tremendously since its establishment and factors enhancing and limiting its growth cannot be fully captured in a study as this. It ranks high among African stock Exchanges and should be assisted to grow continuously.

5.6 Possible Directions for Future Research:

It seems safe to say that this study has presented strong evidence in favour of the Random-Work hypothesis, that the Nigerian stock Exchange is not efficient. However, in business and economic research, one can never claim to have established a hypothesis beyond question. There are always additional tests which would tend either to confirm the validity of the hypothesis or to contradict results previously obtained. In the final paragraphs of this study, we wish to suggest some possible directions for future research.

(a) There should be additional possible tests of dependence on security prices. One can carryout a purely statistical test to support the assumption of independence, or proceed by directly testing different mechanical rules to see whether or not they do provide profits greater than the buy-and-hold profits. Most academic researches to date have tended to concentrate on the statistical approach, with little effort to test the various Chartists theories that are popular in the financial world. Systematic validation or invalidation of these theories, in an emerging market like Nigeria, would represent a real contribution.

(b) Most researches carried out have been concerned with simply finding statistical distributions that seem to coincide with the empirical distributions of price changes. There has been relatively little effort spent in exploring the more basic processes that give rise to the empirical distributions. This means, that there has been yet no general model of price formation in the stock market, which explains price levels and distributions of price changes in terms

of the behaviour of more basic economic variables. Developing and testing such a model would contribute greatly toward establishing sound theoretical foundation in this area in Nigeria.

(c) Also, further studies should be carried out to determine the more predominating factor that influences stock price behaviour in the NSE. So far, our findings and other findings in developed markets still provide inconclusive evidence in terms of these factors either in the developing stock exchange like Nigeria, or developed and more active stock exchanges like New York and London. Peculiar factor, both intrinsic and extrinsic, to the stocks of emerging markets that influence these behaviour other than the oft reported factors should be studied. This will help, in our opinion, to clarify some of the problems encountered in establishing the efficiency of such a market.

BIBLIOGRAPHY

1. Abdullahi, N. A. (1998): Abuja Stock Exchange and Capital Market Returns, Business and Economy, May 29/June 1 P.9

2. Akpan, O. W. (1997): A Review of the Nigerian Capital Market: Being a Paper Presented at a One Day Public Enlightenment Program Organised by the SEC, ABU Zaria, 1st August, PP.1-18.

3. Alabi, A. M. (1994): The Effectiveness of the Conventional Pricing Mechanism in the Nigerian Capital Market (1989 – 1993), Unpublished MBA Project, ABU, Zaria PP 21-30.

4. Alile, H.I. & Anao, A.R. (1986): The Nigerian Stock Market in Operation, Jeromelaiho & Associate Ltd. Ikeja, Lagos, Pp 9 –66.

5. Alile, H.I (1993): Establishing a Stock Market – The Nigerian Experience, The NSE Factbook, Pp 45 – 63.

6. Alile, H.I (1994): Role of Capital Market in Africa's Economic Reforms; The NSE Factbook, Pp34 – 44.

7. Alile H.I (1997): The Nigerian Stock Exchange by the Year 2010 Being the Text of an Address Presented at the Vision 2010 Workshop on "What Capital Market in Nigeria by the Year 2010", 9th May. Pp 2- 14.

8. Alile H.I (1998): The Stock Exchange and Capital Formation in Nigeria Being a Paper Presented at the "Senior Executive Course Number 20", Organized by National Institute for Policy and Strategic Studies, Kuru, 23rd March Pp 1- 16.

9. Alile H. I (1998): Capital Markets As Sources of Development, Finance in Post SAP African Economies. Being a Paper for Strategies for Effective Development Finance by Association of African Development Finance Institute, 3 April Pp 1 - 11

10. Anaeto,E. (1997): Undervaluation of Security Prices Worries Dunlop, Business Times, p.30, February, 10

11. Aron, J & Ayogu, M (1998): Foreign Exchange Market "Efficiency Test in Subsahara Africa." Journal of African Economics, Pp 150 – 189 Supplement to Vol 6, No 3, 1997.

12. Bacheliers, L (1900): Theorie de la Speculation, Paris – Cauthiers Villars. Translation by A. James Boness. Reprinted in Cootner (1964) Pp 17 – 78.

13. Ball, R and Brown, P (1968): An Empirical Evaluation of Accounting Inome Numbers, Journal of Accounting Research, 6 Autumn Pp159 – 178.

14. Basus (1977): Investment Performance of Common Stocks in Relation to Their Price - Earnings Ratios: "A Test of the Efficient Market Hypothesis: Journal of Finance, June 663 – 683.

15. Brealey, R & Meyers, G (1981): Principles of Corporate Finance, McGraw Hill Book Company New York, USA, Pp254 – 268

16. Brockington, R. B. (1980): Financial Management, 3rd Edition East Leigh D, P Publication Pp 233.

17. Chou, Y. (1969): Statistical Analysis with Business and Economic Applications. Holt, Rine Hart & Winston, Inc, New-York Pp 442 – 444.

18. Clark, L.T. (1969): Statistical Methods for Business Decisions, South-Western Publishing Co. Ohio, Pp 423-436.

19. Cootners, P (1964): The Random Characters of Stock Market Prices Cambridge, Mass MIT Press.

20. Copeland, I & Weston, J. E (1988): Financial Theory and Corporate Policy, Addison-Wesley Publishing Company. California USA 23rd Edition Pp 330 – 338.

21. Dikeocha, J KE (1997): Operations of the NSE & the SEC. "A Paper Presented at "Corporate Finance Operational Worshop" organised by the Chartered Institute of Bankers of Nigeria (CIBN) 17-21 Nov. Pp 1-11

22. Edwards, R.D & Magee, J (1958): Technical Analysis of Stock Trends, Springfield, Mass. Pp3.

23. Elton, E. J. & Gruber, M.J.(1975): International Captial Markets, Amsterdam, North-Holland Publishing Coy. Pg 53.

24. Eriki P. O. (1994): Evaluation of the Efficiency of the Nigerian Stock Market, Accounting Frontier Pp3.

25. Ezra, S (1963): The Theory of Financial Managemnt. New york Columbia University Press.

26. Fama, E. F. (1965): "The Behaviour of Stock Market Prices," Journal of Business Pp 34 – 87.

27. Fama, GF & Blume, M.E (1966): "Fitter Rules and Stock Market Trading", Journal of Business Vol 39, No. 1 Pp 226 – 241.

28. Fama, E. F. (1970): "Efficient Capital Markets. A Review of Theory and Empirical Work" – Journals of Fianace Vol 25, No 2, 383-417.

29. Fama (1991): Efficient Capital Market, Journal of Finance XLVI(5) Pp 575 – 612.

30 Fisher, B & Scholes M. (1972): "The Valuation of Option Contracts and a Test of Market Efficiency, 'Journal of Finance Vol 27, No 2 Pp 399-437.

31. Fischer, D. E. & Jordan, R. J(1987): Security Analysis and Portfolio Mangement, Prentice Hall International, 4th Edition, Pp 512-557.

32. Foster, T. W & Vickrey, D (1978): 'The Information Content of Stock Dividend Announcement: The Accounting Review, April Vol. LIII, No 2 April, Pp 360 –369.

33. Francis J. C (1980): Investments Analysis and Management, McGraw Hill Book Company New York, 3rd Edition Pp 263 – 286 and 644 – 663.

34. Francis, J. C (1983): Management of Investments, International Student Edition, McGraw Hill inc Book Coy' New York, Pp 434 – 477

35. Gordon, M. J. (1962): The Investment, Financing and Valuation of Corporation. Homewood, Illinois R. A. Irwin

36. Graham, B., Dod D. & Cottles (1962): Security Analysis, McGraw Hill Book Company, New York USA Pp 33.

37. Gupta, L. C (1973): The Random Walk Theory of Stock Market Price Behaviour – a survey. Bombay; Macmillian India Pp 30 – 58.

38. Hagerman R & Richman R (1973): Random Walk-Martingaley and the OTC Journal of Finance Sept. 9, Pp 897 – 909.

39. Hagin, R & Mader, C (1973): The New Science of Investing, Homewood, Illionis, Richard D Irwin, p. 57.

40. Hausman, West & Laugay (1971): "A Stock Splits Price Changing and Trading Profits", - A Synthesis. Journal of Business of the University of Chicago 4 Jan. Pp 69 – 77.

41. Gunkat, S.P.M. (1980): "The Extent to Which Published Accounting Information is Used by The Nigerian Investing Public in Their Investment Decisions", Unpublished MSc Accounting & Finance Thesis Submitted to The Department of Accounting, A.B.U. Zaria, P.32

42. Herbert, W. E (1994): "Towards an Efficient Capital Market in Nigeria" Unplibished Paper Presented at Nigerian College of Accountancy Jos, Nigeria Pp 1-20

43. Imoisili, C.I. (1996): Social Research Methods for Nigerian Students, Malthouse Press Limited, Ikeja, Nigeria.

44. International Finance Corporation (1995): Emerging Stock Market fact Book, p.1-6

45. Jensen, M.C & Berington, G.A (1970): Random Walks and Technical Theories; Some Additional Evidence, Journal of Finance, Vol. 25 No 2 Pp 469 – 482.

46. Jones, GP, & Westle, DL, Henton, C.P (1977): Essentials of Modern Investments, The Roland Press Company, New York, Pp306 – 323.

47. Kemp, A. G & Reid G. C (1971): The Random Walk Hypothesis and the Recent Behaviour of Equity Prices in Britain, Economics Vol. 38 pg 28 – 51, p 47.

48. Kendall, M.G. (1953): The Analysis of Economic Time Series – Part I Prices; Journal of the Royal Statistical Society, Series A (General) Vol. 116, pp. 11-25

49. Levey, R.A (1967): Random Walk; Reality or Myth, Financial Analysts Journal, Vol 23 N0 6, Pp. 67- 83.

50. Lorrie, J.H & Hamilton M. T (1973): The Stock Market Theories and Evidence Homewood, Illionis, Richard D Irwill Inc. pp. 79-80

51. Malkiel, B. G. (1975): A Random Wallk Down Wall Street, New York WW Norton & Coy Inc

52. Modigliani E and Miller, M (1961): "Dividend Policy Growth and Valuation of Shares" Journal of Business Vol 34, Nov

53. Movgan E.V & Thomas W.A The Stock Exchange – Its History and Functions.

54. Ndagi, J. O. (1984): Essentials of Research Methodology for Nigerian Educators, University Press Ltd. Nigeria.

55. Niar Chos, N. A (1972): The Stock Market in Greece A Statistical Analysis Greece, Athens Stock Exchange Pp 110

56. Osaze, E B (1989): "The Investment Performance of Equity Securities in Relation to the Price/Earnings Ratios in the Nigerian Capital Market. A Test of the Price Ratio Hypothesis", Benin Journal of Social Sciences

57. Osaze, B E (1983): "The Nigerian Capital Market. A Performance Analysis" Business Times, Monday Oct A P 12-13

58. Osaze, B E (1985): The Effect of Corporate Earnings, Dividends and Volume on Stock Price Movements in Nigeria 1976–1980, Benin Journal of Social Sciences, Vol.1 No 1 p 83-90.

59. Osaze B.E (1988): Equity Returns and Money Supply-a Correlation Analysis, Benin Journal of Social Sciences, Vol. 1, 3, Nos 1 &2 Pp 27-40.

60. Osaze, B. E. (1997): Understanding the Capital Market, BOFIC Consulting Group Ltd, Revised Edition, Pg 193 – 203.

61. Osborne, M.F.M (1959): "Brownian Motion of Stock Market Operations Research, Journal of Business Vol. 7a No2, 145-173, Reprinted in Cootner (1964) 100-125

62. Osuala, E.G. (1992): Introduction to Research Methodology, African – Fep Pubilishers Limited, Nigerian, Revised Edition.

63. Oyedide, T.A (1975): "Company Dividend Policy in Nigerian. An Empirical Analysis." NJESS Vol.18, No 3 July p 191.

64. Pring M.J (1991): Technical Analysis Explained Mc Graw Hill, New York Pp 31-37.

65. Reily, K.F (1979). Investment Analysis and Portfolio Management, Ninsdale, Illinois, The Drupden Press

66. Roberts, H.V (1959): Stock Market Patterns and Financial Analysis Journal of Finance Vol 14, No1, Pg 1-10 Reprinted in Cootner (1964) Pp 7-16

67. Samuel, J.M. & Wilkes (1980): Management of Company Finance, Thomas Nelson 3rd Edition

68. Securities and Exchange Commission (1996): Facts and Figures on the Nigerian Capital Market, 5th edition Pp 3-22.

69. Securities and Exchange Commission (1994): Issues in Capital Market Development, Pacific Printer Nig. Ltd, Ijede, Lagos Vol. I Pp 134-150

70. Securities and Exchange Commission (1997): Issues in Capital Market Development, Vol. II, Pp 106-116

71. Shala, D (1999): Understanding Capital Market and Secrets of Making Money in the Stock Exchange. Macmillian- Nigeria. Pp3-86, 118-183.

72. Spiegel, M.R (1972): Theory and Problems of Statistics, Schuams Outline Series, S1 (metric) Edition, Pp 167-171.

73. Tanko, M (1997): "The Impact of Privatisation on the Nigerian Capital Market;" Unpubilished MSC (Accounting and Finance) Thesis Submitted to the Dept. of Accounting, ABU, Zaria Pp 100-123.

74. The NSE Handbook (1987/88): The Development of A Stock Market in Nigeria, Vol. III, Pp 28-39.

75 The Nigerian Stock Exchange Factbook, 1993 to 1998

76. Uzoaga, W.O. and Alozienwa, J.U. (1974): "Dividend Policy in an Era of Indigenisation" Nigerian Journal of Economic and Social Sciences Vol 16 No 3 Nov. P 474.

77. Uzor, B. (1997): Pricing Disputes Worries Nigerian Stock Exchange, Business Times P.3, January, 6

78. Weston, J.F & Copeland, F.E. (1989): Managerial Finance, Drugden Press, Hold Rinehart & Wiston Inc Orlando-Florida, USA 8th Edition Pp 523-531.

79. Yaunsa, Y.J (1990): "Capital Market in Financial Intermediation – A Study of the Nigerian Stock Exchange." Unpublished MBA Project Submitted to the Dept. of Bus. Admin. ABU, Zaria Pp 14-17.

80. Ying, C.C (1966): Stock Market Prices and the Volume of Sales" Econometrica Vol 34 July Pp 676-685.

APPENDIX I

STRUCTURE AND GROWTH OF THE NIGERIA SECURITIES MARKET.

YEAR	NO OF EQUITIES	NO OF IND. LOANS/PREF. SHARE	NO OF GOVT BONDS	NO OF STATE BONDS	TOTAL	CAPITALISATION ₦ BILLION
1961	3	10	6	-	19	0.55
1965	6	5	17	-	28	0.82
1971	14	6	32	-	52	0.50
1978	42	11	48	1	102	2.96
1980	90	13	49	1	153	4.46
1981	93	14	55	1	163	4.84
1982	93	18	56	1	168	4.92
983	93	26	57	1	177	5.77
1984	93	26	55	1	175	5.50
1985	95	26	58	1	180	6.38
1986	99	29	57	1	186	7.68
1987	100	31	53	1	185	8.68
1988	104	33	48	3	188	9.00
1989	113	36	54	5	208	12.04
1990	133	43	40	5	221	15.70
1991	135	46	41	5	227	22.60
1992	152	56	37	5	250	32.00
1993	176	53	40	5	274	46.90
1994	177	53	43	5	278	65.50
1995	183	43	40	5	271	171.10
1996	183	43	40	5	271	280.00
1997	184	56	23	4	267	400.00

SOURCE: Compiled From Data Supplied by NSE (1961-1997).

APPENDIX II

SELECTED QUOTED COMPANIES USED FOR THE STUDY

S/no	Company Name
1	Grommac Inds. Plc
2	Okitpupa Oil Palm Plc
3	Bewac (Nig) Plc
4	RT Briscoe Plc
5	First Bank of Nig. Plc
6	Union Bank Nig. Plc
7	Champion Brew Plc
8	Premier Breweries Plc
9	Ashaka Cement Plc
10	WA Portland Comp. Plc
11	Berger Paints Plc
12	Nigeria German Chemicals Plc
13	Chellarams Plc
14	Morison Industries Plc
15	Thomas Wyatt Nig Plc
16	WTN Plc
17	A.G Leventis Nig. Plc
18	UTC Nig. Plc
19	Arbico Plc
20	Roads Nig. Plc
21	7up Bottling Comp. Plc
22	Tate industries Plc
23	Bata Nigeria Plc
24	Lennards (Nig) Plc
25	BCN Plc
26	Smithkline Beecham Nig. Plc

27	Liz_Olofin and Company Plc
28	Vono Products Plc
29	Alico Insurance Plc
30	West Africa Prov Ind Coy Plc
31	Blackwood Hodge (Nig) Plc
32	Stokvis Nig. Plc
33	Abplast Products Plc
34	WA Glass Ind Plc
35	African Petroleum Plc
36	Total Nigeria Plc
37	Daily Times Plc
38	University Press Plc
39	Enpee Ind. Plc
40	United Nig. Textile Plc

APPENDIX III

END OF MONTHS PRICES FOR 1994

		1ST Quarter				2nd Quarter			
	NAME OF COMPANY	Jan ₦	Feb ₦	Mar ₦	Ave. Price ₦	April ₦	May ₦	June ₦	Ave. Price ₦
1	Grommac Inds. Plc	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
2	Okitpupa Oil Palm Plc	0.81	0.82	0.90	0.83	0.92	0.90	0.91	0.91
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	1.54	1.62	1.67	1.61	1.67	1.67	1.60	1.65
5	First Bank of Nig. Plc	5.40	5.67	2.77	4.61	3.06	3.48	3.62	3.39
6	Union Bank Nig. Plc	1.42	1.21	1.65	1.43	1.93	2.12	2.24	2.10
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.85	0.85	0.80	0.83	0.85	0.85	0.85	0.85
9	Ashaka Cement Plc	4.38	4.45	4.67	4.50	4.76	3.12	3.15	3.68
10	WA Portland Comp. Plc	4.40	4.52	4.53	4.48	4.56	4.61	4.61	4.59
11	Berger Paints Plc	4.20	4.05	4.04	4.10	4.04	3.16	3.16	3.45
12	Nigeria German Chemicals Plc	3.98	4.01	3.98	3.99	3.75	3.75	3.75	3.75
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	1.87	1.87	1.88	1.87	1.92	2.02	2.04	1.99
15	Thomas Wyatt Nig Plc	1.00	1.07	1.07	1.05	1.07	1.05	1.05	1.06
16	WTN Plc	1.05	1.05	1.05	1.05	1.05	1.05	1.00	1.03
17	A.G. Leventis Nig. Plc	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
18	UTC Nig. Plc	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19	Arbico Plc	1.17	1.19	1.19	1.18	1.20	1.20	1.28	1.23
20	Roads Nig. Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
21	7up Bottling Comp. Plc	2.67	2.67	2.60	2.65	2.52	2.48	2.37	2.46
22	Tate Industries Plc	0.50	0.50	0.50	0.50	0.49	0.50	0.50	0.50
23	Bata Nigeria Plc	0.57	0.57	0.58	0.57	0.54	0.54	0.52	0.53
24	Lennards (Nig) Plc	0.33	0.32	0.35	0.33	0.35	0.35	0.36	0.35
25	BCN Plc	1.58	1.45	1.20	1.41	1.20	1.16	1.12	1.16
26	Smithkline Beecham Nig. Plc	5.44	5.50	5.52	5.50	5.82	1.32	3.12	3.42
27	Liz_Olofin and Company Plc	0.65	0.64	0.55	0.61	0.55	0.53	0.52	0.53
28	Vono Products Plc	3.15	3.36	3.36	3.29	3.36	3.36	3.36	3.36
29	Allco Insurance Plc	3.75	4.13	4.40	4.09	4.60	4.95	5.07	4.87
30	West Africa Prov. Ind. Coy. Plc	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
31	Blackwood Hodge (Nig) Plc	2.04	2.04	2.04	2.04	2.04	2.02	2.01	2.02
32	Stokvis Nig. Plc	0.20	0.17	0.15	0.17	0.15	0.15	0.15	0.15
33	Abplast Products Plc	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
34	WA Glass Ind Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
35	African Petroleum Plc	4.78	4.82	5.00	4.87	5.00	5.40	4.64	5.01
36	Total Nigeria Plc	9.85	10.17	10.40	10.14	6.65	7.02	7.73	7.13
37	Daily Times Plc	0.51	0.51	0.51	0.51	0.52	0.52	0.51	0.52
38	University Press Plc	0.90	1.05	1.00	0.98	1.00	1.00	1.00	1.00
39	Enpee Ind. Plc	1.59	1.59	1.57	1.58	1.53	1.53	1.52	1.53
40	United Nig. Textile Plc	4.42	4.44	4.45	4.44	4.45	4.44	4.43	4.44

Appendix II Continued

		3rd Quarter				4th Quarter			
	NAME OF COMPANY	July ₦	Aug ₦	Sep ₦	Ave. Price ₦	Oct ₦	Nov ₦	Dec ₦	Ave. Price ₦
1	Grommac Inds. Plc	0.54	0.54	0.54	0.54	0.54	0.53	0.52	0.53
2	Okitpupa Oil Palm Plc	0.97	0.97	0.98	0.97	1.16	1.20	1.22	1.19
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	1.68	1.68	1.88	1.75	1.54	1.56	1.56	1.55
5	First Bank of Nig. Plc	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
6	Union Bank Nig. Plc	2.34	2.34	2.38	2.35	2.65	3.03	3.20	2.96
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
9	Ashaka Cement Plc	3.21	3.21	3.22	3.21	3.28	3.52	3.63	3.48
10	WA Portland Comp. Plc	3.35	3.35	3.35	3.35	3.37	4.12	4.53	4.01
11	Berger Paints Plc	3.16	3.16	3.16	3.16	3.12	2.35	2.66	3.04
12	Nigeria German Chemicals Plc	3.77	3.77	3.77	3.77	3.77	3.77	3.77	3.77
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.48	0.48	0.49
14	Morison Industries Plc	1.33	1.34	1.34	1.34	1.55	1.78	2.05	1.79
15	Thomas Wyatt Nig Plc	1.05	0.85	0.85	0.92	0.93	1.12	1.18	1.08
16	WTN Plc	0.95	0.50	0.50	0.65	0.50	0.50	0.50	0.50
17	A.G. Leventis Nig. Plc	1.50	1.50	1.50	1.50	1.50	1.50	1.30	1.43
18	UTC Nig. Plc	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.90
19	Arbico Plc	1.26	1.28	1.28	1.27	1.30	1.43	1.43	1.39
20	Roads Nig. Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
21	7up Bottling Comp. Plc	2.38	2.36	2.35	2.36	1.43	1.35	1.38	1.39
22	Tate Industries Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
23	Bata Nigeria Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
24	Lennards (Nig) Plc	0.37	0.37	0.37	0.37	0.37	0.37	0.40	0.38
25	BCN Plc	1.07	1.03	1.03	1.04	0.98	0.95	0.92	0.95
26	Smithkline Beecham Nig. Plc	3.28	3.28	3.30	3.29	3.48	3.67	3.85	3.67
27	Liz_Olofin and Company Plc	0.50	0.50	0.50	0.50	0.48	0.50	0.50	0.49
28	Vono Products Plc	3.34	3.12	3.12	3.19	3.05	3.04	3.02	3.04
29	Alico Insurance Plc	5.30	2.52	2.52	3.45	3.02	3.25	3.48	3.25
30	West Africa Prov. Ind. Coy. Plc	1.37	1.40	1.40	1.39	1.40	1.41	1.51	1.44
31	Blackwood Hodge (Nig) Plc	1.94	1.94	1.80	1.89	1.80	1.75	1.76	1.77
32	Stokvis Nig. Plc	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14
33	Abplast Products Plc	1.10	1.10	1.10	1.10	1.07	1.01	0.95	1.01
34	WA Glass Ind Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
35	African Petroleum Plc	4.85	4.85	4.75	4.82	4.94	5.58	5.92	5.48
36	Total Nigeria Plc	7.47	7.47	7.47	7.47	8.22	7.67	8.32	8.07
37	Daily Times Plc	0.51	0.50	0.50	0.50	0.50	0.50	0.50	0.50
38	University Press Plc	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.96
39	Enpee Ind. Plc	1.51	1.43	1.43	1.46	1.43	1.37	1.28	1.36
40	United Nig. Textile Plc	4.45	3.50	3.50	3.82	3.51	3.51	3.51	3.51

Source: NSE Daily Official List (equities) for 1994

APPENDIX IV

END OF MONTHS PRICES FOR 1995

		5th Quarter				6th Quarter			
	NAME OF COMPANY	Jan	Feb	Mar	Ave. Price	April	May	June	Ave. Price
1	Grommac Inds. Plc	0.64	0.54	0.62	0.60	0.64	0.70	0.80	0.71
2	Okitpupa Oil Palm Plc	0.76	0.82	0.76	0.78	0.78	0.80	0.80	0.79
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	1.57	1.54	1.70	1.60	1.88	2.05	2.23	2.05
5	First Bank of Nig. Plc	3.75	5.58	2.60	4.00	2.60	2.60	3.60	2.93
6	Union Bank Nig. Plc	3.37	1.56	3.00	2.64	3.00	3.03	3.90	3.31
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.79	0.85	0.79	0.81	0.79	0.79	0.79	0.79
9	Ashaka Cement Plc	3.85	4.45	4.40	4.23	4.70	5.30	7.23	5.74
10	WA Portland Comp. Plc	5.12	4.50	6.25	5.29	7.23	7.85	9.94	8.34
11	Berger Paints Plc	2.97	1.30	3.20	2.49	3.32	3.68	4.42	3.80
12	Nigeria German Chemicals Plc	3.77	3.98	3.77	3.84	3.55	1.00	5.60	3.38
13	Chellarams Plc	0.48	0.50	0.42	047	0.50	0.42	0.45	0.45
14	Morison Industries Plc	2.30	1.87	2.38	1.87	0.42	3.35	3.45	2.40
15	Thomas Wyatt Nig Plc	1.37	1.07	1.50	1.31	1.70	1.87	2.50	2.02
16	WTN Plc	0.50	1.05	0.50	0.67	0.80	0.60	0.80	0.73
17	A.G Leventis Nig. Plc	1.30	1.50	1.30	1.37	1.30	1.30	2.38	1.66
18	UTC Nig. Plc	0.91	1.01	0.94	0.79	0.77	0.77	0.86	0.80
19	Arbico Plc	1.43	1.17	1.45	1.35	1.45	1.45	1.55	1.48
20	Roads Nig. Plc	0.50	0.50	0.47	0.49	0.45	0.34	0.30	0.36
21	7up Bottling Comp. Plc	1.37	2.67	1.33	1.79	1.14	0.95	1.45	1.18
22	Tate industries Plc	0.50	0.50	0.48	0.49	0.42	0.40	0.34	0.39
23	Bata Nigeria Plc	0.50	0.57	0.50	0.52	0.50	0.50	0.50	0,50
24	Lennards (Nig) Plc	0.41	0.40	0.40	0.40	1.25	1.42	1.52	1.40
25	BCN Plc	0.75	1.58	0.50	0.94	0.45	0.45	1.46	0.79
26	Smithkline Beecham Nig. Plc	4.15	5.47	4.60	4.74	4.70	4.70	7.00	5.47
27	Liz_Olofin and Company Plc	0.50	0.64	0.50	0.55	0.50	0.50	0.50	0.50
28	Vono Products Plc	2.97	3.35	2.90	3.07	2.75	2.75	2.44	2.65
29	Aiico Insurance Plc	3.75	4.05	4.00	3.93	4.35	4.27	5.65	4.76
30	West Africa Prov Ind Coy Plc	1.51	1.37	1.50	1.46	1.39	1.39	1.39	1.39
31	Blackwood Hodge (Nig) Plc	1.62	2.04	1.32	1.66	1.05	1.05	0.60	0.90
32	Stokvis Nig. Plc	0.14	0.17	0.14	0.15	0.14	0.00	0.00	0.05
33	Abplast Products Plc	0.89	0.90	0.90	0.90	0.90	0.90	0.80	0.87
34	WA Glass Ind Plc	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.43
35	African Petroleum Plc	6.53	4.78	7.60	6.30	8.60	10.30	9.18	9.36
36	Total Nigeria Plc	9.34	10.12	6.13	8.53	8.85	11.60	16.56	12.34
37	Daily Times Plc	0.50	0.51	0.37	0.46	0.30	0.30	0.30	0.30
38	University Press Plc	0.83	1.05	0.75	0.88	0.60	0.50	0.60	0.57
39	Enpee Ind. Plc	1.23	1.59	1.23	1.35	0.93	0.93	0.89	0.92
40	United Nig. Textile Plc	3.51	4.42	3.51	3.81	3.55	3.55	3.55	3.55

Appendix IV Continued

		7th Quarter				8th Quater			
	NAME OF COMPANY	July ₦	Aug ₦	Sep ₦	Ave. Price ₦	Oct ₦	Nov ₦	Dec ₦	Ave. Price ₦
1	Grommac Inds. Plc	0.80	0.88	0.90	0.86	0.92	0.92	0.92	0.92
2	Okitpupa Oil Palm Plc	0.80	0.84	0.85	0.83	0.86	0.85	0.85	0.85
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	2.85	2.90	2.90	2.88	2.74	2.74	2.77	2.75
5	First Bank of Nig. Plc	7.50	9.30	9.80	8.87	9.80	9.58	9.56	9.65
6	Union Bank Nig. Plc	6.30	6.68	6.42	6.49	6.22	5.88	5.88	5.99
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
9	Ashaka Cement Plc	8.85	9.20	10.00	9.35	10.28	10.45	10.43	10.39
10	WA Portland Comp. Plc	12.15	13.40	14.80	13.45	15.80	17.20	17.61	16.87
11	Berger Paints Plc	5.50	6.47	6.87	6.28	7.07	7.41	7.58	7.35
12	Nigeria German Chemicals Plc	7.85	8.65	9.10	8.53	9.45	9.95	9.97	9.79
13	Chellarams Plc	0.40	0.40	0.40	0.40	0.50	0.40	0.40	0.43
14	Morison Industries Plc	4.05	4.15	4.30	4.17	4.35	4.42	4.42	4.40
15	Thomas Wyatt Nig Plc	3.10	3.60	2.70	3.13	3.57	4.02	4.08	3.89
16	WTN Plc	1.80	2.65	2.90	2.45	2.97	3.36	3.36	3.23
17	A.G. Leventis Nig. Plc	3.13	3.40	3.52	3.35	3.41	3.05	2.90	3.12
18	UTC Nig. Plc	1.60	1.70	1.70	1.67	1.70	1.70	1.66	1.69
19	Arbico Plc	1.75	1.75	1.75	1.75	1.75	2.35	2.35	2.15
20	Roads Nig. Plc	0.20	0.20	0.17	0.19	0.17	0.17	0.17	0.17
21	7up Bottling Comp. Plc	2.50	2.85	2.88	2.74	2.76	1.90	1.90	2.19
22	Tate Industries Plc	0.31	0.32	0.30	0.31	0.32	0.32	0.32	0.32
23	Bata Nigeria Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
24	Lennards (Nig) Plc	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
25	BCN Plc	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
26	Smithkline Beecham Nig. Plc	5.05	5.30	5.75	5.37	6.00	6.18	6.25	6.14
27	Liz_Olofin and Company Plc	0.50	0.50	0.50	0.50	0.50	0.45	0.45	0.47
28	Vono Products Plc	2.44	2.44	2.44	2.44	2.44	2.44	2.14	2.34
29	Alico Insurance Plc	3.90	3.93	4.05	3.96	4.05	4.63	4.84	4.51
30	West Africa Prov. Ind. Coy. Plc	1.22	1.20	1.15	1.19	1.15	0.78	0.80	0.91
31	Blackwood Hodge (Nig) Plc	0.40	0.50	0.50	0.47	0.50	0.50	0.50	0.50
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplast Products Plc	0.90	0.98	1.00	0.99	1.00	0.88	0.85	0.91
34	WA Glass Ind Plc	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
35	African Petroleum Plc	13.25	15.10	17.65	15.33	19.05	20.50	20.64	20.06
36	Total Nigeria Plc	21.40	26.77	24.90	24.36	27.00	29.30	29.75	28.68
37	Daily Times Plc	0.30	0.28	0.30	0.29	0.30	0.30	0.30	0.30
38	University Press Plc	0.80	0.80	0.93	0.84	0.93	0.96	0.94	0.94
39	Enpee Ind. Plc	1.18	1.25	1.56	1.33	1.63	1.10	1.18	1.30
40	United Nig. Textile Plc	4.20	3.35	3.92	3.82	4.12	4.30	4.30	4.25

SOURCE: NSE Daily official list (equities) for 1995

APPENDIX V
END OF MONTHS PRICES FOR 1996.

		9TH Quarter				10th Quarter			
	NAME OF COMPANY	Jan ₦	Feb ₦	Mar ₦	Ave. Price ₦	April ₦	May ₦	June ₦	Ave. Price ₦
1	Grommac Inds. Plc	0.92	0.95	1.02	0.96	1.05	1.27	1.30	1.21
2	Okitpupa Oil Palm Plc	0.85	0.85	0.86	0.85	0.88	0.91	0.91	0.90
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	2.80	2.83	2.96	2.85	3.06	3.30	3.30	3.22
5	First Bank of Nig. Plc	4.73	9.55	9.20	7.83	6.76	6.72	6.70	6.67
6	Union Bank Nig. Plc	5.87	5.85	3.15	4.96	6.66	6.21	6.21	6.36
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.79	0.79	0.79	0.79	0.79	1.14	1.14	1.02
9	Ashaka Cement Plc	10.45	10.53	11.30	10.76	7.48	11.08	11.60	10.05
10	WA Portland Comp. Plc	17.97	18.50	19.35	18.61	20.85	31.32	24.20	25.46
11	Berger Paints Plc	7.92	7.32	7.05	7.43	6.50	8.45	8.60	7.85
12	Nigeria German Chemicals Plc	10.00	10.00	10.00	10.00	10.10	10.10	10.10	10.10
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	4.45	4.5	4.53	4.49	4.53	4.53	4.23	4.43
15	Thomas Wyatt Nig Plc	4.26	4.51	5.35	4.71	6.12	7.70	7.70	7.17
16	WTN Plc	3.36	3.40	3.62	3.46	4.25	4.17	4.84	4.32
17	A.G Leventis Nig. Plc	2.60	2.45	2.05	2.38	1.50	1.16	1.25	1.30
18	UTC Nig. Plc	1.54	1.47	1.52	1.51	1.35	1.18	1.16	1.23
19	Arbico Plc	2.35	1.12	1.45	1.64	1.12	1.16	1.17	1.15
20	Roads Nig. Plc	0.15	0.14	0.47	0.25	8.30	0.20	0.20	2.90
21	7up Bottling Comp. Plc	1.90	1.90	1.33	1.71	1.90	2.22	2.22	2.11
22	Tate industries Plc	0.30	0.30	0.47	0.36	0.15	0.13	0.13	0.14
23	Bata Nigeria Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
24	Lennards (Nig) Plc	1.52	1.52	0.49	1.18	0.90	0.83	0.81	0.85
25	BCN Plc	0.40	0.36	0.50	0.42	0.29	0.26	0.26	0.27
26	Smithkline Beecham Nig. Plc	6.25	6.38	4.70	5.77	6.41	6.00	8.80	7.07
27	Liz-Olofin and Company Plc	0.45	0.45	0.50	0.47	0.21	0.21	0.21	0.21
28	Vono Products Plc	2.44	2.42	2.88	2.58	2.46	2.36	2.50	2.44
29	Aiico Insurance Plc	5.07	5.46	4.25	4.93	6.55	8.07	8.27	7.63
30	West Africa Prov Ind Coy Plc	0.80	0.80	1.47	1.02	0.80	0.87	0.85	0.84
31	Blackwood Hodge (Nig) Plc	0.50	0.50	1.32	0.77	0.50	0.50	0.52	0.51
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplast Products Plc	0.76	0.80	0.90	0.82	0.80	0.81	0.81	0.81
34	WA Glass Ind Plc	0.40	0.40	0.50	0.43	0.40	0.40	0.40	0.40
35	African Petroleum Plc	21.00	21.42	21.65	21.36	21.65	26.50	26.70	24.95
36	Total Nigeria Plc	30.30	31.07	31.52	30.96	30.60	40.60	40.95	37.38
37	Daily Times Plc	0.30	0.30	0.31	0.30	0.32	0.52	0.54	0.46
38	University Press Plc	0.94	0.94	0.68	0.85	0.95	1.00	1.00	0.98
39	Enpee Ind. Plc	1.22	1.26	1.02	1.17	1.90	2.70	2.80	2.47
40	United Nig. Textile Plc	4.40	4.45	3.55	4.13	5.40	5.90	6.00	5.77

Appendix V Continued

		11th Quarter				12th Quarter			
	NAME OF COMPANY	July	Aug	Sep	Ave. Price	Oct	Nov	Dec	Ave. Price
1	Grommac Inds. Plc	1.10	1.10	1.00	1.06	1.08	1.08	1.11	1.09
2	Okitpupa Oil Palm Plc	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.91
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
4	RT Briscoe Plc	3.31	3.15	3.15	3.20	3.15	3.16	3.18	3.16
5	First Bank of Nig. Plc	6.85	7.10	7.10	7.02	7.10	7.10	7.10	7.10
6	Union Bank Nig. Plc	6.20	6.20	8.04	6.81	7.60	5.90	5.70	6.40
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
9	Ashaka Cement Plc	12.12	14.10	16.60	14.27	19.25	18.45	16.70	18.13
10	WA Portland Comp. Plc	25.00	27.05	31.99	28.01	36.00	41.00	46.20	41.07
11	Berger Paints Plc	8.65	5.95	5.68	6.73	5.24	4.80	4.70	4.91
12	Nigeria German Chemicals Plc	6.60	9.60	9.60	8.60	9.00	8.70	8.30	8.67
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	4.23	4.23	4.23	4.23	4.23	4.22	4.20	4.21
15	Thomas Wyatt Nig Plc	7.69	7.69	7.27	7.55	7.19	9.40	9.30	8.63
16	WTN Plc	5.27	5.80	7.35	6.14	7.90	7.80	7.80	7.83
17	A.G Leventis Nig. Plc	1.25	0.10	1.45	0.93	1.50	1.59	1.61	1.57
18	UTC Nig. Plc	1.00	1.25	0.90	1.05	0.84	0.91	0.90	0.88
19	Arbico Plc	1.17	1.16	1.25	1.19	1.36	1.36	1.36	1.36
20	Roads Nig. Plc	0.20	0.22	0.32	0.25	0.35	0.38	0.39	0.37
21	7up Bottling Comp. Plc	2.20	2.15	1.50	1.95	1.36	1.40	1.40	1.39
22	Tate industries Plc	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.12
23	Bata Nigeria Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
24	Lennards (Nig) Plc	0.81	0.75	0.70	0.75	0.73	0.62	0.62	0.66
25	BCN Plc	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
26	Smithkline Beecham Nig. Plc	8.56	8.44	8.44	8.48	8.44	8.44	8.44	8.44
27	Liz_Olofin and Company Plc	0.21	0.21	0.21	0.21	0.21	0.17	0.17	0.18
28	Vono Products Plc	2.54	2.54	2.34	2.47	2.34	2.34	2.34	2.34
29	Aiico Insurance Plc	8.31	5.30	6.40	6.67	7.50	9.90	11.80	32.44
30	West Africa Prov Ind Coy Plc	0.85	0.85	0.85	0.85	0.80	0.79	0.74	0.78
31	Blackwood Hodge (Nig) Plc	0.52	0.56	0.79	0.62	0.92	0.92	0.92	0.92
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplast Products Plc	0.82	0.85	0.85	0.84	0.89	0.89	0.89	0.89
34	WA Glass Ind Plc	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
35	African Petroleum Plc	28.03	27.65	30.60	28.76	35.00	40.90	44.85	40.92
36	Total Nigeria Plc	41.25	42.80	45.52	43.19	49.05	53.60	57.40	53.35
37	Daily Times Plc	0.54	0.54	0.52	0.53	0.52	0.52	0.52	0.52
38	University Press Plc	1.00	1.13	1.38	1.17	1.38	1.30	1.30	1.33
39	Enpee Ind. Plc	3.00	3.05	3.04	3.03	3.20	3.20	3.20	3.20
40	United Nig. Textile Plc	7.28	8.30	6.70	7.43	7.25	6.90	6.90	7.02

SOURCE: NSE Daily Official List (equities) for 1996

Appendix VI Continued

		15th Quarter				16th Quarter			
	NAME OF COMPANY	July ₦	Aug ₦	Sep ₦	Ave. Price ₦	Oct ₦	Nov ₦	Dec ₦	Ave. Price
1	Grommac Inds. Plc	2.56	2.56	2.56	2.56	2.56	2.56	2.5	2.54
2	Okitpupa Oil Palm Plc	1.05	1.02	0.98	1.02	1.00	1.00	1.00	1.00
3	Bewac (Nig) Plc	0.51	.51	0.51	0.50	0.51	0.51	0.51	0.51
4	RT Briscoe Plc	3.34	3.34	3.34	3.34	3.34	3.34	3.34	3.34
5	First Bank of Nig. Plc	12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.6
6	Union Bank Nig. Plc	9.00	9.80	12.28	10.36	10.00	10.00	13.30	11.1
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
9	Ashaka Cement Plc	12.50	11.85	10.00	11.45	10.00	10.00	10.00	10.0
10	WA Portland Comp. Plc	54.00	57.00	51.90	54.30	49.60	46.00	45.00	46.8
11	Berger Paints Plc	3.84	3.80	3.55	3.73	3.60	3.60	3.60	3.60
12	Nigeria German Chemicals Plc	9.20	.9.20	9.10	9.20	9.10	9.00	9.10	9.07
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	3.90	3.90	3.80	3.90	3.80	3.80	3.80	3.80
15	Thomas Wyatt Nig Plc	3.90	3.64	3.00	3.51	2.75	2.70	2.60	2.68
16	WTN Plc	5.78	5.47	5.05	5.43	5.05	5.05	5.05	5.05
17	A.G Leventis Nig. Plc	2.20	2.10	2.10	2.13	2.00	2.00	2.00	2.00
18	UTC Nig. Plc	1.47	1.37	1.27	1.37	1.27	1.16	1.14	1.19
19	Arbico Plc	1.41	1.44	1.47	1.44	1.47	1.51	1.51	1.50
20	Roads Nig. Plc	1.37	1.53	1.68	1.53	1.88	1.80	1.70	1.79
21	7up Bottling Comp. Plc	2.13	2.00	2.01	2.05	2.42	2.70	2.90	2.67
22	Tate industries Plc	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
23	Bata Nigeria Plc	1.14	1.09	0.77	1.00	0.71	0.71	0.68	0.70
24	Lennards (Nig) Plc	0.70	0.68	0.60	0.66	0.57	0.55	0.55	0.56
25	BCN Plc	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
26	Smithkline Beecham Nig. Plc	5.40	5.70	4.80	5.30	3.80	3.85	3.95	3.87
27	Liz_Olofin and Company Plc	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
28	Vono Products Plc	3.10	3.15	3.00	3.08	2.90	2.90	2.90	2.90
29	Aiico Insurance Plc	15.50	8.50	6.30	10.10	6.32	6.15	5.50	5.92
30	West Africa Prov Ind Coy Plc	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
31	Blackwood Hodge (Nig) Plc	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplast Products Plc	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
34	WA Glass Ind Plc	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
35	African Petroleum Plc	49.90	45.45	42.00	45.78	30.80	30.80	3.55	30.7
36	Total Nigeria Plc	54.90	52.70	50.80	52.80	46.90	46.50	46.50	46.6
37	Daily Times Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
38	University Press Plc	1.57	1.57	1.57	1.57	1.50	1.50	1.50	1.50
39	Enpee Ind. Plc	3.20	3.20	3.20	3.20	3.05	3.05	3.05	3.05
40	United Nig. Textile Plc	5.90	4.95	4.25	5.03	4.40	4.30	4.20	4.30

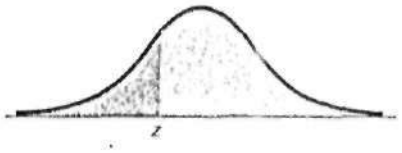
SOURCE: NSE Daily Official List (equities) for 1997

APPENDIX VI
END OF MONTHS PRICES FOR 1997

		13TH Quarter				14th Quarter			
	NAME OF COMPANY	Jan ₦	Feb ₦	Mar ₦	Ave. Price ₦	April ₦	May ₦	June ₦	Ave. Price ₦
1	Grommac Inds. Plc	1.45	1.85	2.35	1.88	2.70	2.70	2.70	2.70
2	Okitpupa Oil Palm Plc	0.92	0.95	1.00	0.96	1.01	1.02	1.03	1.02
3	Bewac (Nig) Plc	0.50	0.50	0.50	0.50	0.51	0.51	0.51	0.50
4	RT Brisco Plc	3.18	3.18	3.50	3.29	3.50	3.50	3.34	3.50
5	First Bank of Nig. Plc	9.20	14.0	19.0	14.10	20.25	13.80	13.46	15.84
6	Union Bank Nig. Plc	8.02	12.25	16.10	12.12	16.70	13.70	11.60	14.00
7	Champion Brew Plc	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8	Premier Breweries Plc	1.14	1.14	0.99	1.09	0.99	0.94	0.91	0.95
9	Ashaka Cement Plc	14.20	13.80	14.30	14.10	14.20	13.10	12.95	13.42
10	WA Portland Comp. Plc	52.50	57.30	63.80	57.87	65.60	65.10	62.30	64.33
11	Berger Paints Plc	4.50	4.45	4.30	4.42	4.10	4.10	4.00	4.10
12	Nigeria German Chemecals Plc	8.48	8.52	9.15	8.72	9.50	9.20	9.20	9.30
13	Chellarams Plc	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
14	Morison Industries Plc	4.20	4.20	4.10	4.17	4.10	4.10	4.10	4.10
15	Thomas Wyatt Nig Plc	5.90	5.10	4.70	5.23	4.60	4.25	4.15	4.33
16	WTN Plc	7.49	7.00	6.35	6.95	6.20	6.11	6.00	6.10
17	A.G Leventis Nig. Plc	1.72	2.25	2.52	2.16	2.55	2.49	2.38	2.47
18	UTC Nig. Plc	0.89	0.49	1.10	0.83	1.18	1.34	1.42	1.31
19	Arbico Plc	1.36	1.38	1.38	1.37	1.40	1.40	1.40	1.40
20	Roads Nig. Plc	0.55	0.71	0.85	0.70	1.00	1.16	1.30	1.15
21	7up Bottling Comp. Plc	1.45	1.67	2.15	1.76	2.37	2.50	2.25	2.37
22	Tate industries Plc	0.13	0.13	0.14	0.13	0.14	0.19	0.20	0.18
23	Bata Nigeria Plc	0.50	0.63	1.20	0.78	1.25	1.22	1.22	1.23
24	Lennards (Nig) Plc	0.62	0.80	0.80	0.74	0.86	0.78	0.75	0.80
25	BCN Plc	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
26	Smithkline Beecham Nig. Plc	8.44	7.10	6.80	7.45	6.60	6.65	5.85	6.37
27	Liz_Olofin and Company Plc	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
28	Vono Products Plc	2.34	2.48	3.10	2.64	3.10	3.10	3.10	3.10
29	Allco Insurance Plc	12.70	13.80	14.90	13.80	15.55	15.30	14.40	15.08
30	West Africa Prov Ind Coy Plc	0.78	0.93	0.99	0.90	1.04	1.06	1.06	1.05
31	Blackwood Hodge (Nig) Plc	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
32	Stokvis Nig. Plc	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
33	Abplost Products Plc	0.89	0.89	0.96	0.91	0.96	0.96	0.96	0.96
34	WA Glass Ind Plc	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
35	African Petroleum Plc	50.25	55.55	58.75	54.85	58.50	57.00	55.90	57.13
36	Total Nigeria Plc	63.80	69.50	73.50	68.93	60.90	59.46	58.40	59.59
37	Daily Times Plc	0.50	0.52	0.50	0.51	0.50	0.50	0.50	0.50
38	University Press Plc	1.40	1.55	1.55	1.50	1.57	1.57	1.57	1.57
39	Enpee Ind. Plc	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
40	United Nig. Textile Plc	6.80	6.80	6.65	6.75	6.65	6.50	5.70	6.28

APPENDIX VII

TABLE A-VII VALUES OF THE STANDARD NORMAL DISTRIBUTION FUNCTION



z	0	1	2	3	4	5	6	7	8	9
−3.	.0013	.0010	.0007	.0005	.0003	.0002	.0002	.0001	.0001	.0000
−2.9	.0019	.0018	.0017	.0017	.0016	.0016	.0015	.0015	.0014	.0014
−2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
−2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
−2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
−2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
−2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
−2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0094	.0089	.0087	.0084
−2.2	.0139	.0136	.0132	.0129	.0126	.0122	.0119	.0116	.0113	.0110
−2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
−2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
−1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0238	.0233
−1.8	.0359	.0352	.0344	.0336	.0329	.0322	.0314	.0307	.0300	.0294
−1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
−1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
−1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0570	.0559
−1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0722	.0708	.0694	.0681
−1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
−1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
−1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
−1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
− .9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
− .8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
− .7	.2420	.2389	.2358	.2327	.2297	.2266	.2236	.2206	.2177	.2148
− .6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
− .5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
− .4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
− .3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
− .2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
− .1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
− .0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641

(Table concluded on next page.)

ABU BELLO UNIVERSITY
KASHIM IBRAHIM LIBRARY

AHMADU BELLO UNIVERSITY

ZARIA 32352 or 32091
Telograms: INSTITUTE ZARIA.

DEAPRTMENT OF ACCOUNTING
INSTITUTE OF ADMINISTRATION,
P.M.B. 1013,
ZARIA, NIGERIA.

Your Ref: _____

Our Ref: _____

Date: 29/11/88

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION

I like to introduce to you Mr. Vutumu Aloysius who is one of our Postgraduate Students reading for M.Sc.(Accounting & Finance) Degree in our Department.

As part of the requirements for the Award of the degree, he/she has to carry out a Research project. He/She is therefore approaching you to kindly assist him in his data-gathering to enable him/her write up his thesis, titled
AN EMPIRICAL STUDY OF EMERGING STOCK MARKETS AND THE BEHAVIOUIR OF SECURITIES PRICES: A STUDY OF NIGERIAN STOCK EXCHANGE.

You can be assured that every assistance rendered to him will be most appreciated and every information given will be treated with utmost confidentiality.

Counting upon your best co-operation, I want to thank you very much for everything.

Thanks.

Yours sincerely,

Mr. A. B. D. Watoseninyi
Head of Department.

AHMADU BELLO UNIVERSITY
KASHIM IBRAHIM LIBRARY

ADMINISTRATOR: MAJOR GENERAL MAMMAN KONTAGORA (rtd)
OF DEPARTMENT: MR. ALIANDA WATOSENINYI, B.Sc. M.Sc., A.B.I.

APPENDIX IX

LETTER TO QUESTIONNAIRE RESPONDENTS

DEPARTMENT OF ACCOUNTING
AHMADU BELLO UNIVERSITY
ZARIA

QUESTIONNAIRE

TOPIC: AN EMPIRICAL STUDY OF THE BEHAVIOUR OF SECURITIES PRICES ON THE NIGERIAN STOCK EXCHANGE.

Dear Respondents,

This study is concerned with the determination of the operational efficiency of the Nigerian Stock Exchange by examining the behaviour of securities prices vis-à-vis market participants' reaction to price changes. Your response will help us to understand the effects of investment preferences on price movement.

Please, do answer the questions raised as accurately as possible. The success of this study depends solely on your response. Give us the benefit of having your true feelings as information will be KEPT STRICTLY CONFIDENTIAL, and be utilized only for the purpose of this research.

We would very much appreciate your co-coperation.

Yours sincerely,

M.Sc. (ACCOUNTING & FINANCE),
Programme Co-ordinator,
For: Head of Department

VUTUMU ALOYSIUS,
Student,
M.Sc. (Accounting & Finance).

APPENDIX X

QUESTIONNAIRE TO NIGERIAN STOCK EXCHANGE PARTICIPANTS

HINT: Most of our questions need 'Yes' or 'No' answers. Where brief comments are required, we will be glad you express your feelings.

SECTION A.

1. Please, indicate your status in the Nigerian Stock Exchange:
   Investor [ ]
   Brokery/Dealer [ ]
   Finance intermediary [ ]
   Market analysis [ ]
2. How long have you been in your above capacity in the activities of the Exchange?.....
3. Do you trade on equity securities? Yes [ ] No [ ]
4. Do you trade often on the Stock Exchange (either in your capacity or represented)?
   Yes [ ] No [ ]
5. Are you satisfied with the activities of the market as far as pricing securities are concerned?
   Yes [ ] No [ ]
6. Give reason(s) for your response in (5) above
   .....

SECTION B

7. Are there chances of speculating or predicting accurately future prices of stock based solely on past prices of that stock in the market? Yes [ ] No [ ]
8. Are there particular patterns of price movement in the market of securities?
   Yes [ ] No [ ]

9. Do you think that those patterns (if they exist) are large enough to lead a smart investor to have an absolute advantage over others for a period of time?
Yes [ ] No [ ]

10. Do you think that share prices adjust timely or speedily to the inflow of information to the market about the security of a particular company?
Yes [ ] No [ ]

11. Are there chances or opportunities of making abnormal profits as a result of insider dealings in the security of a company? Yes [ ] No [ ]

12. Are the market procedures/operations orderly enough to be relied upon as being efficient? Yes [ ] No [ ].

SECTION C

13. Most investors buy shares for permanent investment purpose or to sell them when conditions are favourable? Permanent ☐ Not Permanent ☐

14. In your opinion, do companies supply adequate information about their share listed on the market? Yes ☐ No ☐

15. Do you agree that prices are appropriately valued in the market?
Yes ☐ No ☐

16. Do you consider dividends payment very important in your buy or sell Decision of a company's stock? Yes ☐ No ☐

17. Do you equally consider earnings declaration of a company very important in your investment decision? Yes ☐ No ☐

18. Which of the following factors influenced <u>more</u> your buy or sell decision about a security:

Dividend per share (dividend pay out) ☐

Earnings per share ☐

SECTION D

19. Do you consider trading volume of a company before buying its share?
Yes ☐ No ☐

20. If 'yes' does it influence your decision "most". Yes ☐ No ☐

21 Trading volume serves **only** as a confidence indicator of a company's performance, it is not so important in influencing buy or sell decision of a security.

True ☐ False ☐

SECTION E

22. List the problems facing the pricing of securities in the market. ……

23. Comment on the role of SEC and NSE as regulatory bodies, as for the efficient operations of the market is concern. ……

24. Is government influence on the market adverse or positive on its operations?

Adverse ☐ Positive ☐

25. Comment on 24 above ……

26. What is your opinion about, the C.S.C.S and ATS now in operation? ……

Thank you very much

APPENDIX XI

QUESTIONNAIRE TO THE MANAGEMENT OF THE NIGERIAN STOCK EXCHANGE AND SECURITIES AND EXCHANGE COMMISSION

HINT: Most of the questions need "Yes" or "No" answers. Where brief comments are required we will be glad you express your feelings.

SECTION A

1. Please, state the name of your:

   Department:..... Branch:.....
2. State whether you are a senior or junior staff: .....
3. How long have you been in your capacity on the Nigerian Stack Exchange? ...
4. Do you agree that the Nigerian Stack Exchange is the pivot of the Nigerian capital market? Yes [ ] No [ ]
5. Do quoted companies supply information to the market about their performance on time before pricing takes place? Yes [ ] No [ ]
6. If "No" does this affect the operations of the market? Yes [ ] No [ ]
7. Give reason(s) to this problem.....

SECTION B

8. Are there chances on the market of speculating or predicting future stock prices based on past prices of a company? Yes [ ] No [ ]
9. Are there particular patterns of price movement in the market? Yes [ ] No [ ]
10. Do you think that these patterns (if they exist) are large enough to lead a smart investor to have an absolute advantage over others? Yes [ ] No [ ]
11. Are there chances or opportunities of investors making abnormal profit as a result of insider dealing in the security of a company? Yes [ ] No [ ]
12. From your experience about the market, can it be said to be efficient?

    Yes [ ] No [ ]
13. If "No" is it growing fast towards efficiency? Yes [ ] No [ ]

SECTION C

14. From your past experience in the market, which of this factors influence **more** investors buy or sell decision about a security.

    Dividend per share (dividend pay out) [ ]

    Earning per share [ ]

15. Most investors buy share for permanent investment purpose or sell them when conditions are favourable?

    Permanent ☐ not permanent ☐

16. Do investors consider dividend payment very important in their buy or sell decision of a company's stock?

    Yes ☐ No ☐

17. Do investors equally consider earnings declaration of a company very important in their investment decisions. Yes ☐ No ☐

SECTION D

18 Does trading volume of a particular company have any significance in the buy or sell decisions of investors? Yes [ ] No [ ]

19 If "yes", do they depend only on a company's trading volume growth before making this decision? Yes [ ] No [ ]

20 Trading volume only gives confidence about the company, it does **not** stand significant to influence the investor. True [ ] False [ ]

SECTION E

21. List any two problems facing the pricing of securities in the market.

22 List two problems hindering the markets growth:

23 Comment on the new development on the market, such as the Central Securities Clearing System (CSCS) and the Automated Trading System (ATS)

Thank you very much.