AN INVESTIGATION INTO THE STOCK PRICE BEHAVIOUR IN THE NIGERIAN STOCK MARKET.

BY

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MBA/ADMIN/1949/1991-92

A PROJECT SUBMITTED TO THE POSTGRADUATE SCHOOL,

AHMADU BELLO UNIVERSITY ZARIA

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSSINESS ADMINISTRATION (MBA)

DEPARTMENT OF BUSINESS ADMINISTRATION

FACULTY OF ADMINISTRATION

AHMADU BELLO UNIVERSITY ZARIA

SEPTEMBER, 2000

CERTIFICATION

This project entitled: **AN INVESTIGATION INTO THE PRICE BEHAVIOUR IN THE NIGERIAN STOCK MARKET BY GARBA M. NALADO** meet the requirement governing the award of the degree of Master of Business Administration, Ahmadu Bello University, Zaria, and is certified for its contribution to knowledge and literary presentation.

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DECLARATION

I hereby declare that this project is a product of my research findings, and has to the best of my knowledge, never been published before. It has not been previously presented in any application for a higher degree. All works consulted have been acknowledged accordingly.



GARBA MUHAMMAD NALADO

September,2000

DEDICATION

This research work is dedicated to my entire family for the support and encouragement they offered me throughout the period of this research.

We pray to all Mighty Allah to live and reap the fruit of what we have sawn

GARABA MUHAMMED NALADO

ACKNOWLEDGEMENT

Praise be to Almighty Allah, who gave me the inspiration to embark on this M.B.A Programme and who at the same time took me through to its completion.

I wish to express my sincere gratitude to my supervisor Malam Muhammed Nasiru Maiturare for the patience, guidance and the brotherly advice he gave me throughout the period of this research. He indeed tolerated all my shortcomings and at the same time ensured that this work beats the deadline and as well meet the required standard.

I feel indebted to the entire members of staff of the department of Business administration both academic and non academic for the various ways they assisted me from the beginning of this programme up to the end of it. I particularly wish to thank Malam Sano Abdu who took the pain of going through my final manuscript during Malam Maiturare's unavoidable absence.

I owe a great deal of gratitude to my uncle Umar Kilishi whose moral and finical support I will never forget. I will also not forget the assistance of Mallam Muhammed Shuaibu of computer center of Institute of Administration A.B.U Kongo. Who despite the incessant power failure was able to design a programme for the data used in this research form which the tables and charts for this work were produced from the computer.

The fact that some of the data used for this research were gathered from the Nigeria Stock Exchange Kaduna I particularly wish to acknowledge the immense assistance rendered me by Alhaji Lawal Sani Stores, the Branch

Director of Nigerian Stock Exchange Kaduna, apart from clarifying some issues to me, he also made it possible for me to make use of the exchange's Library facilities. The Librarian of the exchange is also worthy of mention.

I owe special thanks to my closest friends like Umar Lawal and Abdu Lawal who gave me all the encouragement to pursue this programme to its conclusion. Worthy of mention here are Alhaji Suleiman Yahaya Danmasanin Richifa and Sadiq Magaji whom we went through the rigorous of the course together. At this juncture, I wish to acknowledge all the assistance, rendered to me by anyone particularly those I am not able to mention here.

Finally, my Wife, Children and the rest of my family have indeed endured my absence patiently, I am really grateful to them all.

ABSTRACT

The world over, trading in stocks has become an important and lucrative venture, especially in the developed economies. This is more so that trading in shares/equities, is.'.sometimes used to express the strength or weakness of a country's or^a'company's fmartcial standing. As the world is turning into a Global, village both politically and economically, virtually every country is striving hard to ensure that its economy becomes sound, and fully .integrated in the world financial markets. One way of achieving this objective is through the establishment of an efficient and effective capital market.

However, the capital market in most developing countries is least appreciated by both the individual businessmen and corporate organizations. Indeed, financial experts are of the opinion that Nigerian investors do not really understand the functions and workings of the stock exchange. Thus, the patronage of the capital market tends to be minimal and unimpressive. There is, therefore, the need for both private and corporate investors to know how the stock";priee behaves in the stock market in order to maximize their gains accruable 'from such ventures. Three major schools of thought sought to explain how the stock prices behave in the stock market. They are; the chartist, the fundamentalist and the random walk proponents. In this study, attempt was made to determine which of the theories is applicable in , the Nigerian stock exchange which in essence could serve as a guide to potential investors.

A representative sample often quoted companies was selected from the five jmain economic sectors; two companies from each sector. The sectors were; the Agriculture, Ranking,-conglomerates, Petroleum and the Textiles Sector. Method *o*\~ data Analysis in the case of chartist theory was the "Bar chart

technique, while for the random walk theory, correlation.was used to test the theory and for the fundamentalist theory, intrinsic value was used.

The major .findings of this study is that the annual price behaviour of the companies were to some extent in favour of the chartist school.of thought". The data analysed for the various companies considered in this study did not reveal any evidence that the fundamentalist theory is applicable in the Nigerian stock market. However, from the correlation results for the data of the companies considered, it was found that the stock price behaviour in the market was significantly random.

The study made the"To 1 lowing recommendations among others; Government should use available means to encourage companies as well as the general public to be patronizing the market in order to boost the economy and facilitate achievement of fiscal policy objectives; the Nigerian stock market should educate the general populace about its functions and operations;

- investors in the market should adopt the policy of diversification in their purchases of shares instead of buying and holding for long periods.

Further studies in this area should relate "intrinsic value[11] of stock with volume of transactions during period of the study, the variety of tools for testing each theory be employed for testing the applicability of any of the theories in determining stock price behaviour.

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CHAPTER ONE

1.1 INTRODUCTION

The financial system of any society is the framework within which capital formation takes place. It is the frame work within which the savings of some members of the society are made available to other members of society for productive investment. The process is made possible by the intermediation of financial institutions like commercial banks, insurance companies [1] etc.

This intermediation of financial institutions in every society is classified into two major categories:

1- The primary market institutions

2- The secondary market institutions

The primary markets are those institutions that provide the means for directing savings into new investments channels. The primary market is known to perform two main functions which are (a) New direct investment and (b) New leading activity.

Where as the functions of the primary market institutions is to create financial claims or assets, the functions of the secondary market is to provide mechanism whereby these financial claims are not liquidated by the withdrawal of one of the parties. As such the secondary market institutions provide the framework for investors to exchange ownership of shares, stocks mortgages or other forms of financial assets, to enable the institution on whom the assets are a claim to live on for ever if need be. It is clear then that without this type of institutions, the existence of modern

corporations as we know them today would not have been possible. The main institutions found under the secondary markets are:

(a) the stock exchange

(b) the stock brokers

The Nigerian Stock exchange is one of the oldest institutions in the Nigerian capital market, trading with three floors; at Lagos, Kaduna, Port-Harcourt and recently Abuja. Each floor or branch of the exchange has a director and a secretary.

The National secretariat has a director-general and consists of three departments; the Quotations department, the administration and the public relations department.

The main function of the exchange is to regulate the trading in stocks and shares. This includes admitting securities to listing ie granting quotations. The exchange also has the function of authenticating transfer forms.

In the financial world today, much effort has been devoted to examining the behaviour of certain speculative prices, for instance those of securities and commodity futures. In particular research efforts have been directed to study price behaviour of common stocks or equity shares [2]. It has been shown that for a long time there has been predominantly two schools of thought concerning security valuation and the behaviour of security prices. The one, known as "Chartist" or technical analysis school maintains that discernable trend exist in share price movement and that these

could not only be discovered but also be exploited profitably where as the other school of thought assumes that at any point in time an individual security has an intrinsic value which should, in principle be equal to the discount value of the future stream of income from that security. 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 instance depending upon whether the actual price is above or below this intrinsic value. However, a third theory which is historically believed to exist way back since 1900 and which did not attract much interest of financial experts until in the decades of 1960s when two papers concerning the theory were published one by Roberts and the other by Osborne. The theory was first Labelled "random walk" and later a theory of efficient markets.

This theory has been advanced to explain fluctuations in share prices and turnover. The theory casts serious doubts about the usefulness of traditional security analysis for describing and predicting share price behaviour.

Statement of the Problem

It is an established fact that there has been extensive research by the investment analysts of the developed economies into various stock markets of the developed world such as U.S.A, U.K, Australia, Germany, Greece, Japan etc. As a result of the

Analyst's research efforts, they have been able to reveal a lot of characteristics and attributes concerning stock markets.

Majority of the theories if not all concerning stock price behaviours were based on the markets of these countries. The "third world " and indeed some Latin American and African countries run their capital markets by borrowing leaf of what obtains in the capital markets for the aforementioned countries. Furthermore, the relative stability of the economies of these countries made it possible for theories concerning investment analysis and portfolio management to originate from there mainly. Notable among these theories are;

(a) the capital asset prjcing theory,

(b) the Chartist theory,

(c) the intrinsic value theory,

(d) the Random work theory etc.

Harry Markowitz and William Sharpe [3] were the founding fatheres of the capital Asset pricing theory and the theory explains the character [4] of the markets pricing mechanism when all investors act as if they are governed by the principles of risk aversion and the desire to optimize portfolio composition through effective diversification.

The technical analysis otherwise known as "Chartist" theory on its part maintains that by studying the historical price and volume data may it be for a single stock or a group of stocks, the future trend of price behaviour of the stock can be deduced by this

analysis. Under this theory the underlying philosophy is that stock prices depend on supply and demand in the market.
In the case of the intrinsic value theory, it holds that at any point in time an individual security has an intrinsic value which 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 random walk theory on the other hand states that price changes cannot be predicted from earlier changes in any meaningful manner.

A lot of studies were carried out by several investment analysts with a view to verifying the applicability of these theories at one time or the other in the developed countries, however, coming to the Nigerian context, what exactly is the situation? Does the Nigerian stock market follow the Chartists theory or is it the intrinsic value theory that applies to it or it is the random walk theory that find application in the market?

Therefore, this research will try to determine with appropriate data from the Nigerian stock exchange the applicability of these theories in the Nigerian stock market.

Furthermore, An imperative question is, does price of a stock like any other commodity depends on supply and demands? Another question is that, does a "true" value exist for a company's share?

Also, is there a group of investors who can benefit either by receiving information before it becomes generally available or by having knowledge which the average investor does not have on how a share price will move in reaction to the release of information?

1.3 Aims and Objectives

The Nigerian stock market is a fairly growing market. Corporations are springing up on a daily basis, and at the same time the individual businessmen are increasingly becoming aware of the independence of portfolio management. Commenting on the Nigerian stock exchange, Denis O. Odife [1] says "the Nigerian stock exchange is a continuos auction market, but it is not yet developed to the extent that exchange of ownership can be effected with the same speed as in the developed capital markets of the world. Nevertheless significant gains have been recorded in recent time." So the fact that there are a lot of theories that try to show the stock price behaviours most especially in the developed world and the fact that some of these theories clashed with one another and this to the potential Nigerian investors such corporations and other business men may be confusing as to which portfolio does he hold and when; in order to maximize his return on investment.

Therefore, the aim of this research work is to test the three theories, ie the chartist, the intrinsic value and the random walk theories with a view to determining which school of thought the

Nigerian stock market falls in. The objective of this investigation is to establish the price behaviour of the Nigerian stock market so that it could serve as a tool or guide to a certain extent to an investor or a portfolio manager in choosing or deciding in which stock to invest?

1.4 **Scope and Delimitations of this study**

In this work, sample sectors of the economy would be selected. These sectors are (I) The manufacturing sector (ii) Banking (iii) Agricultural (iv) Conglomerate and (v) Petroleum . In any of the said sectors two quoted companies would be used to test the efficacy of the theories (ie Chartists, intrinsic value and Random walk) as regards the price behaviours of the individual stocks of these companies.

This Analysis will be limited to looking into the activities of the aforementioned companies for a period of ten years (1987 to 1997).

1.5 **Hypothesis**

1. As opposed to the case of developed countries where capital market existed for centuries, as such majority of their investors are aware as well as patronize the market, the situation in Nigeria is different. The concept of capital market itself is relatively new as such very few investors are aware of /and patronize it, and the few that are aware of it, among them very little number know how the market really operates.

(ii) Udoji[5] noted that Nigerian investors do not really understand what the stock exchange was all about. They do not appreciate that it was a market where you can buy and sell share in the same manner as you buy and sell other commodities.

(iii) To majority of the people in Nigeria who trade in shares, their general view is that an equity/share is something to treasure and that the certificate was like a saving certificate they can buy a share and keep or hold it for ten to twenty years or even more without bothering how it fares in the stock market.

(iv) Some Nigerian Industrialists do not care to bring their companies to the stock market. This is probably because they fear loosing control as well as the possibility of "undesirable elements" buying into their company.

(v) While some investors buy and hold shares for a long time, there are some investors who are interested in the potential gain in the aspect of trading in shares. This group of investors have the capability of buying the shares at any point in time in anticipation of a time when the price will appreciate at which time they will sell in order to realize the gain.

(vi) There is also a few number of investors who study the past performance of companies, who show steady progress in their financial reports as well as their forecasts for the subsequent periods and from that they (investors) select and buy the shares of the company(s) who they' feel has/have high prospects in the future in terms of their dividends, earnings per share, price earning ratio etc.

(vii) In Nigeria presently, there exists a very small percentage of investors who trade in shares based on information's they come across ahead of other investors coupled with their superior knowledge of the stock market over average investors. This leverage enables them to identify a share that is either undervalued or based on the new information, its price would rise, hence they buy it and sell it at an appropriate time from which they would derive a maximum benefit.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2. SURVEY OF THEORIES ON STOCK PRICE BEHAVIOUR

The prices of stocks and shares are known to vary constantly, therefore, any one with a nodding acquaintance of stock exchange will soon have realised that they may move quite widely over relatively short periods of time. Although long term the trend of ordinary shares as a whole may be upwards, this is by no means straight line appreciation but is the overall result of fluctuations of substantial dimension in both directions [6].

These fluctuations in stock prices could be seen in terms of the variability of investors generally. As there are thousands of investors dotting the geographical spread of the country, so also exists vastly different ideas about the value of any given stock at any given time [4] and therefore, the purchases and sales of the stock will be made in accordance with this multitude of ideas.

"Selection" and "timing" are two vital components of investment decisions which investors as well as investment Analysts and portfolio managers have to give due consideration to when taking an investment decision. Selection deals with the question: What to buy –bonds or stocks; which bonds; which stocks? On the other hand timing deals with the question: when to buy – now or wait?

It has been established that the goal of stock evaluation especially common stock is to determine the approximate trend line around

It has been established that the goal of stock evaluation especially common stock is to determine the approximate trend line around which stock prices can be expected to fluctuate. It is expected under this approach that at any given time, the common stock analyst should have a reasonably clear idea whether stocks generally and individually seem under priced. This enables him to come to grips with both the what and when questions.

One underlying assumption on this value analysis is that under priced and overpriced situations ultimately will come into better balance. However, the value analysts make little or no effort to predict when the corrective price movement will occur. Reasons they say were: First, that it is not possible to make predictions about turning points of prices with high probability of being accurate. Secondly, the value analysts feel that investors confront " a market of stocks rather than a stock market ie efforts to predict the turning point of averages eg. Dow-Jones Industrial Average are rather futile, since an average can go up or down.

A lot of studies have indicated that share prices are affected by some factors which at times [6] cause the movement of the market to be clear and logical and at times they are so obscure to the extent that they can only be under stood by a discerning appreciation of the interplay of various influences. Among these influences/factors include: political, Economic and emotional. More details about these factors will follow.

There are several theories that together constitute the modern portfolio theory, these include: the fundamental theory, the technical analysis theory, the ransom walk theory. These theories would be looked into in more details in this chapter. Furthermore, the establishment of and operations of the Nigerian stock Exchange would be examined.

2.1 Factors Affecting Stock Prices

Prices of stocks rise when others fall [7]. This usually prompt investors especially of the developed world to be asking "why" the market acted the way it did to the extent that, even the expert on stock price analysis are imagined whether they know actually why stock prices rise and fall? German et al (1985) answered this question by asserting that "they (stock price experts) too don't really know why, they argue that if they actually knew what really made stock prices to rise or fall they would have been billionaires, however they are just offering their opinions or theories about what is occurring.

Some of the factors identified to affect stock prices are:

2.1.1 Political Factor

The political factor could be seen in this light, that if a Government by its philosophy is fundamentally unfavourably disposed towards private enterprise. Although for some considerations, the government may be ready to allow a mixed economy which may comprice both Nationalized industry and private enterprise to coexist in the least. Chances are that the

government lacks sympathy towards the interest of shareholders. This could be in form of increase in company taxation, especially when profits rose together with restrictions on the raising of dividend payment. In addition a government could decide to strengthen its control over industries through gradual process of outright nationalization. All these government policies could affect prices of stocks.

Government fiscal measures to either attract or discourage foreign investors could also affect stock prices of a country.

2.1.2 **Economic Factor**

It is common knowledge that profits are the foundations on which a company's prosperity rest and accordingly share prices are closely tied to the economic climate in any country. In times of recession when business is slack it is hard for companies to make profits and the converse is the case when trade is expanding. In periods of recession in an economy, Government try to tackle both domestic and external economic problems. A typical external economic problem is " balance of payment" problem, while the domestic problems include; inflation and budget deficits. These problems cause Governments to take some measures with a view to counteracting these problems. Measures usually adapted by Governments include; increase in taxes for the purchase of goods, interest rate restrictions, restrictions on exchange rates and other restrictions most of these restrictions are not so favourable for company profits and hence share prices.

2.3.3 **Emotional Factor**

The main upward and downward movements of prices of stocks tend to be overdone. The reason is that investors, whether they are private individuals or the professional managers of institutional funds, are not calculating machines but human beings. They are, therefore, influenced by the market atmosphere which they in turn have themselves helped to create.

When prices are rising in a "bull" market, a mood of optimism prevails and clouds on the horizon are easily shrugged aside as being of little consequence. It is believed that so long as the general body of the opinion thinks prices are going to rise, they will rise. Everyone wants to be in the market and not to miss out on the capital profits which are there for the taking. As a result of this, a bull market has a momentum which takes it above the level which the fundamental facts of the situation would otherwise dictate.

In a "bear" market the opposite state of affairs is reported to apply. That is prices which are initially falling as a result of sound reasoning sink to unduly depressed level as pessimism gets the upper hand.

2.4 **Modern Portfolio Theories**

The basic elements of modern portfolio theory emanates from series of propositions concerning rational investors behaviour set forth by Dr, Harry M. Markowitz [4].

The markowitz theory provided a theoretical framework for the systematic selection of optimum portfolios, once the level of risk willing to be assumed by the investor was established. The underlining theme of markowitz theory is that; investors, conduct themselves in a rational manner which reflects their inherent aversion to absorbing increased risk without compensation by an adequate increase in expected return. As such it was stated that for any given " expected" rate of return ie where the expected return is the mean of a probability distribution as such most investors will prefer a portfolio containing minimum expected deviation of returns around the mean over a determined period of time. Thus risk as defined by Markowitz" is the uncertainty or variability of expected returns.

In trying to explain the concept of risk and the investors aversion to risk, Markowitz observed that investors try to minimize the deviation from the expected portfolio rate of return by diversifying their portfolios, holding either different types of securities and /or securities of different companies. But he importantly pointed out that simply holding different issues would not significantly reduce the variability of the portfolio's expected rate of return if the income and market prices of these different issues contained a high degree of positive covariance. That is, if the timing, direction and magnitude of their fluctuations were similar. Accordingly, effective diversification is only achieved if the portfolio is composed of securities that do not fluctuate in a similar fashion. So that the variability of the portfolio's rate of

return becomes significantly less than the variability of the individual components of the portfolio.

In her article on the portfolio theory, Nancy A. Nicholas [3] says "Portfolio theory has become such an article of faith among investors that its central idea, which is that an investor who diversifies will do better than an investor who does't now seem obvious. According to her, Markowitz's simple observation spanned a whole new wave of investment products-including the index fund- once it was set along side the efficient market theory that told investors there was no way to beat the market. The logic is straight forward: if it isn't possible to beat the market, then a sensible investor will simply hold the market, i.e come out with a basket of stocks that in some way represents all the market's upside potential while trying to diversify away all downside risks.

The mathematical deductions of the expected return and the variance as they relate to one another is shown thus: If Ri is the return on the ith security and μi is the expected value of Ri; let σij be the convariance between Ri and Rj (σij is the variance of Ri). Also let Xi be the percentage of the investors assets which are allocated to the ith security. The yield on the portfolio as a whole is $R = \sum RiXi$. The Ri and consequently R, are considered to be random variables. The xi are not random variables, but are fixed by the investor. Since xi are percentages we have $\sum Xi = 1$

If we ignore negative value of xi for short sales, which means Xi $\geq$o for all i

The return R on the portfolio as a whole is a weighted sum of random variables and from the preceding discussion of such weighted sums, we see that the expected [8] return E from the portfolio as a whole is $E = \sum Xi\ \mu i$ and the variance is

$V = \sum\sum \sigma ij\ Xi\ Xj.$

2.1 **The Fundamental Theory**

The premise of fundamental theory[4,7] is that a particular stock has an intrinsic, or true value which should, in principle be equal to the present value of the future stream of income from that stock discounted at an appropriate risk-related rate of interest. According to the fundamentalist school, the actual price of a security is considered to be a function of a set of anticipated returns and anticipated capitalization rates, corresponding to future time period. Prices are believed to change as anticipations change which in turn change as a result of new information. The fundamentalists, 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." This means that the fundamentalist believe that the market can very often be wrong in appraising the value of a company.

Furthermore, if a company expects to be extremely profitable in coming years, this should be reflected in high price earning ration

(P/E ration). However, if prospects look dismal and earnings are expected to be quite low, the price of a stock of the company and P/E ratio should be low.

This follows that according to the theory, if knowledge about the futures of companies is not perfect some stocks are under priced while others are over-priced. Therefore, the task of an investor here is that he has to study certain fundamental factors that may enable him select under priced for purchase and sell overvalued stocks. Some of the factors that are usually considered when purchasing a stock or selling it according to the fundamentalist include; historical profitability of an industry, the leading companies in the industry, the economic outlet look for the profitability of the industry as a whole and the outlook for the general economy.

2.2.2. **The Technical Analysis Theory**

While the fundamental school maintains that at any point in time an individual security has an intrinsic value which in principle is supposed to be equal to the present value of the future stream of income discounted at an appropriate risk related rate of interest, the technical school on the other hand carefully plots price movements in conjunction with various market indexes and other technical data that when combined into a theoretical model indicate when to buy or sell. It follows here that the underlying philosophy of the technical analysts or "Chartists" as they are otherwise called is that the price of a stock depends on supply and

demand in the market place and this has little relationship to the intrinsic value as the fundamentalist believe it to be.

The rationale behind the technical analysis school is, therefore, reported to be based on a basic assumption that "History tends to repeat itself". That is to say, past pattern of market behaviour will recur in the future and can thus be used for predictive purposes. Among the factors considered in studying the past in order to predict the future by the technical analysts include: the total volume of shares traded, the ratio of the number of stocks, that rose compared with those that declined, published information on the amount of "insider sales" (sales to members of a firm), the ratio of "short sales" (sales of borrowed shares to be replaced later when the price may be lower) to other, sales, high-low indexes, odd-lot trading and moving average lines. It is argued, however, that since price movements reflect the opinions of millions of different people about everything having a bearing on stocks, it is unlikely that technicians can know in all cases why the discovered pattern occur. At this point, however, even the technical analysts assert that price and volume analysis incorporates one factor that is not explicitly incorporated in the fundamentalist approach, this factor is the "Psychology of the market". They believed that the market is only 10 per cent logical and 90 percent psychological, thus the difficulty in predicting the market perfectly.

It has been pointed out that; Technical analysts who are intellectually honest will be quick to admit that they have no hope of discovering fool proof methods of forecasting stock prices. Mistakes are bound to be made. But they will also argue that as long as their methods improve the probabilities of investment success, and as long as they reduce the margin of error, they are worthy of serious considerations.

The main body of technical analysis is based on charts and graphs. Technical analyst especially those in the developed countries employ variety of tools to assess the strength of supply and demand factors. These include" bar and point-and figure charts, moving averages, relative strength measures, odd lot data etc.

2.3 Random Walk Theory

The random walk theory is reported to have originated in 1990 in a doctoral dissertation by Louis Bachelor, a French mathematician. The theory is in sharp contrast with both the technical and fundamental schools of thought for describing and predicting share price behavior. Further more, random walk hypothesis[7] is said to have evolved into the efficient market theory which holds that knowledge of all investors is considered to be perfect and the price of each stock accurately reflects all available and anticipated information and properly prices each stock. The conclusion drawn here is that no one can consistently do better than the average, it is absolutely by shear luck.

Furthermore, the random walk hypothesis of stock prices is said to be based on the assumption that the security trading mechanism represents an "efficient" market place. The theory is shown to involve two separate hypothesis: (I) Successive price changes are independent and (ii) The price changes conform to some profitability distribution.

In essence, the market is said to be characterized by the presence of a large number of rational, profit seeking, risk averting investors who compete freely with each other in their efforts to predict the future value of individual securities. So information significant enough to affect any security's future value is held to be immediately available to all investors, because it is the intent of rules and regulations covering the release of important information. Accordingly new information affecting a stock's value becomes immediately reflected in the price of the issue. Consequently, a new investment decision, made after the information becomes widely known, is believed to carry the risk/reward potential of a randomly selected purchase (or sale).

This is because the next piece of information is believed to bear no necessary relationship to the prior information. That is, new information is believed to enter the market place in random fashion.

The general premise flies in the face of what many professional investors consider their greatest strength –"the ability to benefit

from quick action taken after some new important event occurs which substantially affects the value of a particular stock, or occasionally the market as a whole. Most stock analysts still accept what can be considered the "Sociology of information recognition." This is a principle indicating that the movement of new information and its proper interpretation flows from the intelligent, who do tend to act quickly, to the lesser informed, slower moving elements at the other end of the spectrum. This, in turn, is believed to cause a sequence of interim stock price movements to develop, which reflects the accompanying gradual discounting of new information as it moves through the investor systems.

In addition, the interaction of a large number of buyers and sellers- acting with a knowledge base ranging from extremely well informed to complete ignorance-works in a manner which prices stocks at a level reflecting their investment value at any point in time. If this were not the case, and significant discrepancies were allowed to exist for any length of time-either of an over valued or undervalued nature-knowledgeable investors would be able to recognise these differences in price as compared to value, and profit from the spread. Records[4] have shown that there is hardly any evidence that shows how securities are in fact overvalued or undervalued. On the contrary, the validity of the basic premise that successive price changes are independent has been supported by a growing amount of research effort in recent years, which encompasses two different types of analysis. The first, and most

prominent, has been the direct statistical testing of price changes over time. The second involves the use of various mechanical trading rules or other decision-making guidelines.

2.3 The Nigerian Stock Exchange.

The names; stock market or stock exchange, the two are used interchangeably, to mean " an organised market where large and small investors alike buy and sell through stockbrokers, the stocks, shares of companies and Government agencies. It provides the essential facilities for companies and governments to raise money for business expansion and development projects through investors who own shares in corporations for the ultimate economic benefit of all Nigerians.

Unlike in the developed countries where their economies are more sound in which the capital market institutions existed for centuries, as such majority of their investors are aware as well as patronize the market, however, in the developing countries the story is different. Firstly the concept of capital market is relatively new as such few investors are aware and patronize it.

In addition Udoji noted[5] that Nigerian investors did not really understand what the stock exchange was all about. They did not appreciate that it was a market where you can buy and dell share in the same manner as you buy and sell other commodities. The general view was that equity share is something to treasure and that the certificate was like a saving certificate. On the other hand Nigerian industrialists did not care to bring their companies to the

market. This is probably because they fear loosing control as well as the possibility of undesirable elements buying into their shares.

On a similar note, in the words of [9]Alile, stock market is sometimes seen by some people as an elitist club serving as a close reserve of the wealthy. This is not a true perspective of the market. The market, however, is just like any other market. But while commodities in the common place markets are tangible and would be on display, those traded on in the stock market are intangible. The commodities or shares represent ownership or part ownership right in a companies wealth. Another fundamental difference between the stock market and the ordinary market is that the former is rather organized. The stock market is said to be organized because only dealing members (stockbrokers) of the exchange are allowed to trade on the floor of the exchange on behalf of their numerous clients and their conducts are guided by rules and regulations of the exchange.

2.3.1 **Historical Background of Nigerian Stock Exchange.**

Records have confirmed the existence of capital market in some parts of the world such as U. S .A, Britain, France etc for close to a century. However, some of the African countries such as Nigeria, the market came into existence in the early 1960s.

It has been shown[10] that in the 1959s there were discussions in the bussiness circles about the formation of an organised capital market in Nigeria, and in May 1950, the then Federal Ministry of

Commerce and Industry appointed a committee to consider the desirability and means of establishing a stock Exchange market in Nigeria. The Chairman of this committee was professor R.H Barback, who was the then Director of Nigerian Institute of Social Economic Research, together with thirteen members drawn from the banking industry, the judiciary, some Government Ministries etc.

The committee reported favourably on the prospect of such a market and recommended that a stock market be organised and that part-time brokers be licensed to "marry of" sellers and buyers of marketable securities.

On the 15th September, 1960, the then Lagos stock Exchange was incorporated as a non profit organization, under the inspiration of the business Community, the Nigerian Industrial Development Bank (NIDB), the central bank and the Federal Government with an authorized share capital of N10,000 divided into 500 shares of N20 each.

The Lagos Stock Exchange was further strengthened by the Lagos stock Exchange Act of 1961 which gave recognition to the existence of the stock exchange by granting protection to its business. It started business on the 5th June 1961. However, in 1977 the Lagos stock exchange was transformed into the Nigerian Stock exchange with branches in Lagos, Kaduna and Port-Harcourt . These branches operate primarily as trading floors

while the National council of the exchange retains overall responsibility for quotations and the enforcement of regulation in the capital market.

The Nigerian Stock exchange started with 19 securities (stores 88) and a capitalization of N43million; by 1988 the market grew to 186 securities with a capitalization of N8.8 billion. There are currently 54 listed Government stock, 31 individual Loans and preference and 101 equities. The market ahs also witnessed increase in the number of stock broking firms and issuing houses from 3 each in 1961 to 34 and 29 respectively, while over 1 million Nigerian citizen of varied economic levels and widely spread throughout the country are share holders of quoted companies.

2.3.2 **Functions of the Nigerian Stock Exchange**

The Nigerian Stock Exchange[11] was established among others to perform the basic functions of mobilizing and allocation of the Nation's capital resources among numerous competing alternative uses. The exchange, thus, provided essential facilities for Government statutory corporations and limited liability companies to raise money locally for business expansion and for developmental projects. In addition, it enables small an large investors to buy and sell Government securities and the stock and shares of companies at price that are "fair and equitable". The Nigerian Stock exchange by its activities, therefore, encourage Nigerians of all works of life to own shares in various companies

operating in the country thereby spreading the ownership base and subsequent benefits to the generality of our people hence preventing concentration of the national wealth in the hands of a few individuals.

Furthermore, the pricing mechanism of the exchange is supposed to act as a barometer of the state of wealth of both the individual companies and the national economy as a whole, thereby ensuring that the greater proportion of national savings are channeled to those companies with the highest prospective rate of return, ofcourse making allowance for risk.

CHAPTER THREE

3. RESEARCH METHODOLOGY

Considering how important[12] is the share price of a company to many of its decisions and to the future of the management, it is surprising how little is known by the management of many companies about the process of share price determination. The cost of capital, the potential for growth through external acquisition, and the very survival of the company as a separate entity, depend on the price of the company's shares. For many other areas of decision-making within a company, the management is quite prepared to use detailed costing information, possibly the result of expensive market research exercise, and often some sophisticated mathematical technique. Yet what lies behind one of the key factors by which management Is judged, and consequently a factor that determines their survival, namely the share price, is often only vaguely understood.

In this chapter, the source of data and how it is collected would be highlighted. Furthermore the various techniques of analyzing the data would also be discussed.

3.1 Source of Data and Its Collection

In this work information regarding firms' Earnings, dividends and other relevant economic parameters are very vital in the analysis of the behaviour of stock prices. For this reason the main source of data where concise information regarding the stock of firms is the Nigerian Stock Exchange. Since this study would be limited to the stocks of quoted companies alone, the Nigerian stock Exchange is the most ideal place to source the data for this study. The data is thus from a secondary source.

As highlighted earlier somewhere in this work, the period of study would be ten years (1987-1997) therefore, Data for the weakly, monthly and annually for this period would be used for this study.

3.2 Method of Data Analysis

Since it is the intent of this study to test the three main theories concerning stock price behaviour namely; the Chartist, Random walk and fundamental. So the chartist theory would first be tested. It is note-worthy that literature has revealed several[4,12] techniques for testing the chartists theory, among them are; Breadth of market, volume of trading, odd –lot-trading short selling, Bar Chart, Moving averages" to name but a few. In this study, however, due to time constraints only the "Bar Chart" technique would be employed. ***C48HW*** l_{BRAIJm} **A**

The next test to be carried out is the Random Walk hypothesis test. In his M.B.A . project[13] Birnin Yauri (1986) investigated the price behaviour on the Nigerian Stock Exchange. He delved

mainly in the random-walk theory, he used the series correlation coefficient technique to test the inter-dependence of the stock price behavior for weekly, monthly and annually for various stocks, and he drew his conclusion based on that. The series correlation coefficient he used is as shown below.

$$Y = \frac{\sum (X-\bar{X})(Y-\bar{Y})}{\sum (X-\bar{X})^2 (Y-\bar{Y})^2}$$

X= percentage price change for the period under view

$\bar{X}$= means percentage price change for the period under view

Y= original series lagged one for period under view

$\bar{Y}$= mean series lagged one for period under view

Other techniques of testing Random walk hypothesis are' the run test, the filter techniques etc. in this study, the series correlation coefficient would be used to test the randomness or otherwise of stocks in the Nigerian stock exchange and particularly make comparison with previous work carried out by Brinin yauri. In addition comparison would also be made with the chartist results.

When the above tests are carried out on the selected stocks. Within the limit of availability of data, effort would be made to see if actually the intrinsic values of the stocks are anything to go by in selecting and purchase of a common stocks as claimed by the fundamentalist school.

In order to determine the intrinsic[14] value of a stock, having knowledge of the dividend (D) just paid by a firm, the discount rate (r) and the growth rate (g) of the firm, the intrinsic value is given by:

$$V = \frac{D(1+g)}{(1+r)} + \frac{D(1+g)^2}{(1+r)^2} + \frac{D(1+g)^3}{(1+r)^3} + \text{----------}$$

$$= \sum_{t=1}^{\alpha} D \frac{(1+g)^t}{(1+r)^t}$$

where

V = Intrinsic Value.

CHAPTER FOUR

RESULTS AND DISCUSSION

4. **Bases of Interpretation of Coefficient of Correlation**

The correlation lies between[15] + 1 and –1. It is said to be positive for direct correlation and negative for inverse correlation. Values of the coefficient near to unity such as 0.85 or 0.90 indicate a high degree of correlation. How ever, values near to zero such as 0.15 or 0.20 indicate an absence of correlation.

4.1 **Analysis and Interpretation of Result.**

4.11 **Yearly Price Changes of Stocks**

From fig 1, it could be observed that the stock price of livestock feeds was 137 kobo in 1987 and 150 kobo in 1988, the price then continued to decline each year from 1988 up to 1991 ie from 150 kobo to a minimum of 32 kobo respectively as shown in table 1. From the minimum of 32 kobo it then rose progressively to a peak of 554 kobo in 1996. While this fall and rise of the price of stock of livestock feeds existed during the period under review, using the bar chart as the chartist theory show, based on the trend from 1991 to 1996, a forcast could be made on the future price of the stock to a limited extent.

Column 7 of table 1 shows the intrinsic or actual values of the stock for the corresponding years. The behaviour of the calculated/intrinsic value for livestock feeds is not uniform as could be seen from the last column of table 1. The intrinsic values for 1987, 1989, 1990, 1991, 1992, 1993 and 1994 were found to be higher than the quoted prices while for the remaining years, the quoted prices were lower. This according to the fundamentalist theory means that holders of this stock can dispose their holdings when the quoted price is higher than the actual and benefit from the situation and they can then buy this stock and hold when the quoted price is below the actual. To this end for the years to come the actual prices of the stocks, could be calculated and then decision could be made as to whether to sell or hold.

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For the efficacy of this theory ie the fundamentalist theory, it would be observed from the stocks of other organizations, the intrinsic value is almost always lower than the quoted price which may mean that there would hardly be a time when the price in the market could go above the quoted price, so that the holders of this stock could sell the stocks, they hold in order to realise some profit.

The value for the correlation coefficient for livestock feeds, was found to be 0.22 from table 1. This means that there is hardly any correlation between the stock prices of the company for the period under review. Form the foregoing, it could be observed that from the bar chart (fig 1) and the last column of table 1, the patterns

Table 1. Annual Data for LiveStock Feeds' Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	137	12.75	0.00	9.49	0.00	180.39
1988	150	12.75	9.49	-12.67	-0.03	135.09
1989	131	18.50	-12.67	-46.56	0.00	112.19
1990	70	18.50	-46.56	-54.29	0.00	112.19
1991	32	15.50	-54.29	65.63	0.00	129.87
1992	53	17.50	65.63	52.83	0.00	118.12
1993	81	23.00	52.83	50.62	0.00	99.81
1994	122	13.50	50.62	252.46	-0.15	86.25
1995	430	13.00	252.46	28.84	0.05	126.66
1996	554	13.50	28.84	-14.26	0.1	260.74
1997	475	13.50	-14.26	0.00	0.00	141.43

Correlation 0.22

Std Deviation 87.41

Table 2. Annual Data for Flour Mills Nigeria Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	PRICE CHANGE	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	50	12.75	0.00	21.88	0.00	15.69
1988	64	12.75	21.88	20.00	0.02	34.32
1989	80	18.50	20.00	-60.00	0.00	20.44
1990	50	18.50	-60.00	7.41	0.00	20.44
1991	54	15.50	7.41	65.38	0.00	23.98
1992	156	17.50	65.38	64.14	0.06	49.86
1993	435	23.00	64.14	43.21	0.65	561.18
1994	766	13.50	43.21	-9.12	-0.4	627.07
1995	702	13.00	-9.12	35.00	0.05	773.72
1996	1080	13.50	35.00	22.86	0.1	1062.39
1997	1400	13.50	22.86	0.00	0.10	1127.96

Correlation 0.18

Std Deviation 35.47

Table 3. Annual Data for First Bank Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	PRICE CHANGE	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	416	12.75	0.00	-19.20	0.00	78.43
1988	349	12.75	-19.20	-98.30	-0.05	34.58
1989	176	18.50	-98.30	-22.22	-0.03	20.97
1990	144	18.50	-22.22	-51.58	0.13	152.76
1991	95	15.50	-51.58	1.04	-0.15	26.00
1992	96	17.50	1.04	79.57	0.03	33.43
1993	470	23.00	79.57	-25.33	0.18	126.99
1994	375	13.50	-25.33	60.77	0.30	79.68
1995	956	13.00	60.77	-34.65	0.0	324.20
1996	710	13.50	-34.65	43.65	0.20	24.33
1997	1260	13.50	43.65	0.00	-0.14	381.10

Correlation -0.09

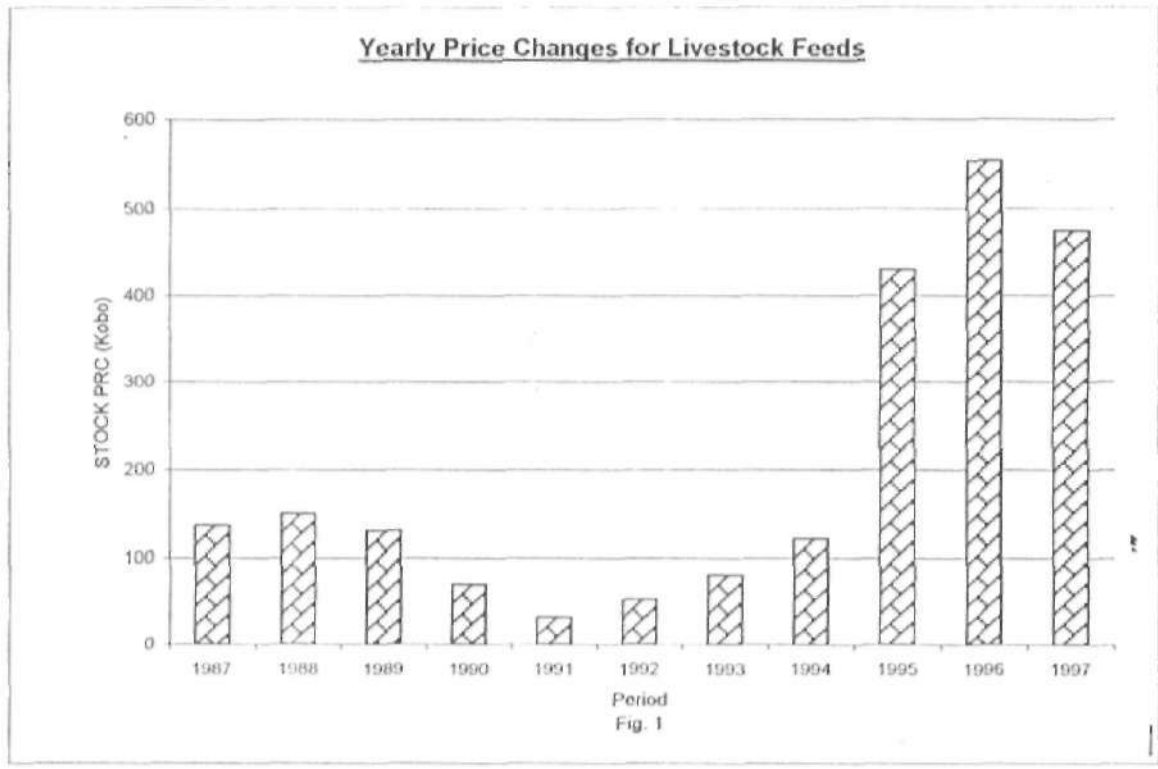
Std Deviation 51.54

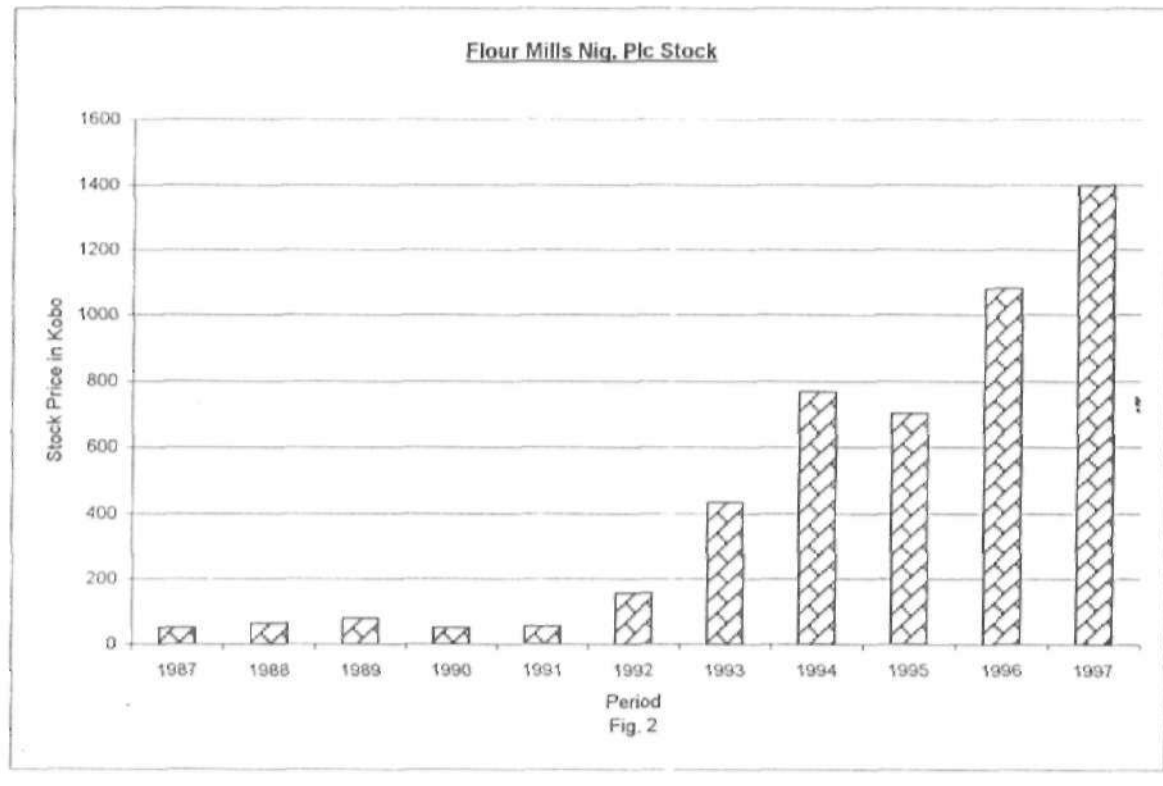
Table 4. Annual Data for UBA Plc Stock

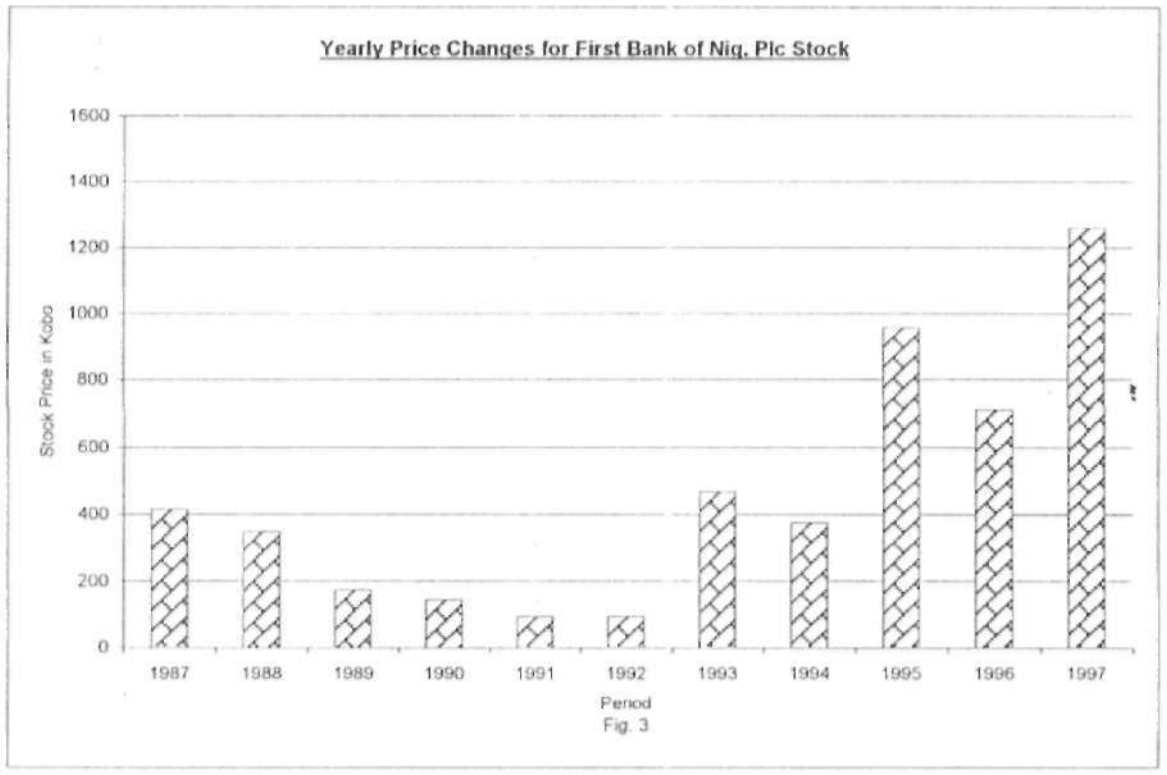
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	PRICE CHANGE	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	375	12.75	0.00	-25.00	0.00	31.37
1988	300	12.75	-25.00	-6.38	0.00	31.37
1989	282	18.50	-6.38	-36.23	0.21	-567.65
1990	207	18.50	-36.23	-97.14	0.00	114.52
1991	105	15.50	-97.14	-41.89	-0.15	64.1
1992	74	17.50	-41.89	-37.04	-0.06	56.34
1993	54	23.00	-37.04	71.88	0.16	126.65
1994	192	13.50	71.88	73.63	0.05	182.54
1995	728	13.00	73.63	-21.33	-0.08	105.36
1996	600	13.50	-21.33	54.89	0.16	-252.62
1997	1330	13.50	54.89	0.00	-0.23	126.39

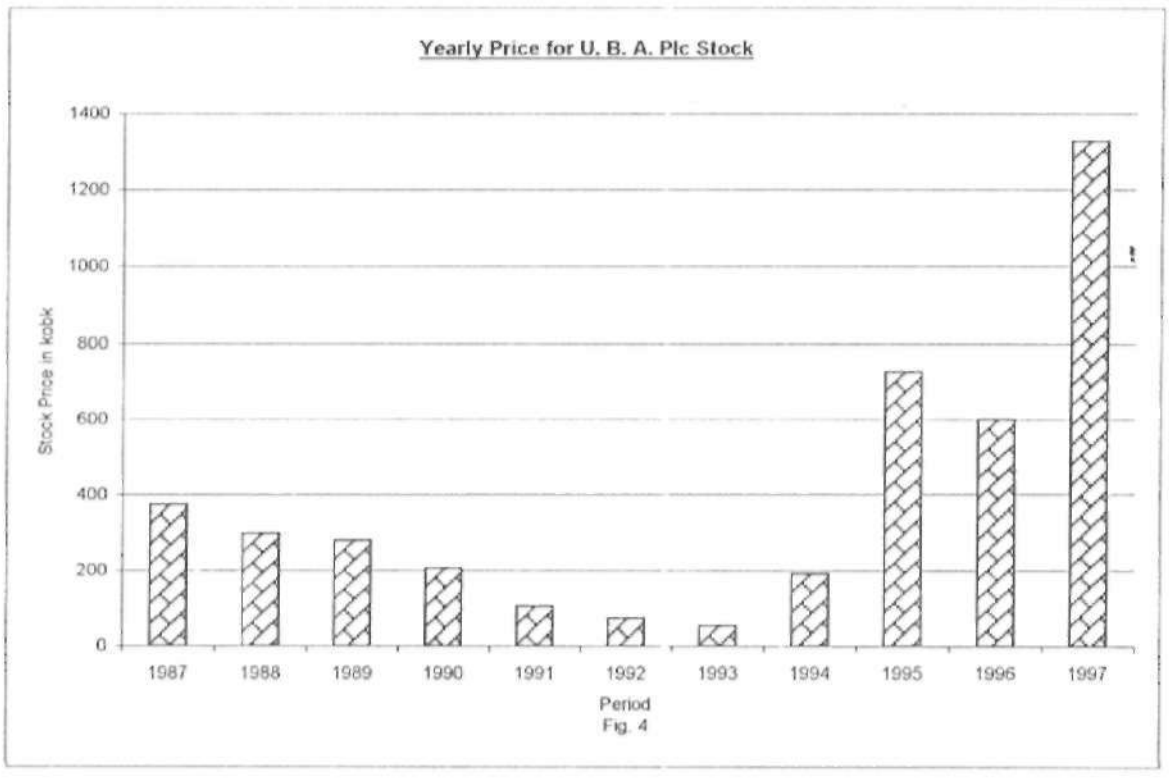
Correlation 0.320379042

Std Deviation 53.11942076


Yearly Price Changes for Livestock Feeds
STOCK PRC (Kobo)
600
500
400
300
200
100
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 1


Flour Mills Nig. Plc Stock
Stock Price in Kobo
1600
1400
1200
1000
800
600
400
200
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 2


Yearly Price Changes for First Bank of Nig. Plc Stock
Stock Price in Kobo
1600
1400
1200
1000
800
600
400
200
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 3


Yearly Price for U. B. A. Plc Stock
Stock Price in kobk
1400
1200
1000
800
600
400
200
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 4

were not uniform enough to make any generalization, as such it could be conclusively said that the overall behaviour of the livestock feed stock does not have any correlation in other words the behaviour is random in nature.

Table 2 shows the annual data for Flour Mills Nigeria Plc stock. Fig 2 shows the bar chart of the company. Although the stock price between 1987 and 1991 fluctuates, the trend is different from 1991 to 1997 which could be observed to be almost in the increasing order. The calculated (actual value) from the last column is found to be lower than the quoted prices in all cases. The correlation coefficient for the company is found to be 0.18. form this results, the stock of the company rose from 50kobo in 1987 to 1499kobo in 1997 and with the exception of 1990 and 1991, the trend was in the increasing order, for this reason therefore, a forcast of the stock for the coming years could be made with a fair degree of accuracy, since the trend did not show direct proportionality. This means the chartist theory could be cautiously applicable in this case. For the quoted stock price compared with the calculated , it is shown that at all times the actual price was below the quoted, which could be interpreted according the fundamentalist theory that the stocks of the company are overvalued during the whole period under review, therefore, if the fundamentalist theory is anything to be reckoned with, there was no time during this period when it was favourable (ie when quoted price was higher than calculated) for holders of this stock to sell their stock to realise any gain. So practically it is

inadvisable to use the theory to buy or sell shares by this result. Although at some times during the period the stock price was found to be rising, it was shown that, there wasn't any correlation (0.18) between the stock prices of the individual years. So in the final analysis, the stock price behaviour could be said to be random.

The two sample companies from the agricultural sector namely, the livestock feeds and flour mills Nigeria Plc showed almost similar pattern of behaviour more especially from 1991 to 1997 and generally there was no any correlation between their annual stock prices. The behaviour of the stock prices is more of random than either of the behaviours put forward by the chartist or fundamentalist theories.

The sample banks for the Banking sector chosen for this research were; First Bank and United Bank Africa (U.B.A) Tables 3 and 4 and fig. 3 and 4 show the respective behaviours of their stock prices. The two banks showed similar behaviour generally in which from 1987 the quoted stock prices of the two banks continued to fall up to 1991 for first banks and 1993 for U.B.A. The years 1991 and 1993 were the turning points for these banks whereby their respective quoted prices rose in 1995 and then recorded a fall in 1996 and then rose again in 1997. Looking at the last columns of table 3 and 4 the calculated annual prices were found to be fluctuating and in all the two banks the calculated prices were lower than the quoted ones with the exception of the

Table 5: Annual Data for AG Leventis Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	56	12.75	0.00	12.50	0.00	31.37
1988	64	12.75	12.50	22.89	0.00	31.37
1989	83	18.50	22.89	0.00	0.01	26.96
1990	83	18.50	0.00	-18.57	0.00	26.03
1991	70	15.50	-18.57	20.45	0.03	47.97
1992	88	17.50	20.45	41.33	0.02	45.63
1993	150	23.00	41.33	-15.38	0.05	45.64
1994	130	13.50	-15.38	55.63	0.05	122.24
1995	293	13.00	55.63	-81.99	-0.13	46.75
1996	161	13.50	-81.99	19.50	0.03	66.76
1997	200	13.50	19.50	0.00	0.00	62.01

Correlation -0.540631

Std Deviation 36.46493

Table 6: Annual Data for Lever Brothers Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	157	12.75	0.00	10.29	0.00	154.51
1988	175	12.75	10.29	48.53	0.1	930.47
1989	340	18.50	48.53	14.36	0.39	-41.51
1990	397	18.50	14.36	26.48	-0.21	229.04
1991	540	15.50	26.48	31.39	-0.08	263.2
1992	787	17.50	31.39	16.9	0.05	340.11
1993	947	23.00	16.9	3.56	0.05	285.05
1994	982	13.50	3.56	62.19	0.35	416.78
1995	2597	13.00	62.19	-29.85	0.2	241.35
1996	2000	13.50	-29.85	-73.91	0.2	416.79
1997	1150	13.50	-73.91	0.00	-0.30	1013.54

Correlation 0.179387

Std Deviation 37.11392

Table 7: Annual Data for African Petroluem Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	166	12.75	0.00	9.29	0.00	117.65
1988	183	12.75	9.29	7.11	0.02	145.77
1989	197	18.50	7.11	26.22	0.03	119.21
1990	267	18.50	26.22	23.71	0.05	149.46
1991	350	15.50	23.71	28.86	-0.10	88.48
1992	492	17.50	28.86	-2.93	0.05	130.84
1993	478	23.00	-2.93	19.26	0.10	137.95
1994	592	13.50	19.26	71.26	0.5	748.67
1995	2060	13.00	71.26	54.22	1.2	78013.35
1996	4500	13.50	54.22	-47.3	0	78547.38
1997	3055	13.50	-47.3	0.00	1.00	230623.36

Correlation 0.085318475

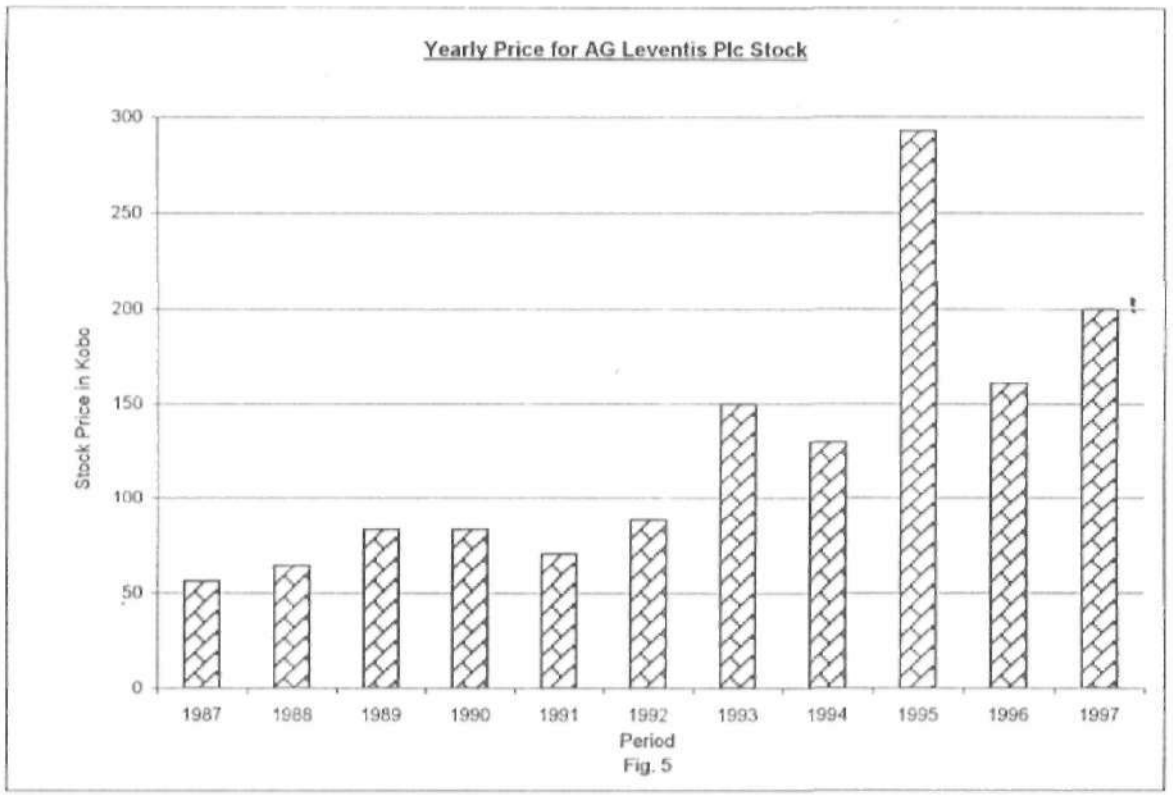
Std Deviation 30.95635542

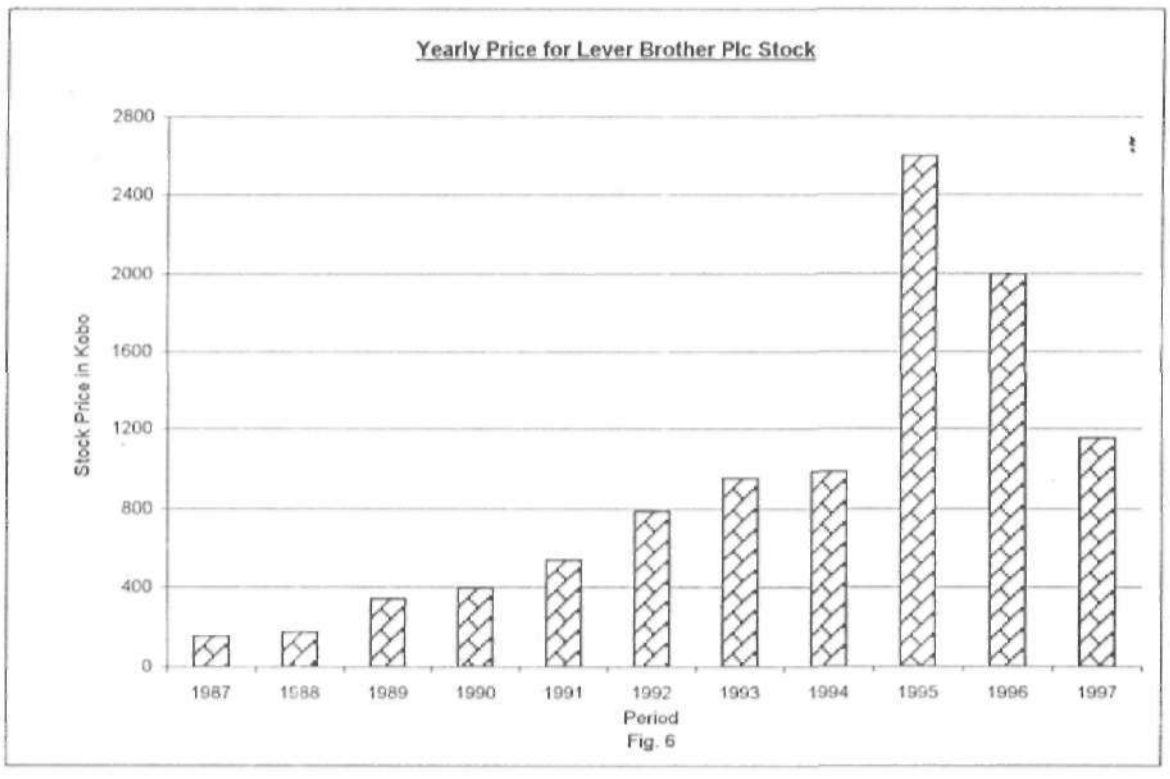
Table 8: Annual Data for Mobil Oil Nigeria Plc Stock

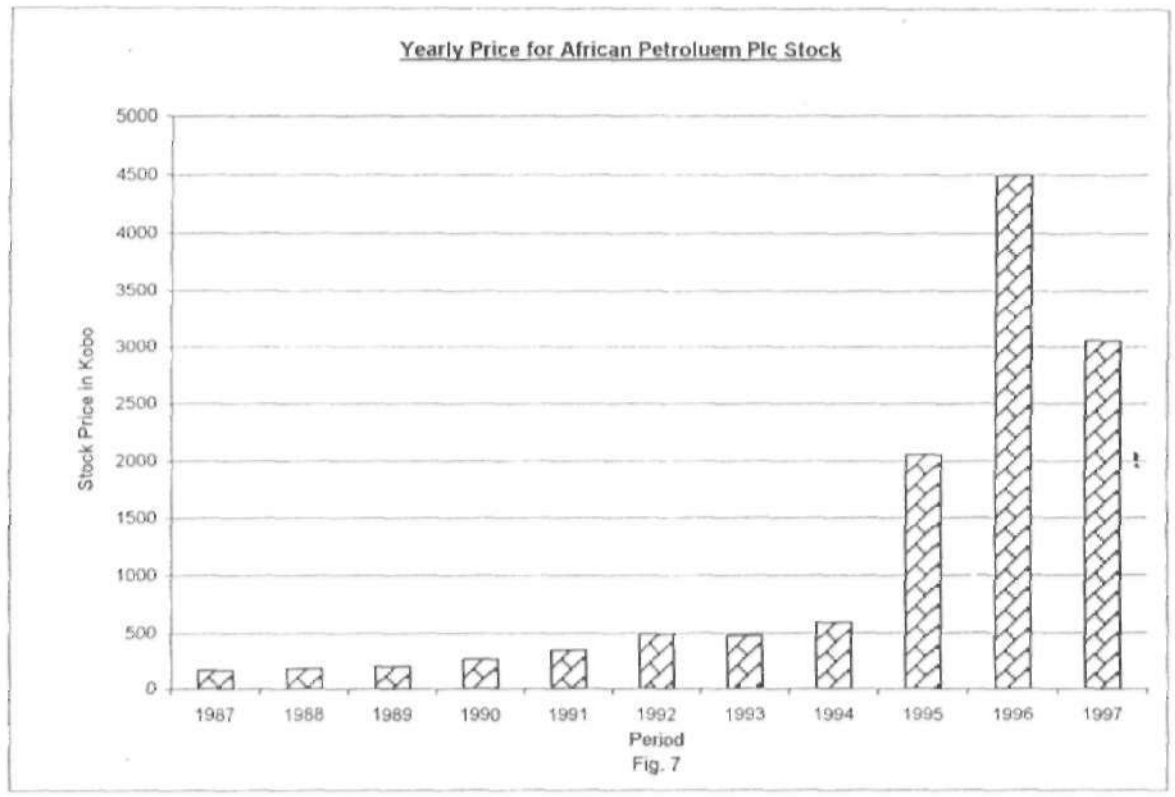
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	152	12.75	0.00	9.52	0.00	66.67
1988	168	12.75	9.52	-8.39	0.08	303.61
1989	155	18.50	-8.39	53.17	-0.03	66.17
1990	331	18.50	53.17	38.01	0.14	395.31
1991	534	15.50	38.01	28.61	0.12	716.59
1992	748	17.50	28.61	-4.91	0.10	375.82
1993	713	23.00	-4.91	4.17	0.19	541.7
1994	744	13.50	4.17	73.04	0.21	-83.83
1995	2760	13.00	73.04	44.35	1.1	51084.26
1996	4960	13.50	44.35	19.87	1.35	536098.62
1997	6190	13.50	19.87	0.00	1.95	19916540.95

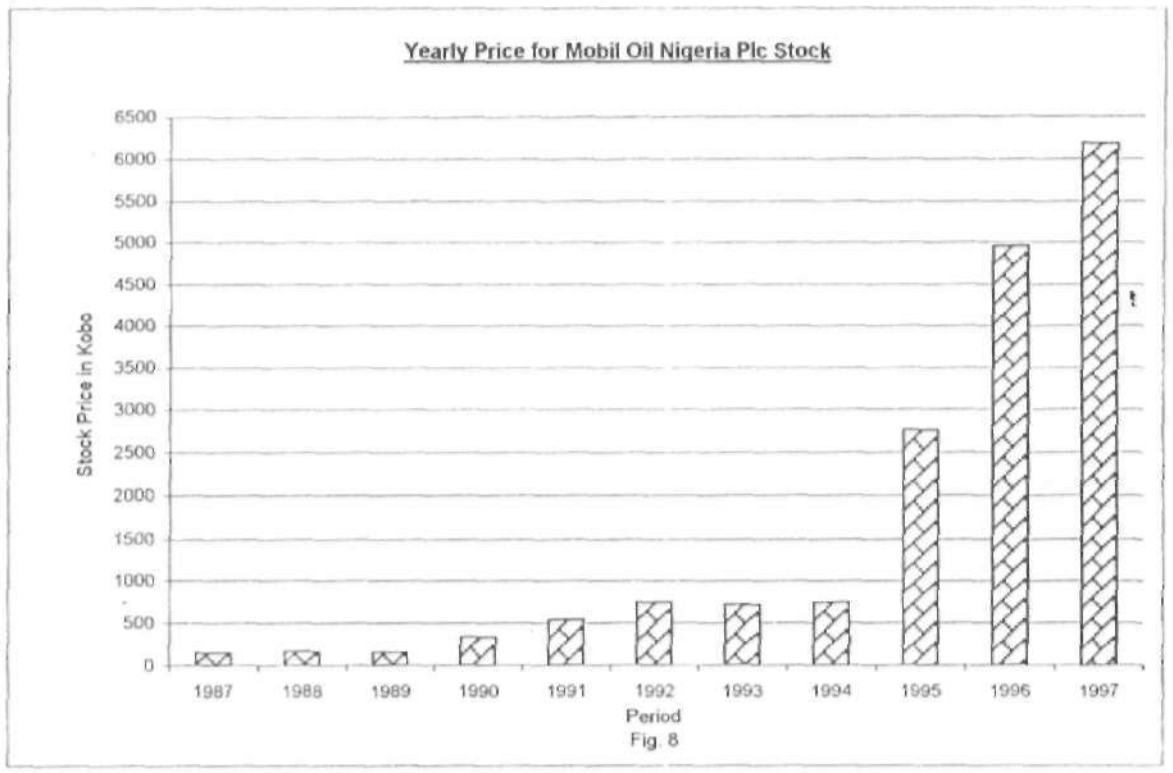
Correlation 0.117984126

Std Deviation 26.39128073


Yearly Price for AG Leventis Plc Stock
Stock Price in Kobo
300
250
200
150
100
50
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 5


Yearly Price for Lever Brother Plc Stock
Stock Price in Kobo
2800
2400
2000
1600
1200
800
400
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 6


Yearly Price for African Petroluem Plc Stock
Stock Price in Kobo
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 7


Yearly Price for Mobil Oil Nigeria Plc Stock
Stock Price in Kobo
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period
Fig. 8

years 1989 and 1993 stocks for U.B.A in which case the quoted prices were lower than the calculated.

The correlation coefficient for the First Bank was 0.09 which was a complete absence of correlation between the annual prices of its stocks. For the U.B.A the correlation coefficient was 0.32 and this means that there exist a weak correlation between the annual prices of its stocks. Therefore, as the chartist school of thought proposes, a forecast of the behaviour of the future stock prices of the bank based on the previous years could be made to a relatively weak extent as revealed by the coefficient of correlation.

Tables 5 and 6 show the annual data for the representative samples of the conglomerates. From fig 5 and 6 it will be seen from the bar charts that for the A.G Leventis stocks, it was only in 1991 and 1996 that the prices fell below those of the proceeding years, for all the rest of the years under review the quoted prices were on the increase. In the case of Lever Brothers stock, the prices continued to rise from 1987 upto 1995 from which the price declined successively up to 1997. It is noteworthy here that, although the stock prices of the two companies recorded general rises in their stocks prices during certain years at the period, these rises were not so steady. This, thus, means that it will be difficult to make any reasonable forcast of the future price behaviour based on this past behaviour. For the actual calculated prices of stocks of A.G .Leventis and Lever Brothers the trends were similar, that is the quoted prices were always greater than actual values with

few exceptional cases in the case of Lever Brothers stock. The correlation coefficient for A.G. Leventis was - 0.54 while that of Lever Brother was 0.18. this showed that for A.G Leventis stock there was a negative and inverses relationship between its annual stock prices. For the Annual stock prices of Lever Brother, the correlation coefficient showed that there was an absence of correlation. For these two companies under conglomerates, the major underlying behaviour of their Annual stock prices is random.

In the petroleum Industry, the sampled companies were African Petroleum Plc and Mobil Oil Nigeria Plc. Tables 7 and 8 show the stock price changes of the two Oil companies. Fig 7 and 8 show the Annual behaviours of the stocks' prices. The annual stock price of the African petroleum is shown (fig7) to be increasing from 1987 to 1996, although not in a proportional manner. Between 1996 and 1997 the stock price fell from 45ookobo to 3055kobo. Fig 8 showed that Mobil Oil recorded general rise in Annual stocks prices if not in 1993 during the period being reviewed. Like it's African petroleum counterpart, the annual rise in stock price recorded by mobil oil was not a steady one. The correlation coefficient of the two companies confirmed that the relationship between their annual stock prices was random. The correlation for African Petroleum was 0.09 while that of Mobil was 0.12. the intrinsic value of the two oil companies are shown in the last columns of tables 7 and 8. It could be seen that the values were generally lower than the quoted

values up to 1994 after which the values became unreasonably high.

For the manufacturing sector we have Afprint Nigeria Plc and United Nigeria Textile Plc as sample companies. Tables 9 and 10 and Figs 9 and 10 show the annual data and annual price patterns of the two companies respectively. The bar charts on figs 9 and 10 show the respective behaviour of Annual quoted stock prices of the two textiles. For the stock of Afprint Plc the Annual price showed rises and falls during the periods being reviewed, in which the Annual price continued to rise from 1987 to 1990 and recorded a fall in annual price up to 1994, it then rose to a maximum during the period in 1995 from which it fell again in 1996 and 1997. Although the trend is not exactly the same with United Nigeria Textile Plc, but then there was some similarity observable. The annual price for United Textile was seen to rise from 1987 upto 19993, fell in 1994 and rose again through 1996 which was the maximum for that period. At the end of 1997 the annual price almost fell to the price of 1988. This showed that annual stock prices of the two textiles fluctuated during the period with no definite pattern of bahaviour. Furthermore, from the correlation coefficient of the two companies, 0.26 for Afprint and 0.11 for United Nigeria Textile, it is clear that the Annual prices of the two companies lacked much correlation hence a confirmation of the patterns of figs 9 and 10. For the two Textiles except at the very early years, the calculated Actual prices were generally lower than the quoted ones. From the foregoing it is

Table 9: Annual Data for Afprint Nigeria Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	107	12.75	0.00	11.57	0.00	156.86
1988	121	12.75	11.57	14.79	-0.05	94.86
1989	142	18.50	14.79	30.05	0.00	86.13
1990	203	18.50	30.05	-40.00	-0.05	63.11
1991	145	15.50	-40.00	-0.69	0.00	77.79
1992	144	17.50	-0.69	-38.46	0.00	71.91
1993	104	23.00	-38.46	-22.35	0.05	74.72
1994	85	13.50	-22.35	74.09	0.0	100.94
1995	328	13.00	74.09	-20.15	0.05	145.80
1996	273	13.50	-20.15	-0.37	0.0	117.92
1997	272	13.50	-0.37	0.00	0.10	310.28

Correlation -0.262979886

Std Deviation 32.74614128

Table 10. Annual Data for United Nigeria Textile Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
1987	100	12.75	0.00	10.71	0.00	117.65
1988	112	12.75	10.71	52.34	0.05	233.65
1989	235	18.50	52.34	27.02	0.05	159.33
1990	322	18.50	27.02	7.20	0.00	129.25
1991	347	15.50	7.20	15.78	0.00	151.35
1992	412	17.50	15.78	1.90	0.00	136.67
1993	420	23.00	1.90	-19.66	0.00	113.77
1994	351	13.50	-19.66	18.37	0.00	164.57
1995	430	13.00	18.37	37.68	0.00	164.57
1996	690	13.50	37.68	-360.00	0.05	218.58
1997	150	13.50	-360.00	0.00	-0.25	122.38

Correlation -0.113276929

Std Deviation 114.7497573

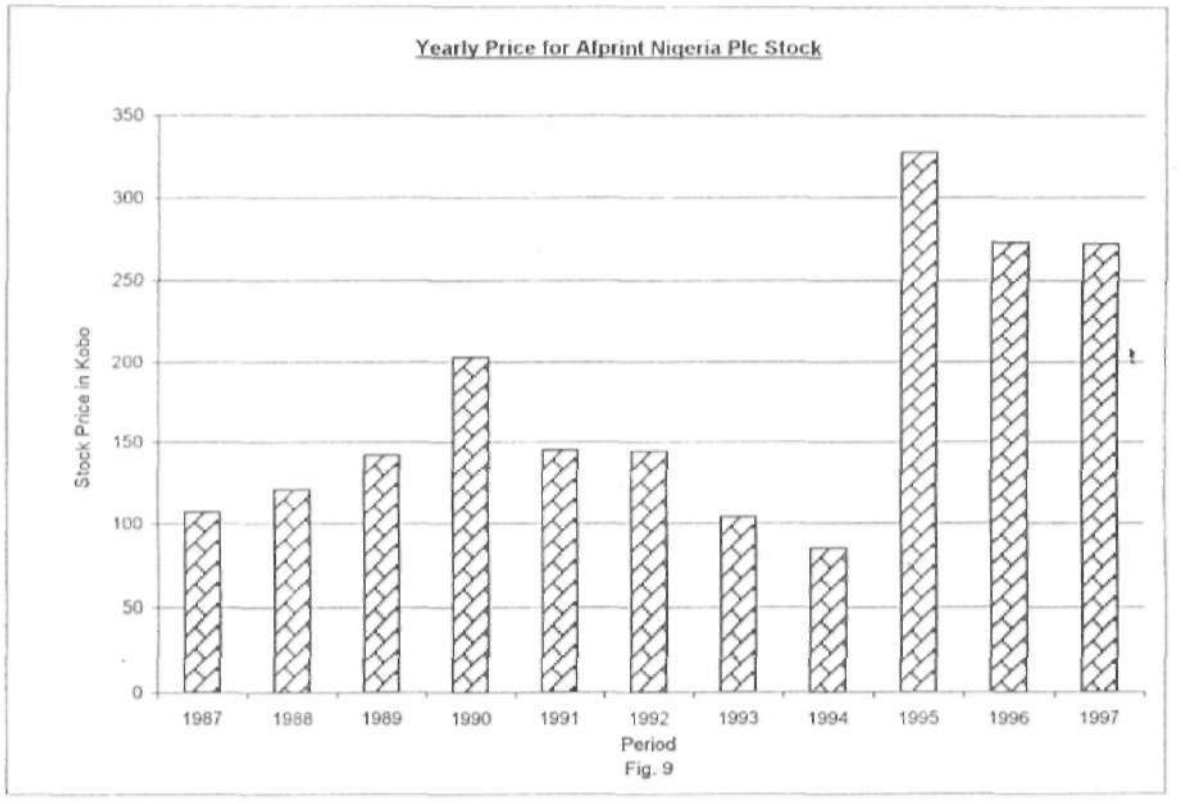

Yearly Price for Afprint Nigeria Plc Stock
Stock Price in Kobo
350
300
250
200
150
100
50
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period

Fig. 9

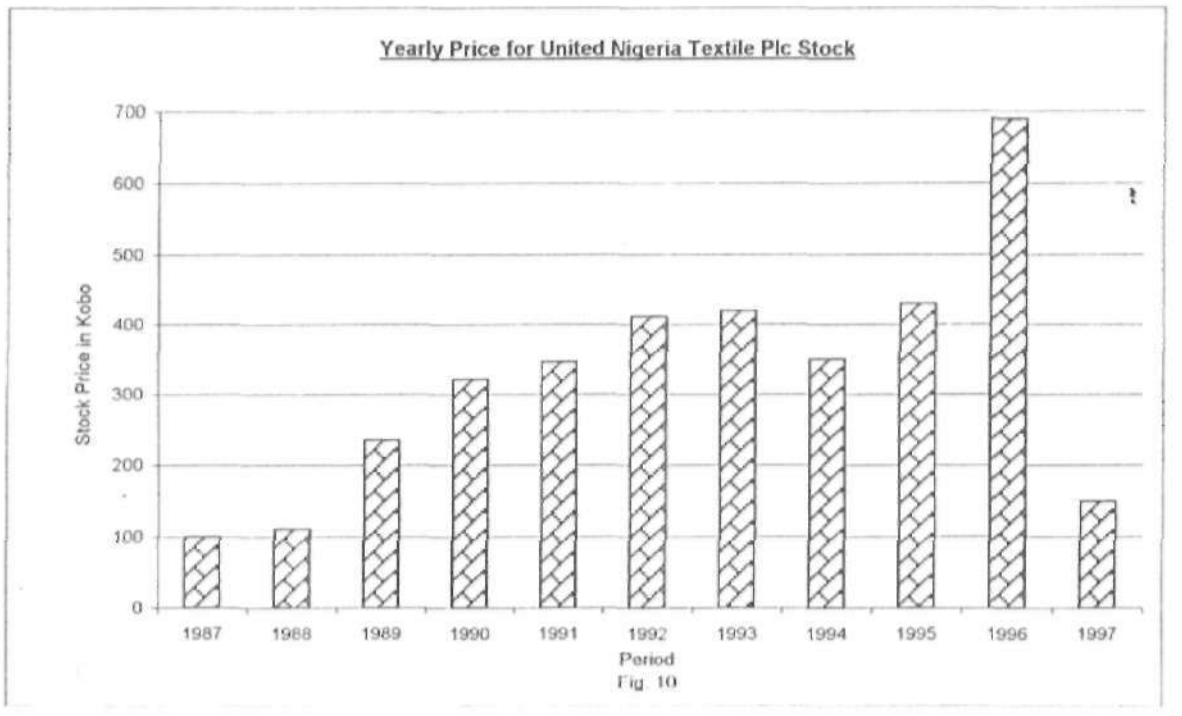

Yearly Price for United Nigeria Textile Plc Stock
Stock Price in Kobo
700
600
500
400
300
200
100
0
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
Period

Fig. 10

evident that the calculate Annual price of a certain year cannot and was not used to influence sell or purchase of stocks for that same year, there was lack of apparent evidence to that effect.

The Tables and figs 1-10 have shown that the most glaring pattern of behaviour of the Annual stock prices for the ten quoted companies was that there was no much correlation between the stock price of a certain year with that of either the year preceding or that following that particular year. As such it could be said that the general Annual stock price behaviour for all the companies reviewed was in favour of the random walk theory.

4.2. **Monthly Stock Price Changes**

For the monthly analysis, a period of twelve months was considered from April 1987 to March,1988. Figs 11 and 12 show the monthly stock price behaviour of livestock feeds and Flour Mills Nigeria Plc. For the livestock feeds the monthly price pattern showed a continued increase from April 1987 through march 1998, the rise in price, however, was not a proportional one. Almost the same pattern was shown in the case of Flour Mills. Unlike Livestock feeds, the stock of Flour Mills fell from 52kobo in October, 1987 to 50kobo through January 1988 from where it rose again to 53kobo in February 1988 (table 12). For he actual prices for the months table 11 last column showed that the quoted monthly prices were lower than the actual prices in virtually all the months during the period. It is however not

certain whether this lower quoted price compared to the actual has influenced the buyers to acquire more of this stock, because if it has been so, the law of supply and demand would have applied and that would have made the price to have rose to a much higher value due to possible higher demand. The case is similar with the stock of Flour Mills Plc. Table 12 showed that the actual price of the stock was higher than the quoted up to August 1987 and from then on the quoted price was higher. From the monthly price changes, it could be seen that there wasn't any change in the price behaviour in relation to changes in the actual price. Looking at the correlation coefficient, it is 0.09 for Livestock feeds and 0.15 for Flour Mills Nigeria Plc. This could be inferred that there is absence of correlation between the individual monthly stock prices.

Tables 13 and 14 show the monthly data for First Bank and U.B.A. The Bar charts on fig. 13 and 14 show the price behaviour of the stocks of these banks during the months under review. The two banks showed almost exactly the same trend, in that in the first two month (April and May) the rise in their stock prices between the months of April and that of May was small. The two stocks recorded the highest value in the month of June 1987 after which the two stocks continued to decline during the subsequent months up to the last month (march 1988). It is, however, clear from the fig. That the decline in prices of the two stocks was not a steady one from one month to the next. Therefore it would be difficult to use this trend as a yardstick to predict what the price

Table 11: Monthly Data for LiveStock Feeds' Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	76	12.75	0.00	7.32	0.00	201.37
May-27-87	82	12.75	7.32	31.67	0.00	222.14
Jun-29-87	120	12.75	31.67	4.00	0.00	242.7
Jul-31-87	125	12.75	4.00	0.00	0.00	265.05
Aug-30-87	125	12.75	0.00	1.57	0.00	283.21
Sep-30-87	127	12.75	1.57	3.05	0.00	303.16
Oct-30-87	131	12.75	3.05	3.68	0.00	322.91
Nov-27-87	136	12.75	3.68	0.73	0.00	342.47
Dec-29-87	137	12.75	0.73	0.00	0.00	361.84
Jan-28-88	137	12.75	0.00	2.14	0.00	381.01
Feb-28-88	140	12.75	2.14	7.28	0.00	399.99
Mar-30-88	151	12.75	7.28	0.00	0.00	418.78

Correlation 0.0928059

Std Deviation 8.7448451

Table 12: Monthly Data for Flour Mills Nigeria Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	35	12.75	0.00	2.78	0.00	34.15
May-27-87	36	12.75	2.78	2.70	0.00	37.67
Jun-29-87	37	12.75	2.70	15.91	0.00	41.15
Jul-31-87	44	12.75	15.91	4.35	0.00	44.60
Aug-30-87	46	12.75	4.35	8.00	0.00	48.02
Sep-30-87	50	12.75	8.00	3.85	-0.02	33.65
Oct-30-87	52	12.75	3.85	-4.00	0.00	37.28
Nov-27-87	50	12.75	-4.00	0.00	0.00	38.98
Dec-29-87	50	12.75	0.00	0.00	0.00	40.67
Jan-28-88	50	12.75	0.00	5.66	0.00	42.33
Feb-28-88	53	12.75	5.66	0.00	0.00	43.98
Mar-30-88	53	12.75	0.00	0.00	0.00	45.62

Correlation 0.1453571

Std Deviation 5.0947004

Table 13: Monthly Data for First Bank Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	300	12.75	0.00	3.85	0.00	192.61
May-27-87	312	12.75	3.95	37.60	0.01	233.68
Jun-29-87	500	12.75	37.60	-2.04	0.00	238.57
Jul-31-87	490	12.75	-2.04	-7.69	-0.01	243.46
Aug-30-87	455	12.75	-7.69	0.00	-0.12	134.91
Sep-30-87	455	12.75	0.00	-1.56	0.00	179.76
Oct-30-87	448	12.75	-1.56	-1.82	0.00	188.35
Nov-27-87	440	12.75	-1.82	-5.77	0.00	196.86
Dec-29-87	416	12.75	-5.77	-2.46	0.00	205.27
Jan-28-88	406	12.75	-2.46	-1.50	0.00	213.61
Feb-28-88	400	12.75	-1.50	0.00	0.17	221.86
Mar-30-88	380	12.75				-383.84

Correlation 0.0581062

Std Deviation 12.921458

Table 14: Monthly Data for UBA Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	234	12.75	0.00	3.85	0.00	35.02
May-27-87	237	12.75	3.85	37.6	0.00	38.63
Jun-29-87	480	12.75	37.6	-2.04	0.00	42.21
Jul-31-87	430	12.75	-2.04	-7.69	0.16	-559.3
Aug-30-87	415	12.75	-7.69	0.00	-0.04	137.78
Sep-30-87	415	12.75	0.00	-1.56	0.00	180.17
Oct-30-87	408	12.75	-1.56	-1.82	0.00	193.91
Nov-27-87	400	12.75	-1.82	-5.77	0.00	207.51
Dec-29-87	375	12.75	-5.77	-2.46	-0.12	109.76
Jan-28-88	365	12.75	-2.46	-1.50	0.00	127
Feb-28-88	351	12.75	-1.50	0.00	0.00	130.3
Mar-30-88	349	12.75	0.00	0.00	0.00	133.57

Correlation 0.0928059

Std Deviation 8.7448451

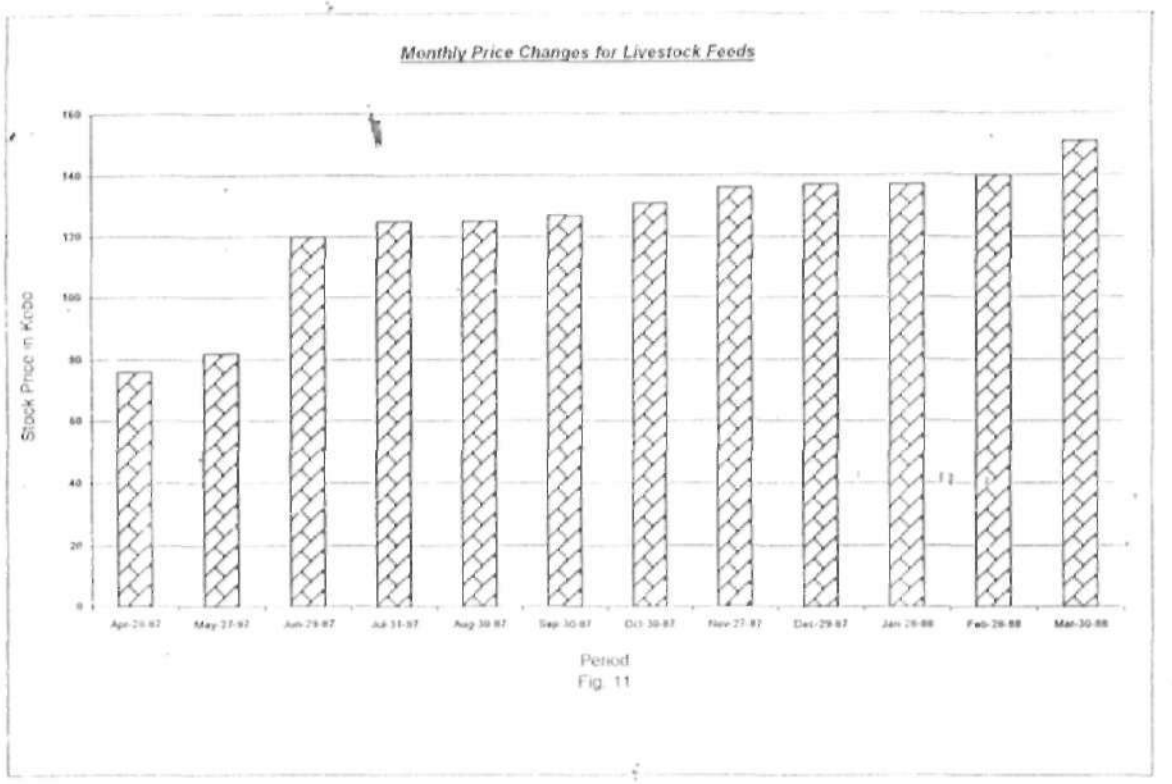

Monthly Price Changes for Livestock Feeds
Stock Price in Kobo
Period

Fig. 11

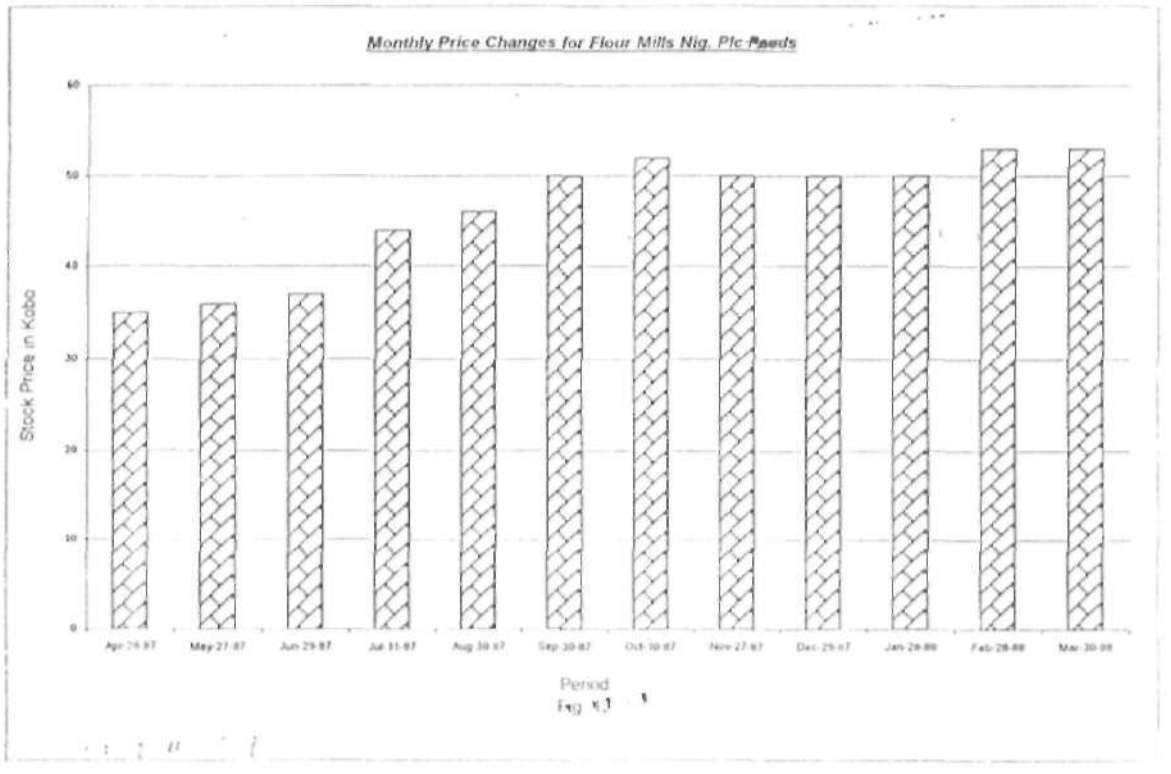

Monthly Price Changes for Flour Mills Nig. Plc Feeds
Stock Price in Kobo
Period

Fig. 12

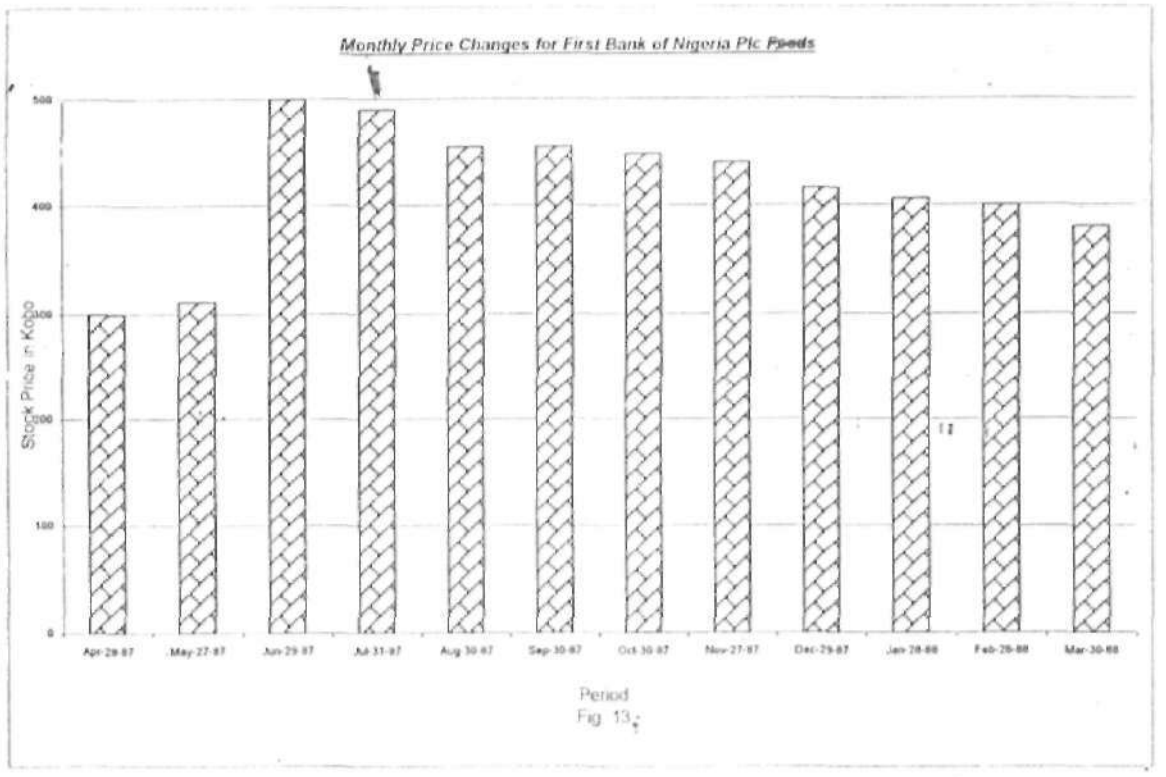

Monthly Price Changes for First Bank of Nigeria Plc Stock
Stock Price in Kobo
500
400
300
200
100
0
Apr-28-87
May-27-87
Jun-29-87
Jul-31-87
Aug-30-87
Sep-30-87
Oct-30-87
Nov-27-87
Dec-29-87
Jan-28-88
Feb-26-88
Mar-30-88
Period

Fig 13

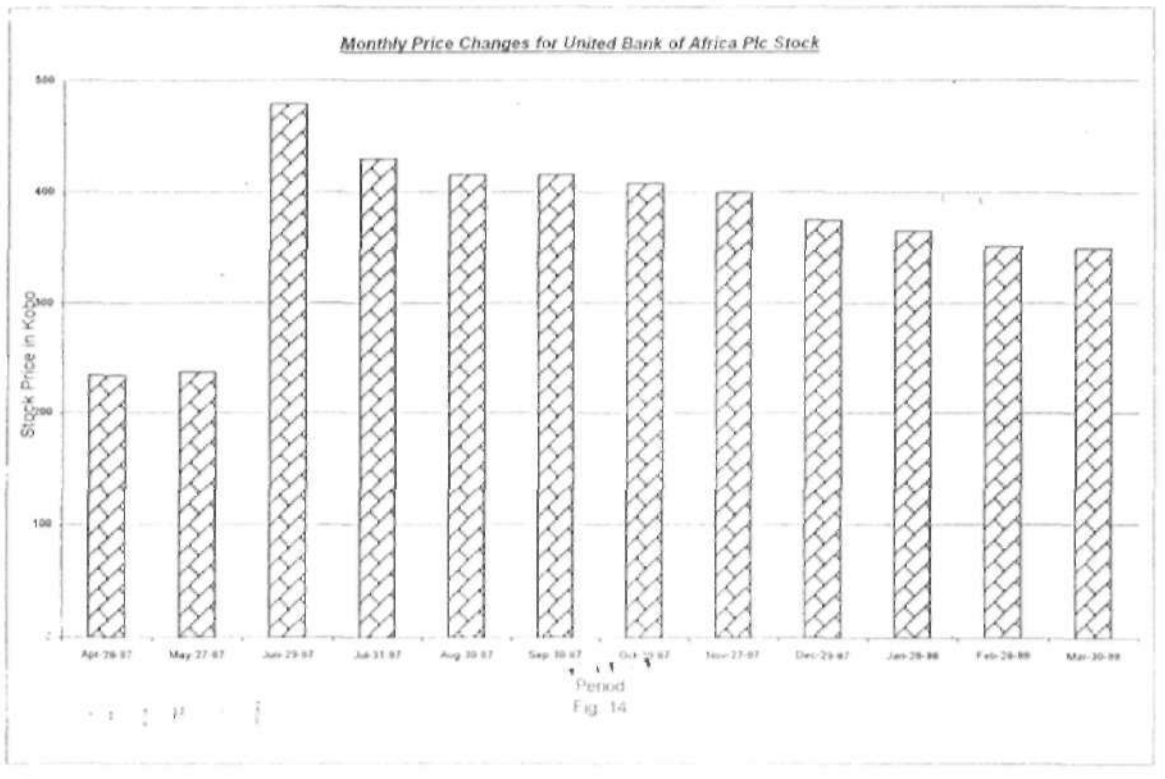

Monthly Price Changes for United Bank of Africa Plc Stock
Stock Price in Kobo
500
400
300
200
100
Period

Fig 14

could be in the months to come from this data. The actual values of these stocks as calculated and shown on the last columns of tables 13 and 14 indicated that in all the months being reviewed the actual or calculated values were generally lower than the quoted prices. So if the fundamentalists theory was to be followed, this trend calls for the holders of this stock to sell all or most of their holdings in these stocks in order to realise the gain of the situation because of the fact that the quoted prices were an overvalue of the actual or intrinsic values of the stocks. It is however not very clear if that is what happened, the stocks of the two banks would have flooded the market and this would cause the price to fall at least to the actual value. Although the quoted prices of the two banks fell from a maximum during the period, the fall in quoted price is not that significant to be able to relate the price fall with lower actual values. Again looking at the correlation coefficient of the two banks, it is confirmed that, the individual monthly prices have no correlation (0.06 for First Bank and 0.09 for U.B.A.) at all. Therefore, the trend of the behaviour of the stock prices of these two banks is more of random than anything else.

Tables 15 and 16 show the monthly data for A.G Leventis and Lever Brothers Plc, and figures 15 and 16 show the bar charts for the two organization. Fig. 15 for A.G Leventis showed that if not for the months of June, July and August when the quoted prices reached 60kobo, all quoted prices for the rest of the months remained almost stable. As for Lever Brother, after reaching a

Table 15: Monthly Data for AG Leventis & Co. Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	55	12.75	0.00	0.00	0.00	52.53
May-27-87	55	12.75	0.00	8.33	0.00	57.95
Jun-29-87	60	12.75	8.33	0.00	0.00	63.31
Jul-31-87	60	12.75	0.00	1.64	0.00	68.62
Aug-30-87	61	12.75	1.64	-7.02	0.00	73.88
Sep-30-87	57	12.75	-7.02	0.00	-0.02	58.38
Oct-30-87	57	12.75	0.00	-1.79	0.00	65.83
Nov-27-87	56	12.75	-1.79	0.00	0.00	69.23
Dec-29-87	56	12.75	0.00	0.00	0.00	72.60
Jan-28-88	56	12.75	0.00	0.00	0.00	75.93
Feb-28-88	56	12.75	0.00	0.00	0.00	79.23
Mar-30-88	56	12.75	0.00	0.00	0.00	82.50

Correlation 0.092806
Std Deviation 8.744845

Table 16: Monthly Data for Lever Brothers Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	140	12.75	0.00	-2.94	0.00	121.60
May-27-87	136	12.75	-2.94	15.00	0.06	311.09
Jun-29-87	160	12.75	15.00	-6.67	0.00	202.31
Jul-31-87	150	12.75	-6.67	1.32	0.00	219.75
Aug-30-87	152	12.75	1.32	1.30	0.00	237.01
Sep-30-87	154	12.75	1.30	2.53	0.00	254.10
Oct-30-87	158	12.75	2.53	-0.64	0.00	271.02
Nov-27-87	157	12.75	-0.64	0.00	0.00	287.77
Dec-29-87	157	12.75	0.00	4.85	0.00	304.36
Jan-28-88	165	12.75	4.85	2.94	0.00	320.78
Feb-28-88	170	12.75	2.94	3.95	0.00	337.04
Mar-30-88	177	12.75	3.95	0.00	0.00	353.13

Correlation 0.092806
Std Deviation 8.744845

Table 17: Monthly Data for African Petroleum Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	144	12.75	0.00	0.69	0.00	131.33
May-27-87	145	12.75	0.69	12.65	0.00	144.87
Jun-29-87	166	12.75	12.65	-7.10	0.00	158.28
Jul-31-87	155	12.75	-7.10	0.64	0.00	171.56
Aug-30-87	156	12.75	0.64	1.89	0.00	184.70
Sep-30-87	159	12.75	1.89	1.85	0.00	197.71
Oct-30-87	162	12.75	1.85	2.41	0.00	210.60
Nov-27-87	166	12.75	2.41	0.00	0.00	223.35
Dec-29-87	166	12.75	0.00	2.35	0.00	235.98
Jan-28-88	170	12.75	2.35	0.58	0.00	248.48
Feb-28-88	171	12.75	0.58	2.29	0.00	260.86
Mar-30-88	175	12.75	2.29	0.00	0.00	273.12

Correlation -0.48936
Std Deviation 4.342316

Table 18: Monthly Data for Mobil Oil Nigeria Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	143	12.75	0.00	-12.6	0.00	168.97
May-27-87	127	12.75	-12.6	2.31	-0.12	53.21
Jun-29-87	130	12.75	2.31	0.00	0.02	107.42
Jul-31-87	130	12.75	0.00	1.52	0.00	106.32
Aug-30-87	132	12.75	1.52	9.59	0.00	113.77
Sep-30-87	146	12.75	9.59	0.00	0.00	121.14
Oct-30-87	146	12.75	0.00	1.35	0.00	128.44
Nov-27-87	148	12.75	1.35	2.63	0.00	135.67
Dec-29-87	152	12.75	2.63	0.65	0.00	142.83
Jan-28-88	153	12.75	0.65	0.65	0.00	149.91
Feb-28-88	154	12.75	0.65	4.35	0.00	156.93
Mar-30-88	161	12.75	4.35	0.00	0.00	163.87

Correlation -0.04365
Std Deviation 5.261871

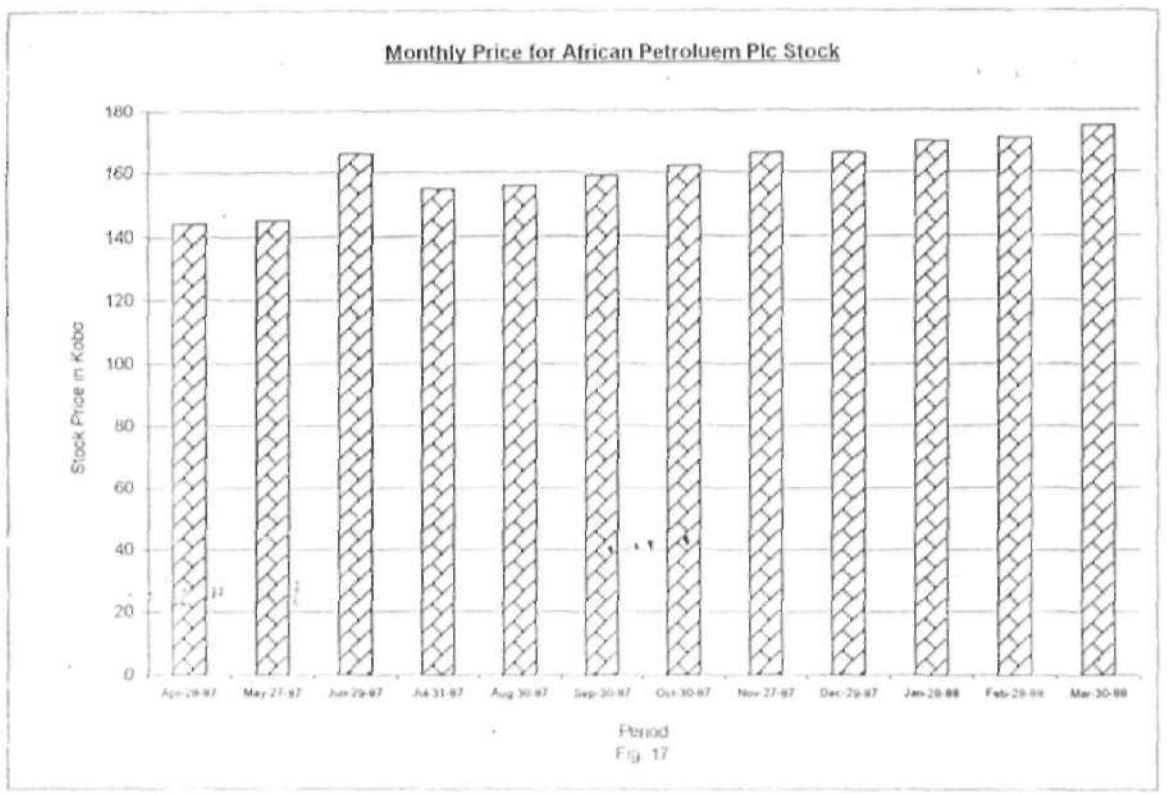

Monthly Price for African Petroluem Plc Stock
Stock Price in Kobo
180
160
140
120
100
80
60
40
20
0
Period

Fig 17

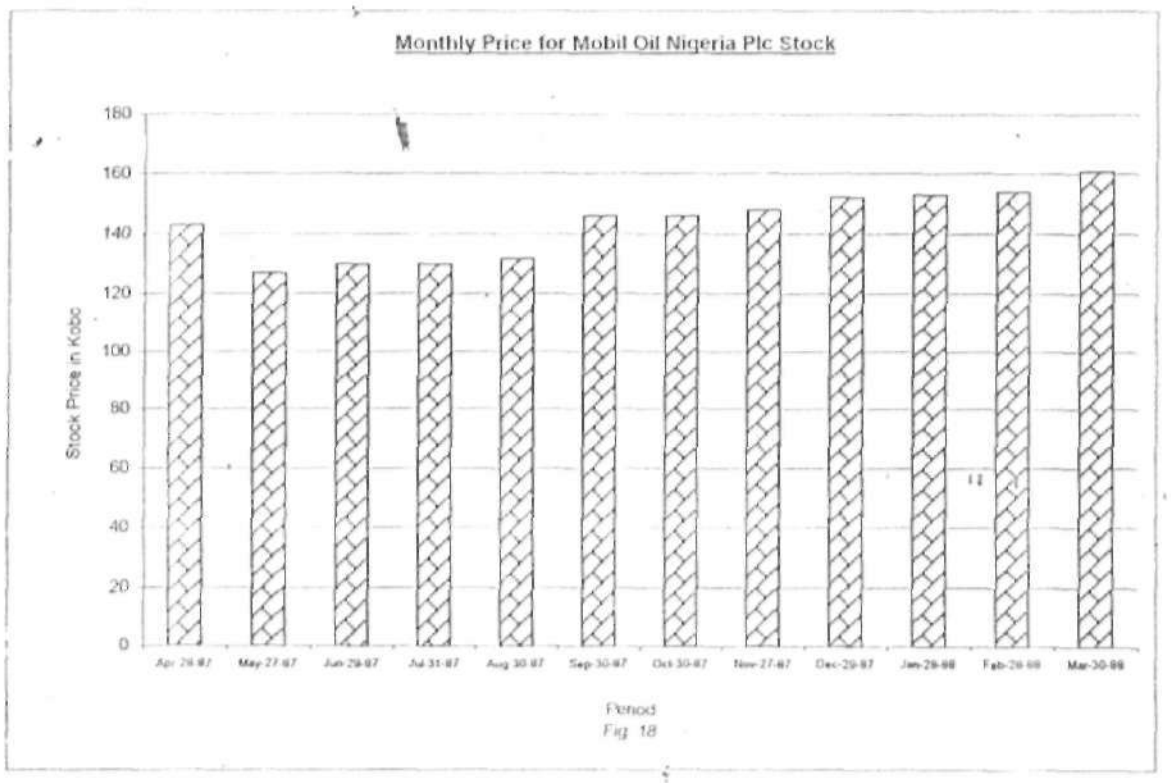

Monthly Price for Mobil Oil Nigeria Plc Stock
Stock Price in Kobo
180
160
140
120
100
80
60
40
20
0
Period

Fig 18

how the stock prices of the two textiles changed during the months under review. For Afprint plc it could be observed that the quoted price increased by only a kobo between the months of April and May 87. It rose to 100 kobo from 87 kobo by June 87. Between August 87 and November 87 the price remained stable and then rose to a peak of 109 kobo by the end of march 88. Figure 20 also revealed similar pattern of behaviour in which the price rose from 73 kobo to 105 kobo in June 87, form then on the change in price was virtually stable especially from August 87 to march 88. The correlation coefficient for Afprint was 0.03 and that of United Nigeria Textile was 0.11. This indicated lack of correlation between the stock prices of the two Textile firms. The actual or intrinsic prices were found to be higher than their quoted counterparts for the two Textiles in almost all the months being reviewed.

From the foregoing discussion, the monthly sock price behaviours for all the firms considered were very much random, in fact, the behaviour was more random generally than the annual figures, because in the annual figures or values, there were observed to be some weak level of correlations for the stock prices. In the case of the monthly values there was up to 95% absence of correlation between the monthly prices of the stocks of all the companies reviewed. Furthermore, the monthly data showed no much connection or influence between the actual calculated prices and the quoted ones.

Table 19: Monthly Data for Afprint Nigeria Plc Stock

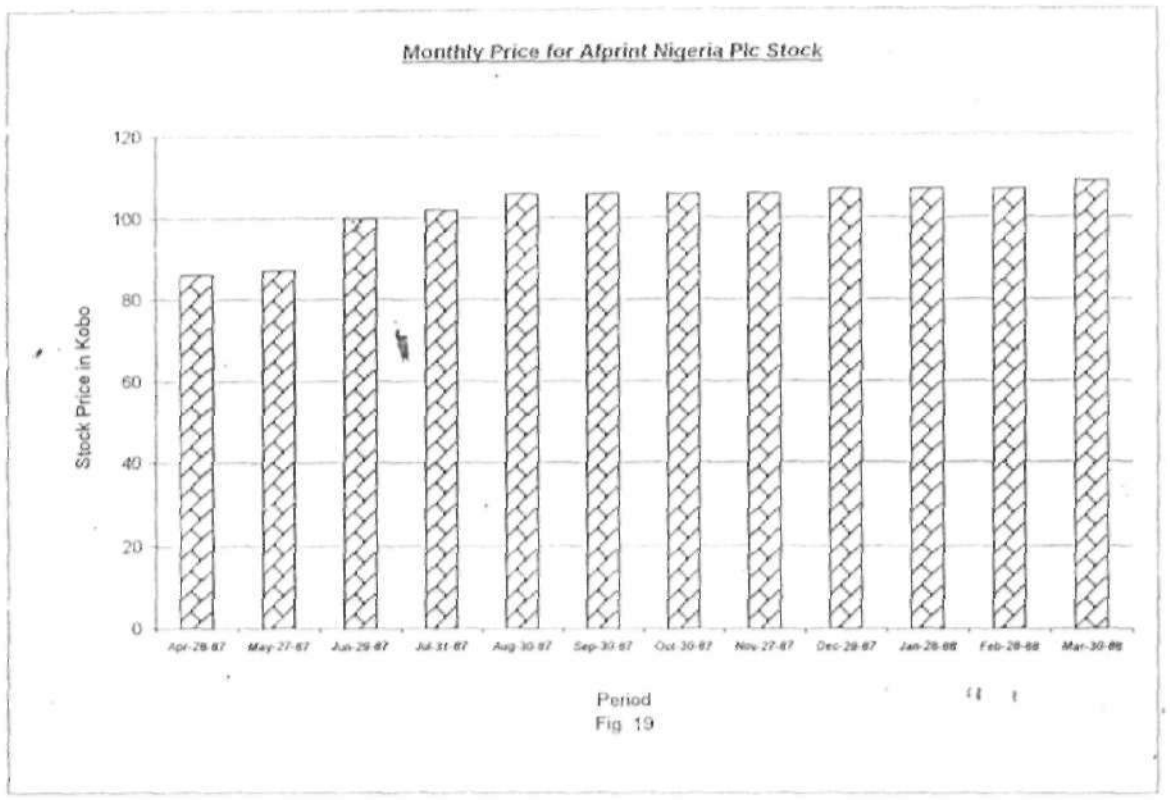
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	86	12.75	0.00	1015	0.00	131.33
May-27-87	87	12.75	1015	13.00	0.00	144.87
Jun-29-87	100	12.75	13.00	1.96	0.00	158.28
Jul-31-87	102	12.75	1.96	3.77	0.00	171.56
Aug-30-87	106	12.75	3.77	0.00	0.05	323.42
Sep-30-87	106	12.75	0.00	0.00	0.00	244.50
Oct-30-87	106	12.75	0.00	0.00	0.00	261.68
Nov-27-87	106	12.75	0.00	0.93	0.00	278.69
Dec-29-87	107	12.75	0.93	0.00	0.00	295.52
Jan-28-88	107	12.75	0.00	0.00	0.00	312.19
Feb-28-88	107	12.75	0.00	1.83	0.00	328.70
Mar-30-88	109	12.75	1.83	0.00		345.04

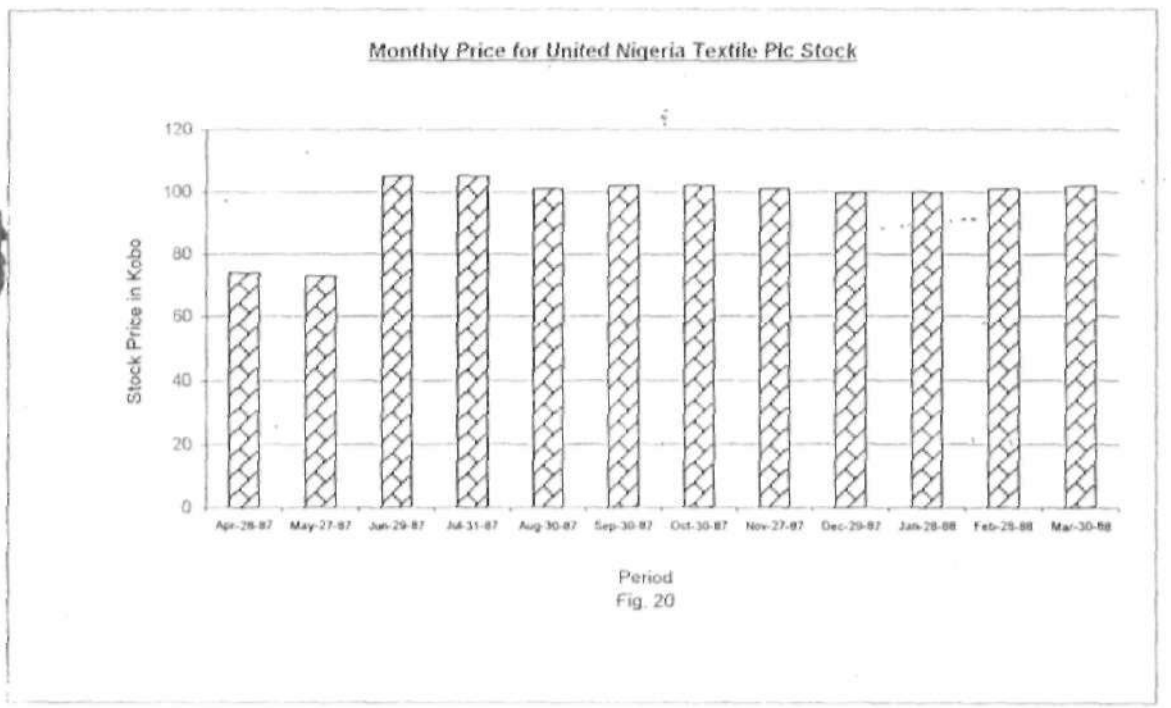
Correlation 0.033812
Std Deviation 3.69129

Table 20: Monthly Data for United Nigeria Textile Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
Apr-28-87	74	12.75	0.00	-1.37	0.00	77.05
May-27-87	73	12.75	-1.37	30.48	0.00	84.99
Jun-29-87	105	12.75	30.48	0.00	0.00	92.86
Jul-31-87	105	12.75	0.00	-3.96	0.00	100.65
Aug-30-87	101	12.75	-3.96	0.98	0.06	266.80
Sep-30-87	102	12.75	0.98	0.00	0.00	173.89
Oct-30-87	102	12.75	0.00	-0.99	0.00	186.77
Nov-27-87	101	12.75	-0.99	-1.00	0.00	199.52
Dec-29-87	100	12.75	-1.00	0.00	0.00	212.15
Jan-28-88	100	12.75	0.00	0.99	0.00	224.66
Feb-28-88	101	12.75	0.99	0.98	0.00	237.03
Mar-30-88	102	12.75	0.98	0.00	0.00	249.29

Correlation -0.11232
Std Deviation 9.017386


Monthly Price for Afprint Nigeria Plc Stock
Stock Price in Kobo
120
100
80
60
40
20
0
Apr-28-87
May-27-87
Jun-29-87
Jul-31-87
Aug-30-87
Sep-30-87
Oct-30-87
Nov-27-87
Dec-29-87
Jan-28-88
Feb-29-88
Mar-30-88
Period
Fig. 19


Monthly Price for United Nigeria Textile Plc Stock
Stock Price in Kobo
120
100
80
60
40
20
0
Apr-28-87
May-27-87
Jun-29-87
Jul-31-87
Aug-30-87
Sep-30-87
Oct-30-87
Nov-27-87
Dec-29-87
Jan-28-88
Feb-29-88
Mar-30-88
Period
Fig. 20

4.1.3 **Weekly Stock Price Changes**

The weekly data for the various companies sampled for this research are shown on tables 21-30. For the present investigation a period of nine weeks was taken in order to find out how the stock prices behave from week – to- week. The weeks reviewed were the entire weeks of November and December 1987.

Tables 21 and 22 show the data for livestock feeds and that of Flour Mills Nigeria Plc. Also the charts on figures 21 and 22 revealed the price behaviour of the two stocks. As can be seen on fig 21, the quoted stock price of livestock feeds did not change throughout the investigation period. The actual values are less than the quoted at all times and the correlation coefficient was nil. This meant that there was no any correlation between the weeks' prices. Also it could be seen that the calculated/actual values do not have any influence on the quoted prices. In fig 22, it could be seen that from the first week up to the last week, the change in price was a total of 0.05kobo. the first four weeks recorded a stable price of 13.2 kobo, also from the sixth week to the eight week there also the price was stable from where it dropped to 13 kobo. From these changes of prices, there wasn't any relativity observable and this is confirmed by the correlation coefficient which was 0.05. The quoted prices for the flour mills stock, were found to be higher than the calculated in all the case and there seemed to be no any bearing between them. So the apparent trend of the stock price was virtually a random one.

Table 21: Weekly Data for LiveStock Feeds' Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	475	13.50	0.00	0.00	0.00	167.74
10-Nov-87	475	13.50	0.00	0.00	0.00	187.28
17-Nov-87	475	13.50	0.00	0.00	0.00	206.78
24-Nov-87	475	13.50	0.00	0.00	0.00	226.23
01-Dec-87	475	13.50	0.00	0.00	0.00	245.63
08-Dec-87	475	13.50	0.00	0.00	0.00	264.98
15-Dec-87	475	13.50	0.00	0.00	0.00	284.29
22-Dec-87	475	13.50	0.00	0.00	0.00	303.55
29-Dec-87	475	13.50	0.00	0.00	0.00	322.76

Correlation
Std Deviation 0.00

Table 22: Weekly Data for Flour Mills Nigeria Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	13.2	13.50	0.00	0.00	0.00	5.03
10-Nov-87	13.2	13.50	0.00	0.00	0.00	5.62
17-Nov-87	13.2	13.50	0.00	0.00	0.00	6.2
24-Nov-87	13.2	13.50	0.00	0.75	0.00	6.79
01-Dec-87	13.3	13.50	0.75	1.48	0.00	7.37
08-Dec-87	13.5	13.50	1.48	0.00	0.00	7.95
15-Dec-87	13.5	13.50	0.00	0.00	0.00	8.53
22-Dec-87	13.5	13.50	0.00	-3.85	0.00	9.11
29-Dec-87	13	13.50	-3.85	0.00	0.00	9.68

Correlation 0.05
Std Deviation 1.47

Table 23: Weekly Data for First Bank of Nigeria Plc Stock

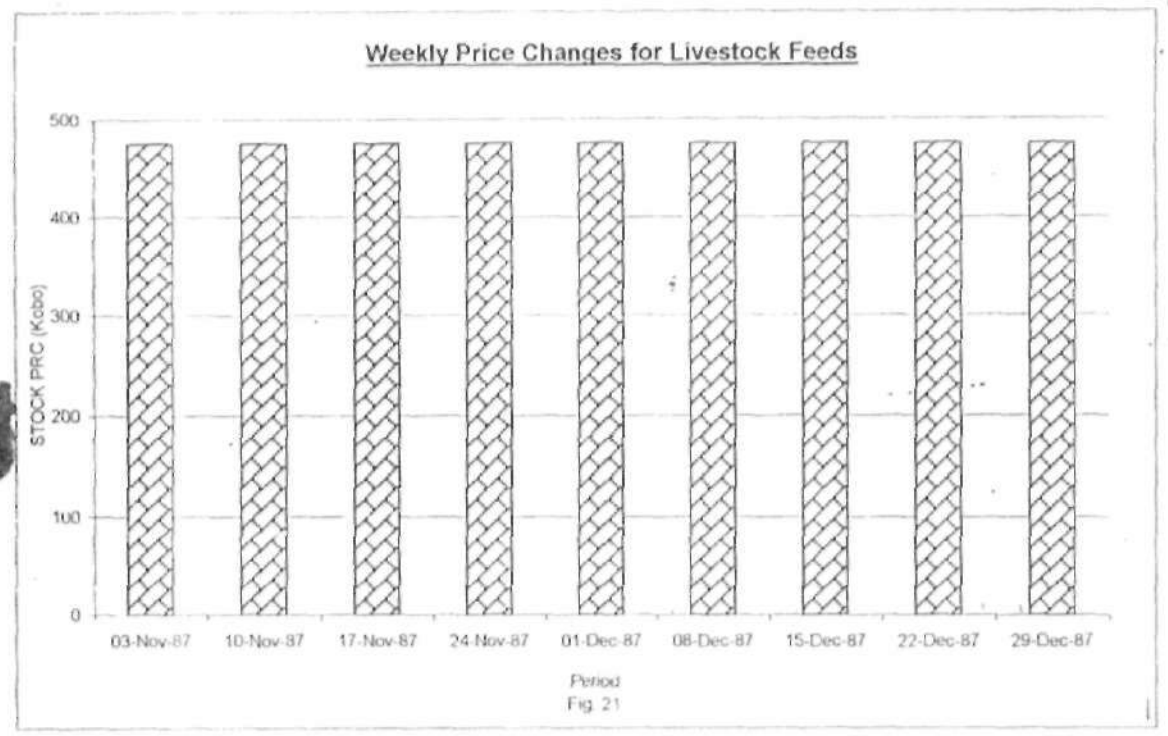
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	1260	13.50	0.00	0.00	0.00	469.67
10-Nov-87	1260	13.50	0.00	0.00	0.00	524.39
17-Nov-87	1260	13.50	0.00	0.00	0.00	578.98
24-Nov-87	1260	13.50	0.00	0.00	0.00	633.43
01-Dec-87	1260	13.50	0.00	0.00	0.00	687.76
08-Dec-87	1260	13.50	0.00	0.00	0.00	741.95
15-Dec-87	1260	13.50	0.00	0.00	0.00	796.01
22-Dec-87	1260	13.50	0.00	0.00	0.00	849.94
29-Dec-87	1260	13.50	0.00	0.00	0.00	903.73

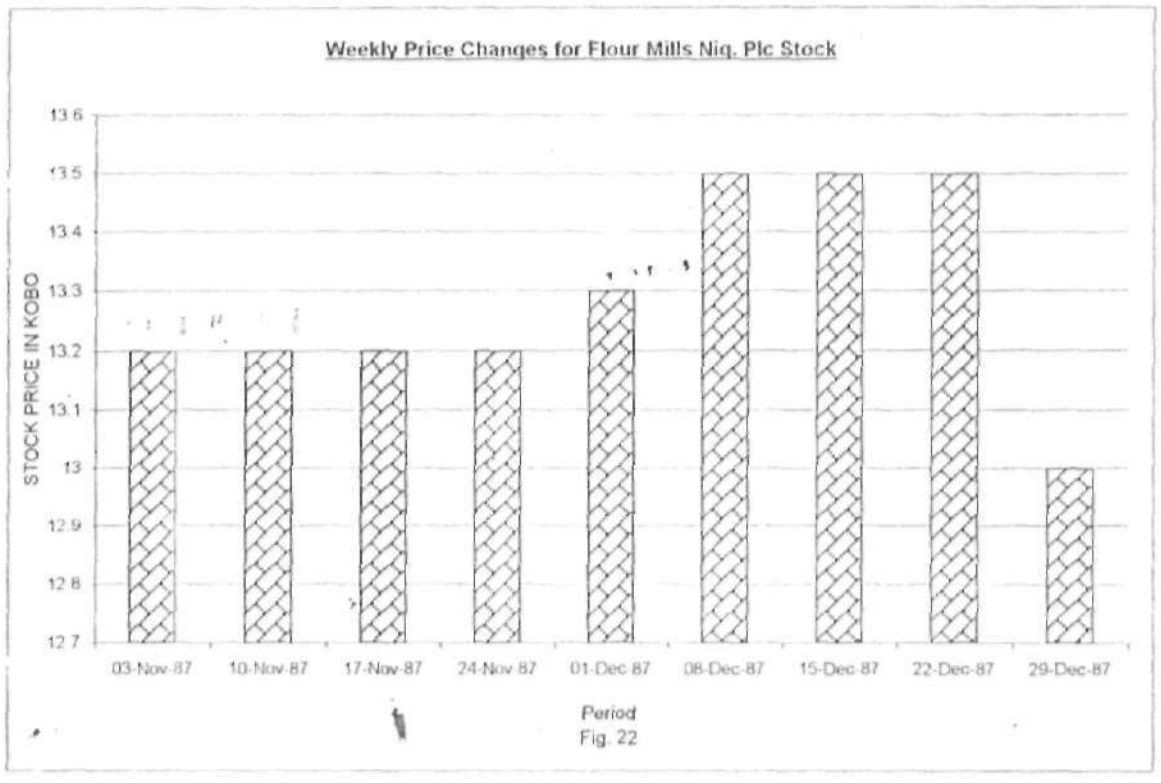
Correlation
Std Deviation 0.00

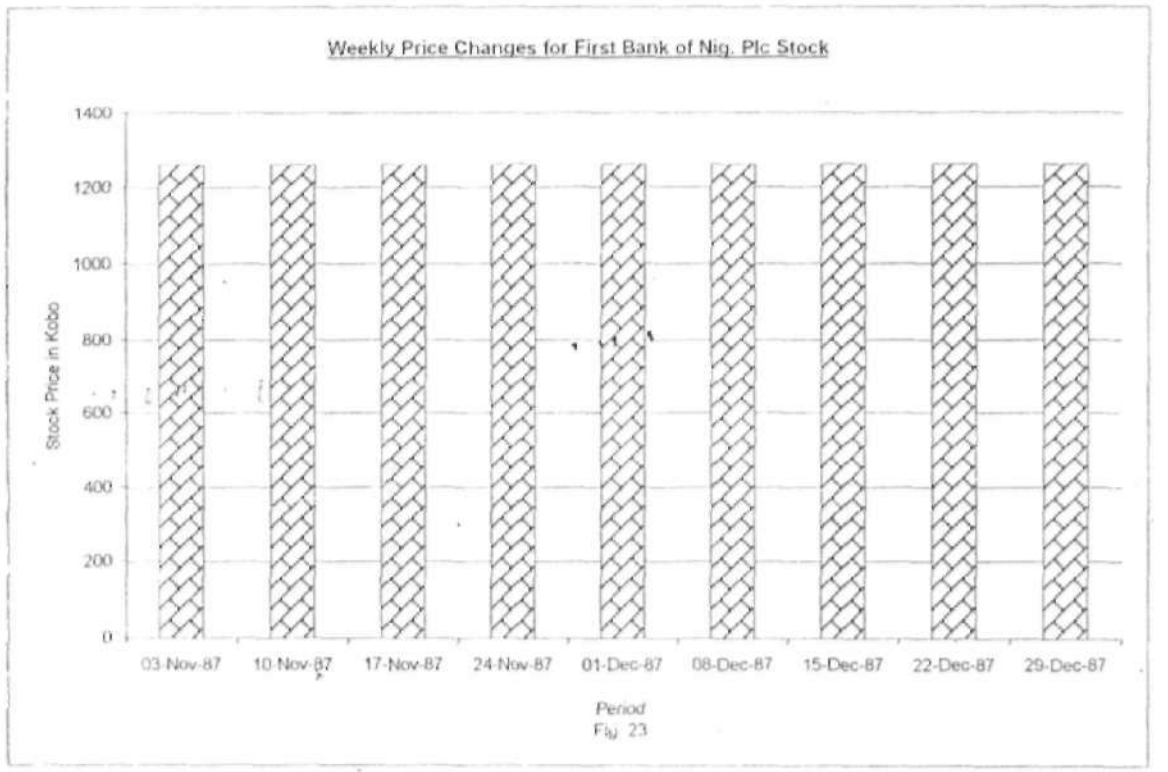
Table 24: Weekly Data for United Bank of Nigeria Plc Stock

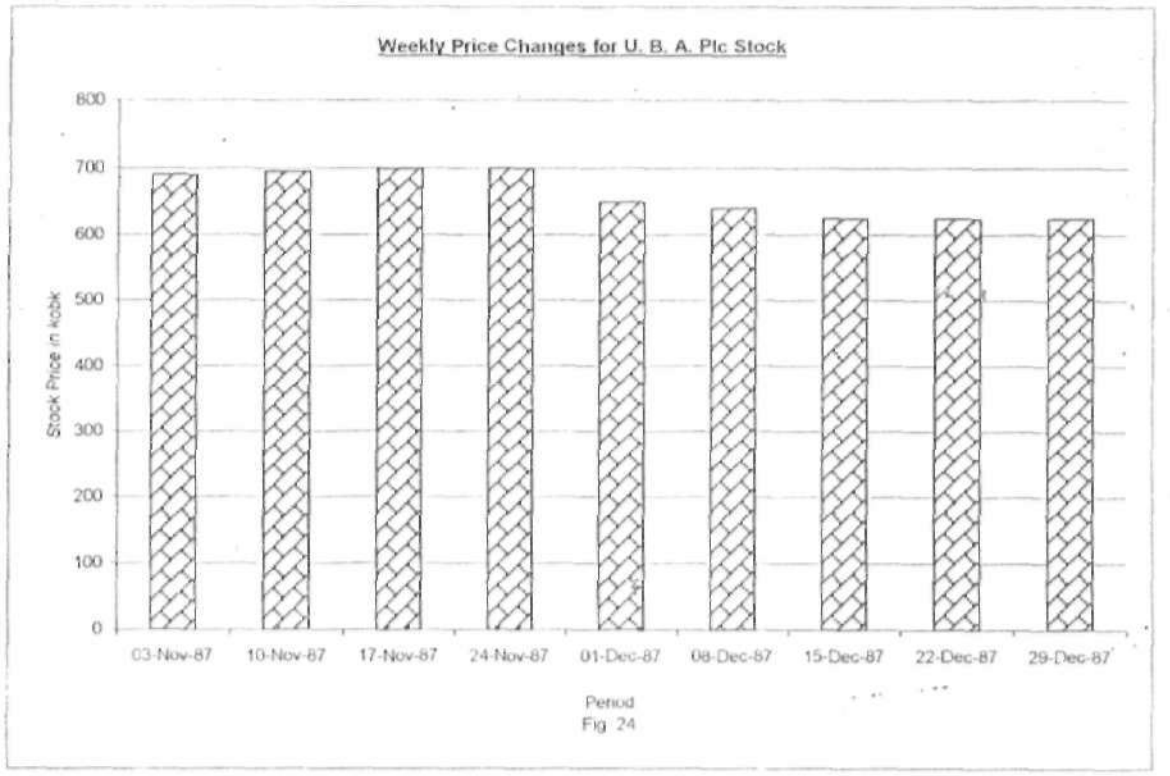
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	690	13.50	0.00	0.72	0.00	83.87
10-Nov-87	695	13.50	0.72	0.71	0.00	93.64
17-Nov-87	700	13.50	0.71	0.00	0.00	103.39
24-Nov-87	700	13.50	0.00	-7.69	0.00	113.11
01-Dec-87	650	13.50	-7.69	-1.56	0.00	122.81
08-Dec-87	640	13.50	-1.56	-2.40	0.00	132.49
15-Dec-87	625	13.50	-2.40	0.00	0.00	142.14
22-Dec-87	625	13.50	0.00	0.00	0.00	151.77
29-Dec-87	625	13.50	0.00	0.00	0.00	161.38

Correlation 0.08
Std Deviation 2.66


Weekly Price Changes for Livestock Feeds
STOCK PRC (Kobo)
500
400
300
200
100
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 21


Weekly Price Changes for Flour Mills Nig. Plc Stock
STOCK PRICE IN KOBO
13.6
13.5
13.4
13.3
13.2
13.1
13
12.9
12.8
12.7
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 22


Weekly Price Changes for First Bank of Nig. Plc Stock
Stock Price in Kobo
1400
1200
1000
800
600
400
200
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig 23


Weekly Price Changes for U. B. A. Plc Stock
Stock Price in Kobo
800
700
600
500
400
300
200
100
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig 24

The weekly data for First Bank and United Bank for Africa were shown on tables 23 and 24. The weekly stock price of First Bank remained stable during the period under review but that of U.B.A fluctuated a little, without any defined pattern (figs 23 and 24). While the actual values for First Bank were generally lower than the quoted ones, the same thing also applied to U.B.A. Evidently therefore, no correlation exist between the prices of the stocks of the two banks

Table 25 showed that the price behaviour for A.G Leventis was static ie throughout the period under review there wasn't any price change recorded. For Lever Brothers, however, there was indeed price changes. The behaviours of the prices was a weak and negative correlation. This can be seen from table 26 in which the price dropped from 1200kobo in the first week to 1150 kobo in the last week.

The stock price for African Petroleum has been stable (table 27) from the first week to the fourth week and it went on to depreciate at two weeks interval (fig27) up to the end of the period. The correlation was a very weak, negative one. In the case of Mobil Oil there was no much correlation (Table 28), this is seem from the chart (fig 28) in which the price remained the same during the period if not for the last week.

Table 25: Weekly Data for AG Leventis & Co Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	200	13.50	0.00	0.00	0.00	83.87
10-Nov-87	200	13.50	0.00	0.00	0.00	93.64
17-Nov-87	200	13.50	0.00	0.00	0.00	103.39
24-Nov-87	200	13.50	0.00	0.00	0.00	113.11
01-Dec-87	200	13.50	0.00	0.00	0.00	122.81
08-Dec-87	200	13.50	0.00	0.00	0.00	132.49
15-Dec-87	200	13.50	0.00	0.00	0.00	142.14
22-Dec-87	200	13.50	0.00	0.00	0.00	151.77
29-Dec-87	200	13.50	0.00	0.00	0.00	161.38

Correlation
Std Deviation 0.00

Table 26: Weekly Data for Lever Brothers Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	1200	13.50	0.00	0.00	0.00	796.76
10-Nov-87	1200	13.50	0.00	-14.29	0.00	889.59
17-Nov-87	1050	13.50	-14.29	9.48	0.00	982.20
24-Nov-87	1160	13.50	9.48	0.00	0.00	1074.58
01-Dec-87	1160	13.50	0.00	1.69	0.00	1166.73
08-Dec-87	1180	13.50	1.69	-3.51	0.00	1258.66
15-Dec-87	1140	13.50	-3.51	-3.64	0.00	1350.37
22-Dec-87	1100	13.50	-3.64	4.35	0.00	1441.86
29-Dec-87	1150	13.50	4.35	0.00	0.00	1533.12

Correlation -0.44
Std Deviation 6.49

Table 27: Weekly Data for African Petroluem Plc Stock

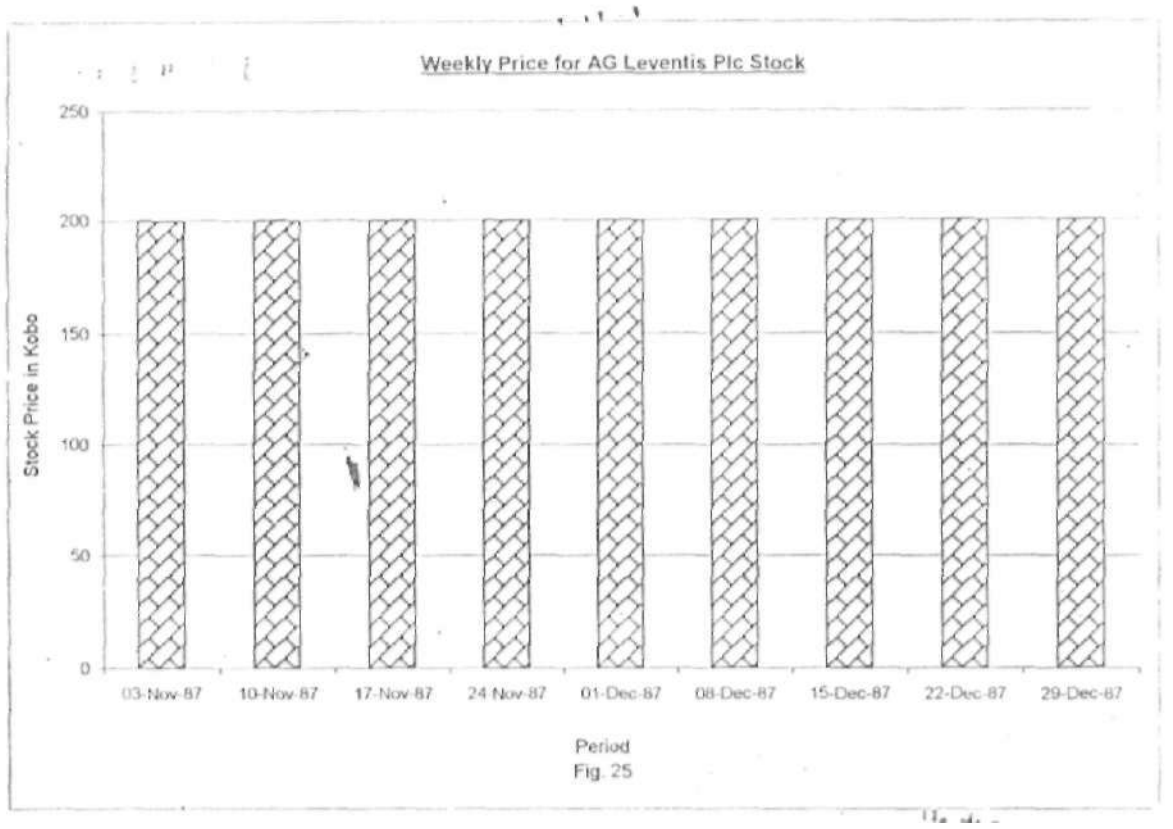
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	3080	13.50	0.00	0.00	0.00	838.70
10-Nov-87	3080	13.50	0.00	0.00	0.00	936.41
17-Nov-87	3080	13.50	0.00	0.00	0.00	1033.89
24-Nov-87	3080	13.50	0.00	0.00	0.00	1131.13
01-Dec-87	3080	13.50	0.00	-0.33	0.00	1228.14
08-Dec-87	3070	13.50	-0.33	0.00	0.00	1324.91
15-Dec-87	3070	13.50	0.00	-0.49	0.00	1421.44
22-Dec-87	3055	13.50	-0.49	0.00	1.00	684.68
29-Dec-87	3055	13.50	0.00	0.00	-1.00	997.63

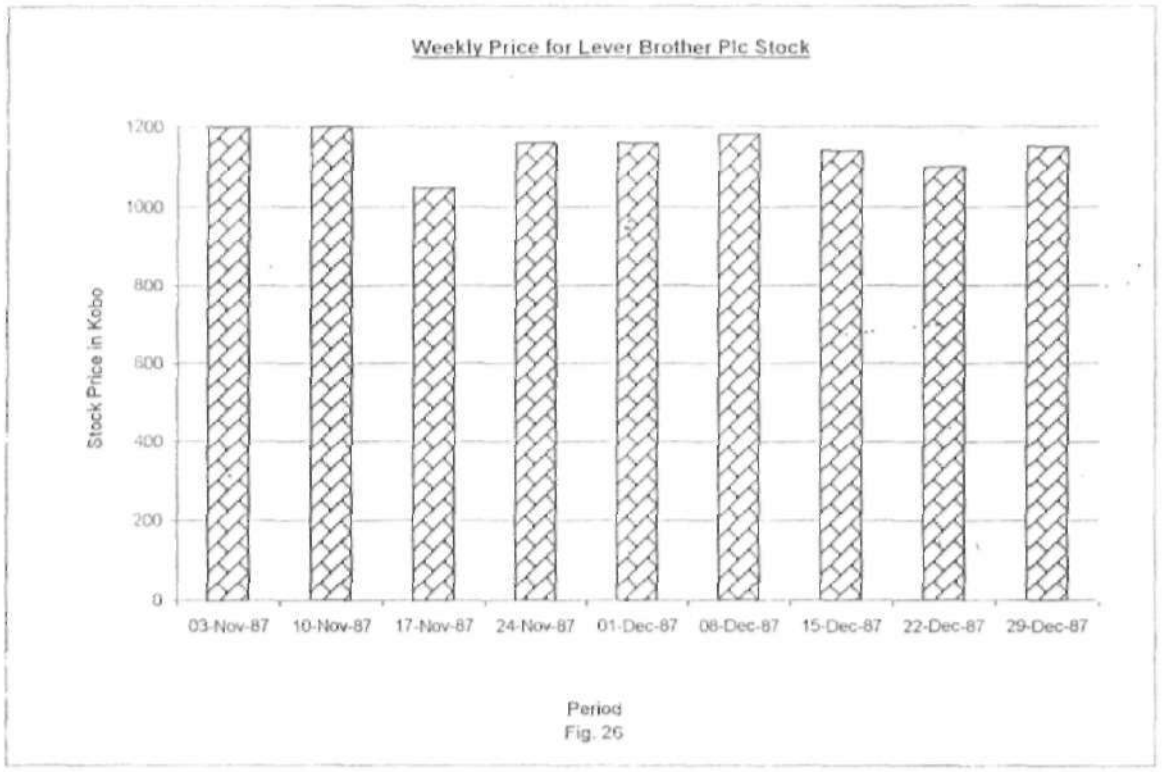
Correlation -0.27
Std Deviation 0.18

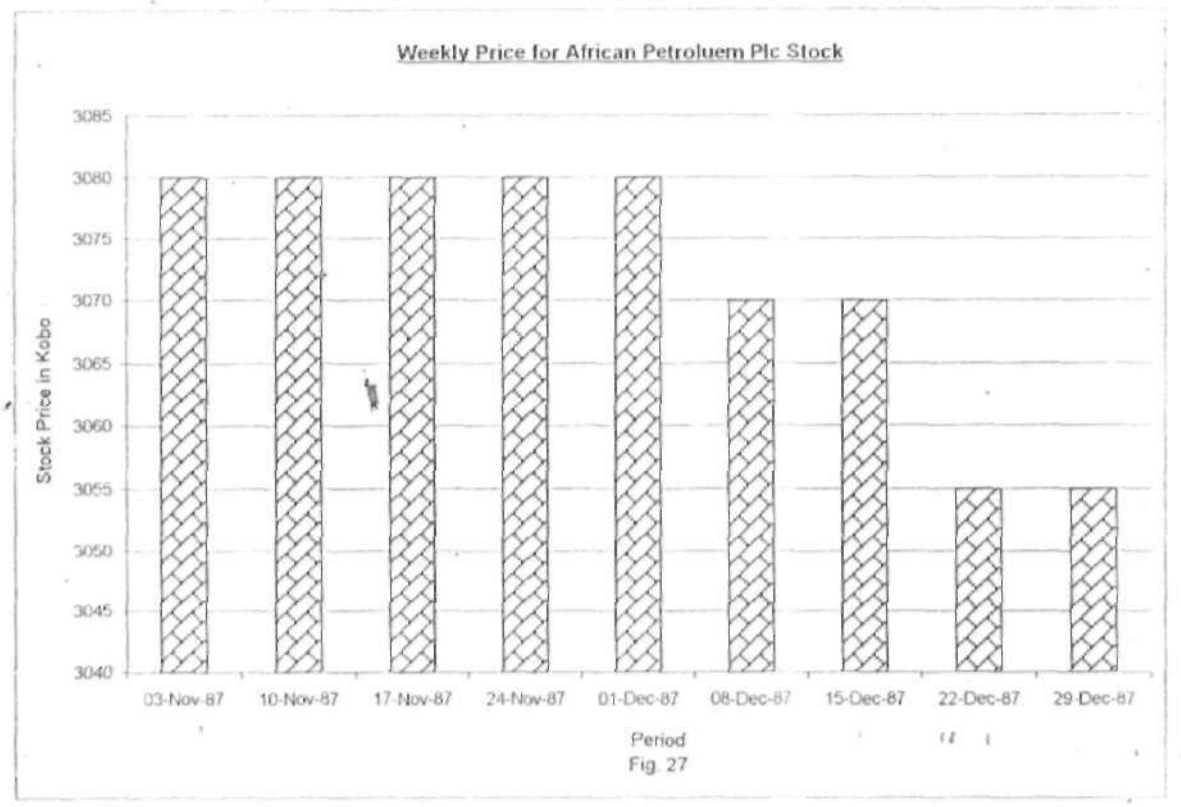
Table 28: Weekly Data for Mobil Oil Nigeria Plc Stock

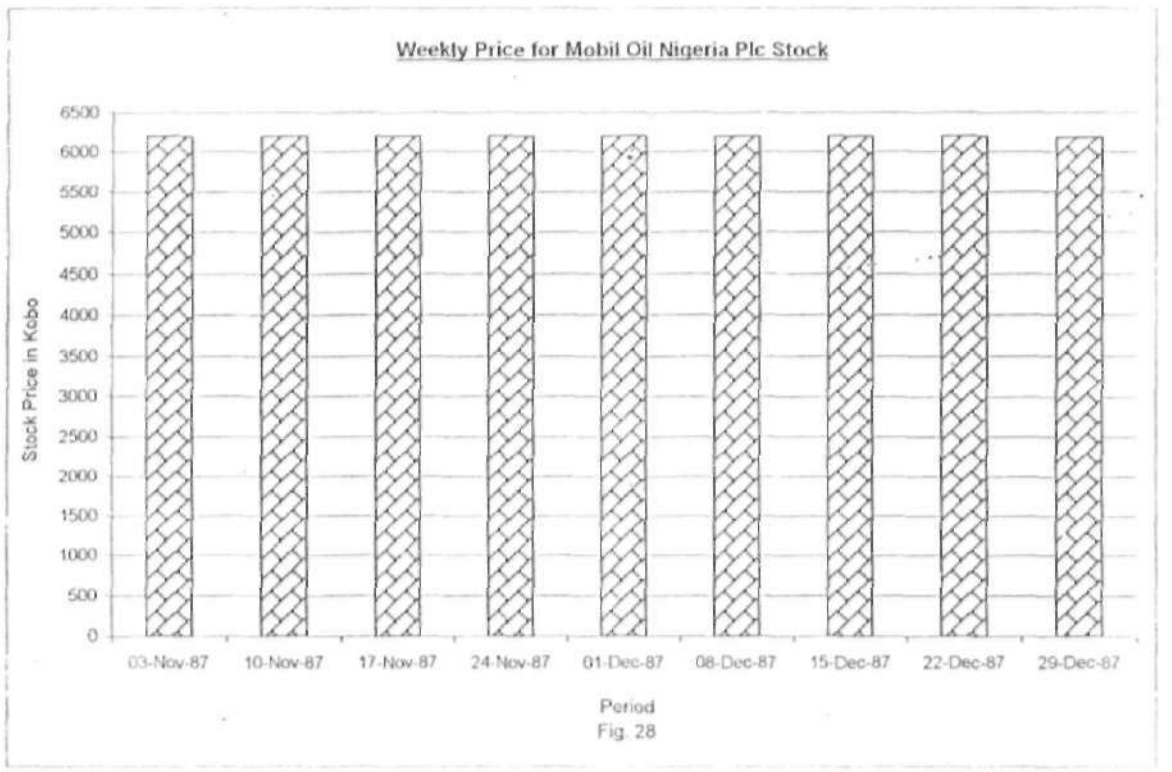
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	6200	13.50	0.00	0.00	0.00	1929
10-Nov-87	6200	13.50	0.00	0.00	0.00	2153.75
17-Nov-87	6200	13.50	0.00	0.00	0.00	2377.95
24-Nov-87	6200	13.50	0.00	0.00	0.00	2601.61
01-Dec-87	6200	13.50	0.00	0.00	0.00	2824.72
08-Dec-87	6200	13.50	0.00	0.00	0.00	3047.29
15-Dec-87	6200	13.50	0.00	0.00	0.00	3269.32
22-Dec-87	6200	13.50	0.00	-0.16	0.00	3490.81
29-Dec-87	6190	13.50	-0.16	0.00	0.00	3711.76

Correlation -0.13
Std Deviation 0.05


Weekly Price for AG Leventis Plc Stock
Stock Price in Kobo
250
200
150
100
50
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 25


Weekly Price for Lever Brother Plc Stock
Stock Price in Kobo
1200
1000
800
600
400
200
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 26


Weekly Price for African Petroluem Plc Stock
Stock Price in Kobo
3085
3080
3075
3070
3065
3060
3055
3050
3045
3040
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 27


Weekly Price for Mobil Oil Nigeria Plc Stock
Stock Price in Kobo
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 28

The data for Afprint Nigeria Plc is shown on table 29. The behaviour of the stock prices between the successive weeks can be observed from fig 29. The pattern of price changes showed that from the first week to the second week the increase or change in price was 11 kobo and from the second week to the third the difference was 13 kobo and it then leveled off up to the fifth week from where it rose by 10 kobo, then rose again by 5kobo for the two subsequent weeks. This showed that the changes in price was not that steady to warrant any forcast for the future price behaviour and although the calculated prices were lower than the quoted throughout the period under review, it however, did not show that the lower calculated prices influenced the quoted price pattern, the correlation coefficient confirmed that there was a very weak negative correlation between the prices. So the behavoiur of the Afprint stock was more in favour of the random walk theory than the chartist or fundamentalist theories. Looking at the weekly data fir United Nigeria Textile Plc (table 30) almost similar pattern of behaviour could be observed. As was the case with Afprint stock price that of United Nigeria Textile Plc showed a very weak correlation, which means that the behaviour was more random than any other thing.

Table 29: Weekly Data for Afprint Nigeria Plc Stock

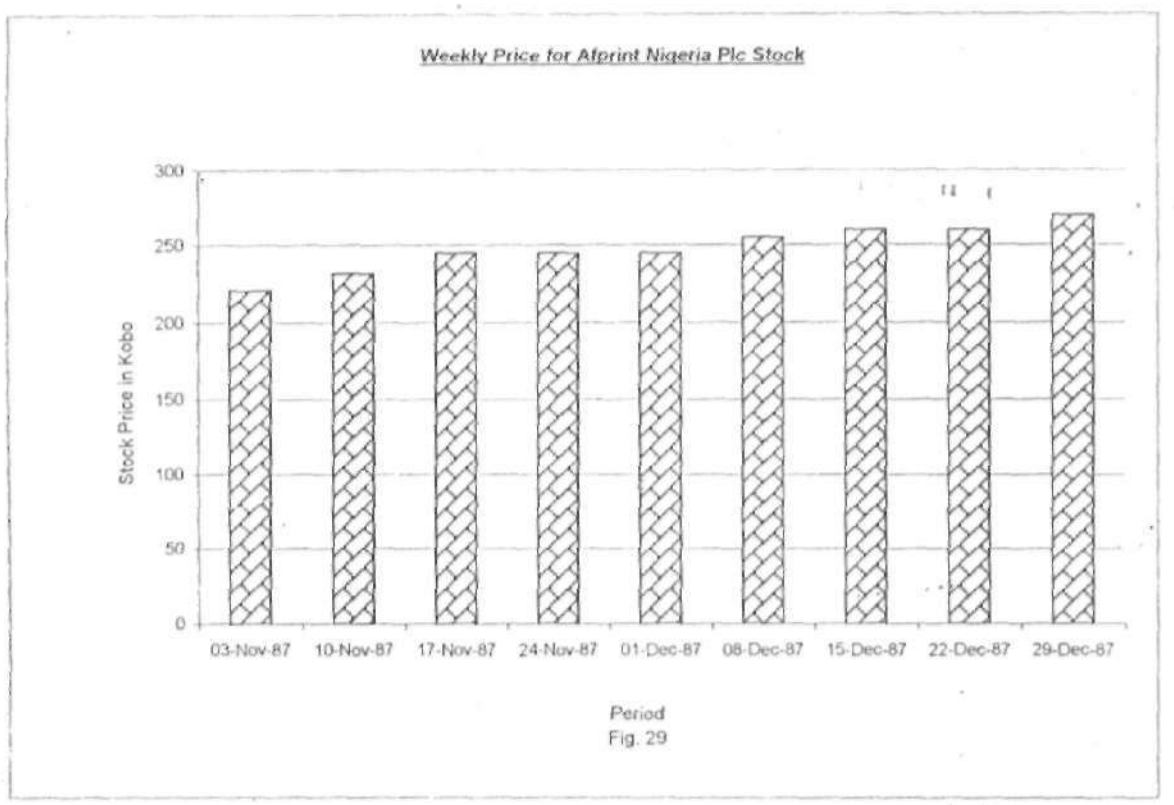
YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	221	13.50	0.00	0.00	4.74	29.93
10-Nov-87	232	13.50	0.00	4.74	5.31	59.78
17-Nov-87	245	13.50	0.00	5.31	0.00	89.56
24-Nov-87	245	13.50	0.00	0.00	0.00	119.27
01-Dec-87	245	13.50	0.00	0.00	3.92	148.91
08-Dec-87	255	13.50	0.00	3.92	1.92	178.47
15-Dec-87	260	13.50	0.00	1.92	0.00	207.97
22-Dec-87	260	13.50	0.00	0.00	3.70	237.39
29-Dec-87	270	13.50	0.00	3.70	0.00	266.74

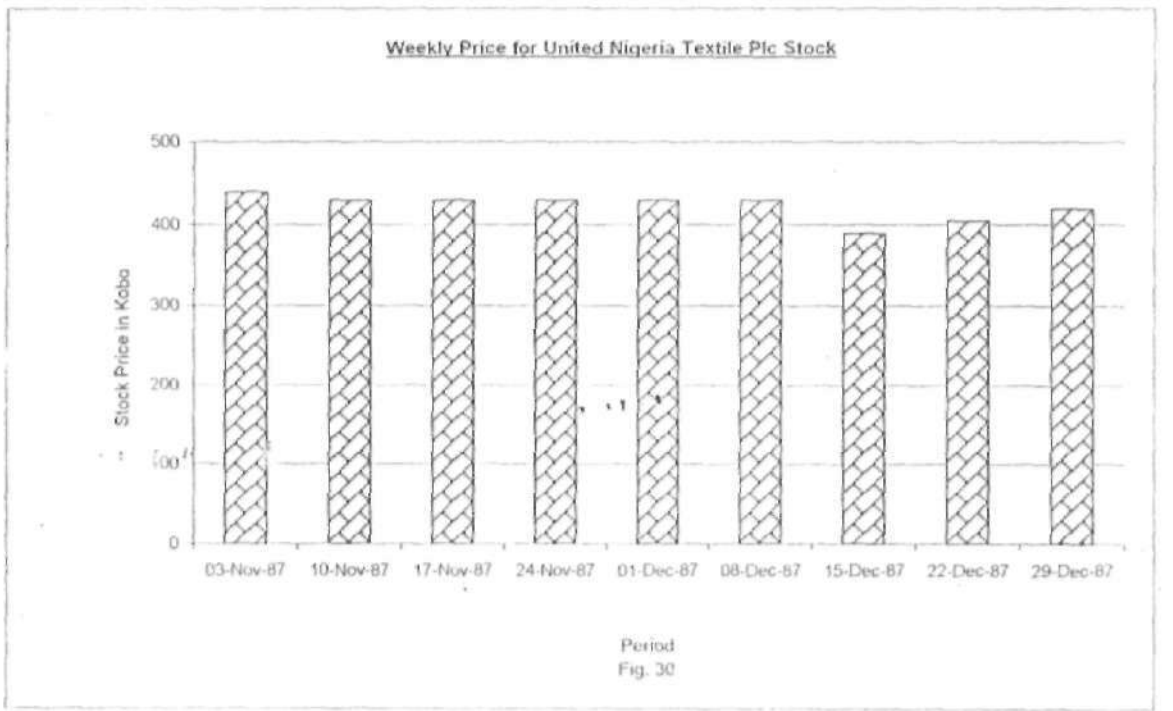
Correlation	-0.24
Std Deviation	2.26

Table 30: Weekly Data for United Nigeria Textiles Plc Stock

YEAR	STOCK PRC (kobo)	DISCOUNT RATE %	% PRICE CHANGES	% PRICE CHANGES LAGGED ONE YEAR	GROWTH	ACTUAL VALUE of share kobo
03-Nov-87	440	13.50	0.00	-2.33	0.00	34.91
10-Nov-87	430	13.50	-2.33	0.00	0.00	69.74
17-Nov-87	430	13.50	0.00	0.00	0.00	104.49
24-Nov-87	430	13.50	0.00	0.00	0.00	139.15
01-Dec-87	430	13.50	0.00	0.00	0.00	173.73
08-Dec-87	430	13.50	0.00	-10.26	0.00	208.22
15-Dec-87	390	13.50	-10.26	3.70	0.00	242.63
22-Dec-87	405	13.50	3.70	3.57	0.00	276.95
29-Dec-87	420	13.50	3.57	0.00	0.00	311.19

Correlation	-0.21
Std Deviation	4.09


Weekly Price for Afprint Nigeria Plc Stock
Stock Price in Kobo
300
250
200
150
100
50
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 29


Weekly Price for United Nigeria Textile Plc Stock
Stock Price in Kobo
500
400
300
200
100
0
03-Nov-87
10-Nov-87
17-Nov-87
24-Nov-87
01-Dec-87
08-Dec-87
15-Dec-87
22-Dec-87
29-Dec-87
Period
Fig. 30

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION.

The bar charts on figures 1-30 depict the annual, monthly and weekly price behaviours of the sampled companies for the present research. From the annual data, it could be observed that for most of the quoted companies, their stock prices rose from a minimum value at the beginning of the period to a maximum at the end of the period, however with no steady or proportional rise from one year to the next one following it. In he case of Livestock feed, Flour Mills, First Bank and U.B.A., it was found that between the years of 1991-1993, at various times they recorded some recessions in their respective sectors, at which periods their stock prices recorded a down turn. From what has been observed for the annual stock price behaviour of the ten industries in terms of predictability of a stock price from the past trend, it could be said that this research work revealed that even if it is possible to predict the future price of a stock based on past performance this could be done to a very Limited extent considering the rising behaviour of the stocks, this is because non of the stocks rose by a certain amount in a certain year and the subsequent year showed a multiple of that increase. Therefore, from what has been observed generally, the chartist theory which says that the future price of a stock could be predicted from pasts events has little

application in the Nigeria stock market. this could further be seen from the monthly and weekly data of the industries considered for this research.

In the case of the second theory ie the fundamentalist theory in which its proponents maintain that at any point in time a stock has an intrinsic or true value of which if the quoted prices is lower calls investors to buy that stock and await the time when that stock will reach that true value and then dispose off their holdings of that stock, so that they could gain from the difference, the theory further says that if the market price of a stock happens to be higher than the true price, it means holders of that stock can sell their holding and they can acquire more if market price is lower than the intrinsic value. From this research, what conclusively became apparent was that, in instances where the true values were lower than the quoted, there was no enough evidence to show that this lower true value really influenced holders of this stock to bring out their stock and fill the market with it in their effort to raise their income from the difference between the market price and the true one. In Nigeria up till today many investors are ignorant of how the Nigerian stock market operates, as such hardly do they know that, there is a school of thought that says that, a stock has a "true" value which is supposed to be different from market price, this may be true even with some of the stock brokers. For this reason and from what unfolded in this work, it could be concluded that the

fundamentalist theory is not so applicable in the Nigerian stock market.

As has been discussed in chapter four, the data on the tables and the charts on the figures all show that there was no way any defined pattern by which the market prices of the stocks of the companies considered behave in terms of their rises or falls. This is confirmed from the values of the coefficient of correlation for the annual, monthly and weekly data.

In almost all the cases, it was found that there was either weak or even complete absence of correlation between the stock market prices, may it be under the annual, monthly or weekly data. This, therefore, makes it possible to be concluded that the behaviour of stock prices in the Nigerian stock market is random in nature. So as the theory ie random walk" says that the market swiftly reacts to all unexpected informations and properly prices each stock.

5.2 RECOMMENDATIONS

As noted earlier the concept of capital market is new in Nigeria, it came into being about forty years ago, as such the Nigerian industrialists as well as other investors are not so conversant with the operation with the markets. Thus its patronage comes from very few companies and individuals. In line with this, the following recommendations are made:

(1) Government should use all available means to encourage large an medium scale industries to patronize the capital market. This i because the more this important arm of the economy patronise the market, the easier it will be for Government in its control ove the National economy as a whole.

(2) The Nigerian stock market as an autonomous body should striv hard to make its existence and operations known to corporat organizations, investors and the general public through th electronic media, News papers, Pamphlets, Posters, etc.

(3) The investors who buy shares and keep for many years do not seem to be deriving the maximum out of their investments, they should, however, study the stock market and try to determine when the value of the shares they hold reach a peak and dispose part or all the shares in order to gain the benefit of the situation and then look for stock whose value reaches the lowest, and buy so that if the price of that stock rises, their returns would be high.

SUGGESTION FOR FURTHER STUDIES

This study attempted to test the three Schools of thought that sought to explain the price behavour of stocks in the capital market. In each of the schools of thought only one tool was used among many tools for testing any of the theories. In future researches, it is recommended that each theory be tested with the variety of tools for testing that theory, this would give a clearer perspective in the applicability of that theory in the Nigerian Stock

Market. In addition, as a continuation of this study, it is recommended that the intrinsic values of stocks should be related to the volume of transactions at the period considered to ascertain whether any relationship exists. Furthermore, further studies on this subject should consider the economic trend in the country during the period of the research.

REFERENCES

1. Odife, Denis O- Understanding the Nigerian stock market VANTAGE PRESS. New York (1984)
2. Amling, F Redrick – Principles of Investments
3. Nicholas, Nancy A- Efficient? Chaotic? What's the new Finance? Harard Business Review. March- April, (1993).\
4. Cohen, Jerome B. ;Zinbarg, Edwar D. ; Zeikel, Arthur- Investment Anaysis and Portfolio Management Richard D. Irwing Inc. (1973)
5. Udoji, Jerome, Under three Masters Memoirs of an African Administrator
6. Goff, T.G- Theory and Practice of Investment
7. German, Eckert, forgive Personal Finance (1985)
8. Markowtz, Harry- Portfolio Selection, Journal of Finance. Vol vii No1 march (1952).
9. Alile, H. I – The Nigerian Stock Exchange. A historical perspective p. 3-4
10. The Nigerian Stock Exchange Handbook vol. One (1980) p 4.
11. Stores L.S.- The Nigerian Stock Exchange and the Nigerian Entrepreneur. A seminar on the role of the Nigeria Capital Market. (1988)
12. Samuels & W, Ikes; - Management of Company Finance 3rd Ed (1982)
13. Birnin Yauri; Muhammad S, - Stock price behaviour on the Nigerian Stock Exchange, A random Walk Analysis. M.B.A Project. (1986)
14. Firth, Michael – The Valuation of Shares & the Efficient Market Theory. Studies in Finance & Accounting (1977)
15. Loveday, Robert; Practical Statistic and Probability Cambridge (1979) p 96.