

DECLARATION

STOCK PRICE RESPONSES TO EARNINGS

ANNOUNCEMENTS:

EVIDENCE FROM THE NAIROBI STOCK EXCHANGE

BY

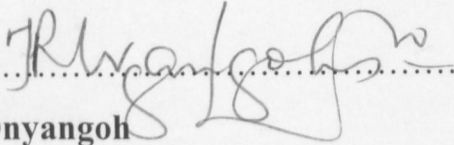
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**A MANAGEMENT RESEARCH PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION,
FACULTY OF COMMERCE,
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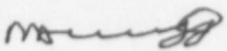
DECLARATION

This research project paper is my own original work and has not been presented for a degree in any other university.

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This research project has been submitted for examination with my approval as
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Date.....22/12/2004.....

EPITAPH

“I give praise to you, Father, Lord of heaven and earth, for although you have hidden these things from the wise and the learned you have revealed them to the childlike. Yes, Father, such has been your gracious will”.

Mtt. 11: 25-26

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I also like to extend my gratitude to the MBA lecturers especially Jackson Mwangi (Strategic management lecturer) for their valuable contribution to the wealth of knowledge I have acquired from this programme.

To my family members Milka, Derrick, Ambrose, Peter and Mary for their moral and material support and for being around when it counted the most. Truly, they were the "cheering crowd" and remained a constant reminder of the need to accomplish this task, because of the future.

Paul

November 2004

My heartfelt thanks also go to Erick Moses Opondo, Keith Kisingub, Dr. Ochieng Apamo, Mrs. Millicent Achleng Ooko, Peter Gwiny Odour, Mrs. Jane Othwo, Ibrahim Abiodun Ibisomi and the many other friends and relatives not mentioned here, for remaining true friends in the course of this programme. Their material and moral support was the source of my inspiration and sustenance.

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DECLARATION ii

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TABLE OF CONTENTS vi

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1.2 Statement Of The Problem 3

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2.0 Literature Review 7

2.1 Capital Markets 7

2.1.1 Capital Markets in Kenya 8

2.1.2 Characteristics Of Kenyan Capital Market 8

November, 2004

2.2 Concept Of Efficient Capital Market 10

2.2.1 Why Should Capital Markets Be Efficient? 11

2.2.2 Efficient Market Hypothesis 12

2.2.3 Event Studies On Market Efficiency 13

TABLE OF CONTENTS

DECLARATION	ii
EPITAPH	iii
DEDICATION	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
ACRONYMS.....	viii
LIST OF TABLES.....	ix
ABSTRACT	x
 CHAPTER 1.....	 1
1.0 Introduction	1
1.1 Background.....	1
1.2 Statement Of The Problem	3
1.3 Objective Of The Study.....	5
1.4 Justification Of The Study.....	5
 CHAPTER 2.....	 7
2.0 Literature Review	7
2.1 Capital Markets	7
2.1.1 Capital Markets In Kenya.....	8
2.1.2 Characteristics Of Kenyan Capital Market	8
2.2 Concept Of Efficient Capital Market	10
2.2.1 Why Should Capital Markets Be Efficient?.....	11
2.2.2 Efficient Market Hypothesis	12
2.2.3 Event Studies On Market Efficiency.....	13

2.3	Stock Prices Behaviour.....	15
2.3.1	Under Reaction.....	15
2.3.2	Over Reaction.....	16
2.4	Empirical Tests Of Stock Price Behaviour And Earnings Announcements	18
2.5	Studies On NSE.....	20
CHAPTER 3.....		23
3.0	Research Methodology.....	23
3.1	The Population.....	23
3.2	Sampling Plan And Sample Size.....	23
3.3	Data Collection.....	24
3.4	Data Presentation And Analysis.....	24
CHAPTER 4.....		27
4.0	Data Analysis And Findings.....	27
4.1	Cumulative Average Residuals	27
4.2	Stock Price Responses To Earnings Announcements	28
CHAPTER 5.....		41
5.0	Summary And Conclusion	41
5.1	Conclusions and Implications	41
5.2	Limitations of the Study	43
5.3	Suggestions for Further Research.....	45
REFERENCES		51

ACRONYMS

NSE	-	The Nairobi Stock Exchange
EPS	-	Earnings per Share
CMA	-	Capital Markets Authority
EMH	-	Efficient Market Hypothesis
BV/MV Ratio	-	Book Value to Market Value Ratio
E/P	-	Earnings to share ratio
CAPM	-	Capital Asset Pricing Model
EAs	-	Earnings Announcements
NYSE	-	New York Stock Exchange
ANOVA	-	Analysis of Variance
OLS	-	Ordinary Least Squares
SSMEMH	-	Semi-Strong Model of Efficient Market Hypothesis
Wkno	-	Week number to announcement date
Sprices	-	Residual share prices

LIST OF TABLES

Table A:	Cumulative Average Residuals for 1998 – 2003	28
Table B:	Regression Statistics for the Overall Full Sample	29
Table C:	Regression Statistics for 1998 Announcements.....	31
Table D:	Regression Statistics for 1999 Announcements.....	32
Table E:	Regression Statistics for 2000 Announcements.....	33
Table F:	Regression Statistics for 2001 Announcements.....	34
Table G:	Regression Statistics for 2002 Announcements.....	35
Table H:	Regression Statistics for 2003 Announcements.....	36
Graph 1:	Graphical Trending For 1998 Announcements.....	38
Graph 2:	Graphical Trending For 1999 Announcements.....	38
Graph 3:	Graphical Trending For 2000 Announcements.....	39
Graph 4:	Graphical Trending For 2001 announcements.....	39
Graph 5:	Graphical Trending For 2002 announcements.....	40
Table 6:	Graphical Trending For 2003 Announcements.....	40

APPENDICES.....47

Appendix 1:	List of the Sampled Companies and Their Codes.	47
Appendix 2:	Announcements Dates for Sample Companies	48
Appendix 3:	Profit After Tax – 1999 – 2003	49
Appendix 4:	Earnings Per Share 1998- 2003	50

ABSTRACT

The main objective of this study was to investigate the responses of stock price to earnings announcements as evidenced in the Nairobi Stock Exchange (NSE).

The study is structured into five chapters. Chapter 1 provides the background and theoretical framework of the research. Chapter 2 examines prior researches done on this field and their reported findings. Chapter 3 discusses the research methodology employed, while chapter 4 provides the data analysis, findings and their interpretations. Chapter 5 contains the conclusion, limitations and suggestions for further research.

The study samples 16 companies out of a population of 48 listed companies at the NSE, covering the period 1998- 2003. By use of cumulative average residuals, weekly share price indices are computed over the 17 week "window" period. Regression statistics were generated including graphical presentation to capture the stock price adjustments to successive annual earnings announcements.

The results of the study show that the earnings announcements contain relevant information to investors which are fully impounded in stock prices prior to or almost instantaneously at the time of announcement. The year 2003 was an outlier which evidenced existence of momentum in stock returns. This corroborates the study by Jegadeesh & Titman (1993) who examined a cross section of US stocks and found that over the six months horizon the stock returns were positively auto correlated and interpreted this as evidence of a momentum in stock returns.

A secondary evidence resulting from this study is the conclusion that NSE shows presence of semi strong model of EMH. This is contrary to early evidence adduced by a study done by Ondigo (1995). Further research on the information content of other public data to gather sufficient evidence for the SSMEMH is needed to support this conclusion.

CHAPTER 1

1.0 INTRODUCTION

1.1 BACKGROUND

Numerous studies have documented the effects of firm announcements on stock returns. Beaver (1968) finds that there are significant and abnormal changes in price and trading volume around earnings announcements. Ball and Brown (1968) and Bernard and Thomas (1989, 1990) among others show that earnings announcements tend to be followed by the price drifts in the direction of the earnings surprise.

More importantly for us, Bamber and Cheon (1995) find that when earnings announcements are accompanied by small price changes, they tend to be followed by price increases.

Some studies suggest that the market may overreact to new information, De Bondt and Thaler (1985), especially negative information about the firm. This would mean that investors should buy stocks that have had pessimistic information come to the market and have fallen in price during the past few years. Others attribute these results to the size of the firms in the samples, rather than to an incorrect assessment of the firms' future prospects. This purported market anomaly is called overreaction hypothesis. The reason is that investors overreact to the latest information about the security and thus bid prices incorrectly. Overtime, their mispricing becomes apparent and the stock reverse itself until an equilibrium level is reached.

Other researchers have held the belief that stock price behaviour follows what is popularly referred to as the theory of random walks. Random walks theorists usually start from the premise that the major security exchanges are good

samples of “efficient markets”. In an efficient market, however, the actions of the many competing participants should cause the actual price of a security to wander randomly about its intrinsic values. Although uncertainty concerning intrinsic values will remain, actual prices of securities will wander randomly about their intrinsic value.

This means that the “instantaneous adjustment” property of an efficient market implies that successive price changes in individual securities will be independent. Thus, the main concern of empirical research on the random walk model has been to test the hypothesis that successive price changes are actually independent.

Investors assign great importance to the aggregate market value of the equity of the firm. The market value depends heavily on per unit price of the share. This in turn depends on the intrinsic EPS of the firm into the future. Consequently investors and other capital markets participants pay much attention to the share prices. The prices of shares in a capital market depend on the availability of information (about the company) among other factors. In efficient markets, the prices of securities adjust rapidly to the entry of new information in the market. Thus security prices reflect fully all the available information about the securities traded. Information on various companies can be obtained from various sources like the more prompt media and capital markets (public announcements).

However, the most common detailed and reliable information on listed companies is usually contained in the earnings announcements as reported in the annual reports and accounts. The reports and accounts are prepared following a prescribed format of legal requirements, verified by an independent auditor and circulated to all the share holders of the company. The primary purpose of financial reporting is information about earnings and its components. Earnings are simply defined as net income for the company during the period. Mosich (1989)

defines earnings as similar to net income for an accounting period, but excludes certain items currently included in net income, such as the cumulative effect of a change in accounting principle. The information about enterprise earnings based on accrual accounting generally provides better indication of an enterprise's present and continuing ability to generate favorable cash flows than information limited to financial effects of cash receipts and payments. Investors thus place great reliance in earnings announcements as contained in the annual reports and accounts to evaluate the present and future earnings potential as indicated in the current EPS and future potential EPS. Improvements in the measurement and reporting of income are needed if income statements are to be of maximum value to users in predicting, comparing and evaluating the earning power of business enterprises.

Morse (1981) reported that the trading prior to a public announcement date might occur because of differences in belief about the probability of the different signals being emitted by the public announcement. These differences in belief may be caused by asymmetric distribution of the information before the public announcement. Price changes prior to the public announcement may therefore indicate that the signal or some clue about the announcement has been received by a subset of the investors.

Davis (1968), in his study of the adjustments of the stock prices of automobile companies to the announcements of 10 days sales concluded that the adjustment tended to be concentrated in the 2 days prior to the date of announcement indicating that the effect of earnings announcements starts before the announcement date.

1.2 STATEMENT OF THE PROBLEM

There is an impressive body of empirical evidence which indicates effects of stock price responses to earnings announcements. Papers by Mandelbrot (1966) and Samuelson (1965) show vigorously that independence of successive price

changes is consistent with an “efficient” market i.e. a market that adjusts rapidly to new information. It is important to note, however, that in empirical work to date, the usual procedure is to infer market efficiency from the industrialized world’s major stock markets (USA, Japan, UK, France, Germany and Canada). There has been very little actual work using data from emerging equity markets. Even in the worlds’ developed stock exchanges, there has been very little actual testing of the speed of adjustment of price to specific earnings announcements.

In Kenya, available evidence documents a number of related studies. These include those of Ondigo (1995) and Oluoch (2002). Oluoch (2002), in his study, The timing effect of earnings announcements on stock returns on companies quoted at the NSE, investigated if the delay in earnings announcements could be attributed to the kind of news reported and the effects of the reporting lag on share prices. It found no relationship between a firm’s earnings and the timing of the release of the annual report. This study however concentrated on whether managers announce good news early and delay earnings reports that contain bad news, but did not validate the stock price responses to earnings announcements (whether good or bad). Ondigo (1995) study focused on the information content of annual reports and accounts at the NSE. His study was similar to the current research but due to the variance of time (about ten years since then) notable developments had taken place in the bourse. Also, his study was sampled on only eighteen blue chip companies leaving out listed companies with lower capitalization. His sample size is comparatively smaller than envisaged in the current study, which sought to apply event studies approach across all segments of the capital market.

Hence none of these studies had addressed comprehensively the specific area of stock price responses to earnings announcements.

The prime concern of this paper was to examine the process by which common stock price adjust to earnings announcements on the Nairobi Stock Exchange (NSE). We are concerned with the information content of these

announcements. It can be seen as a study of whether NSE reacts in some defined way to the information event of the public release of annual accounting earnings.

1.3 OBJECTIVE OF THE STUDY

This study attempted to examine evidence on the following research objective: -

- To evaluate stock price responses to earnings announcements for companies listed at the NSE.

1.4 JUSTIFICATION OF THE STUDY

This study would be of importance in a number of ways:

- a) It adds to our understanding of investor's reactions to earnings disclosures in the capital markets, especially in emerging markets like Kenya.
- b) The regulatory authorities are concerned with ensuring that investors and the general public are provided with timely information about listed companies. The current research intends to establish if listed companies need to make more regulated frequent disclosures for their periodic earnings overtime.
- c) The study will give invaluable information on NSE to the Capital Markets Authority, CMA. This will facilitate the regulation and development of the capital markets in Kenya and its liquidity.
- d) The research will investigate and document the behaviour of capital markets to earnings announcements. This will enable stock brokers to predict movements in share prices during both periods preceding and succeeding earnings announcements dates hence making improved returns.
- e) Most investors in the capital market intends to beat the market by buying undervalued securities and selling them later when the market has correctly priced them or selling over valued securities and buying them later when

the price is down to make abnormal profits. This research will provide evidence on whether earnings announcements contain useful information for trading.

2.0 LITERATURE REVIEW

- f) The fundamental objective of financial management is maximization of the market value of the company's shares. Since movements in share prices in the capital market is associated with information flow, corporate managers should monitor the information content of earnings announcements. If the current research finds any association between earnings news and price movements, then it will act as a warning to managers to package their announcements well.
- g) It exposes problems associated with using emerging capital markets as research centers for investment decisions
- h) The findings will be useful to investment advisors in advising their clients about what shares to buy, sell or hold.
- i) It could be very useful to fund managers in portfolio formation process while investing in listed securities.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 CAPITAL MARKETS

Before discussing market efficiency, it is important to underscore the critical role of capital markets for they are the bedrock upon which efficient markets are based. Practitioners are interested in the stock market because it is their bread and butter. Academic economists are interested for a different reason: for them, the stock market provides an excellent laboratory for the evaluation of microeconomic theory. The efficient market hypothesis is the focus of laboratory experiments for it is the logical results of the application of microeconomic theory to the determination of security prices.

The purpose of capital markets is to transfer funds between lenders (savers) and borrowers (producers) efficiently. Individuals or firms may have excess of productive investment opportunities with anticipated rate of return that exceed the market determined borrowing rate but not enough funds to take advantage of the opportunities. According to Fama (1965), an “efficient” market is defined as the market where there are large numbers of rational, profit maximizers actively competing with each trying to predict future market values of individual securities and where important current information is almost freely available to all participants.

However, if capital markets still exist, they can borrow the needed funds, lenders who have excess funds after exhausting their productive opportunities for lending with expected returns greater than the borrowing rate, will be willing to lend their excess funds because the borrowing/lending rate is higher than what they might otherwise earn. Therefore, both borrowers and lenders are better off if efficient capital market exist and are used to facilitate the transfer of funds.

Examples of capital markets are London Stock Exchange, New York Stock Exchange and Nairobi Stock Exchange.

2.1.1 CAPITAL MARKETS IN KENYA

Nairobi stock exchange (NSE) is the only capital market in Kenya. It was established in 1954 after which it operated as an association of stockbrokers with no trading floor until October 1991. Since then, NSE has been instrumental in enabling the public and private sector to raise large amounts of capital for various investment needs. It has opened up to foreign investors thereby increasing the investor's base and bringing into the country the much-needed foreign investments, which has effectively increased the number of participants in the bourse.

Today, NSE has over several registered brokers and about 50 listed companies. The bourse deals in ordinary shares and fixed income securities like preference shares and treasury bonds. It also has had cross listing of stocks in South Africa, Uganda and Tanzania.

NSE operates under regulatory framework of Capital Markets Authority that enforces the much-needed disclosure on the listed companies, monitoring stockbrokers and other players in the market to ensure fair play. Studies by Kenyan scholars like Kiweu (1991) find no patterns and King'ori (1995) also showed lack of seasonality of either monthly or quarterly intervals. These results, however, need to be validated by further research on this area.

2.1.2 CHARACTERISTICS OF KENYAN CAPITAL MARKET

Capital markets all over the world can be looked at in terms of their level of development. The level of development has a direct influence on market informational efficiency. However, Kenyan capital markets like other capital markets in most developing economies are still in their infant stage of

development and slow in growth. They are, therefore, classified as emerging markets.

It is therefore of essence to note that the Kenyan capital markets are characterized by the following conditions:

- There is presence of rules and regulations that do not favour the development of the market. Stringent rules and regulations that do not activate the market.
- Lack of wide international integration therefore there is limited cross border listing with net foreign outflow of Ksh. 600 million in the year 2002. This has been on a declining trend.
- Few capital markets intermediaries, licensees. By end of 2002 there were only 51 listed companies, 18 stock brokers, 25 investment advisers, 5 authorized depositories, 1 dealer and 2 investment Banks. The NYSE comparative figures for total listed companies in 2002 were 2,783 and in 2003 were 2,750.
- High market concentration. The shares that are listed in the market are concentrated among very few companies. In Kenya above 30% of Companies (15 companies) control about 80% of the market activity. Under or overpricing of securities where the true value of securities are not determined by the market. The prices may be manipulated due to the small size of the market.
- Low market activity. Low market capitalization and the number of companies listed are fairly low and sometimes decrease overtime. Market capitalization in the Nairobi stock exchange has been fluctuating between US\$ 107.2 billion in 1995 to US\$ 112.31 billion in 2002, at the year close. This is quite low when contrasted to NYSE Global Market Capitalization of US\$ 13.4 trillion and US\$ 16.8 trillion in 2002 and 2003, respectively.

Therefore, due to the problems of emerging markets above, Kenyan capital markets have not attained the strong form efficiency. At best, NSE can be said to be moving towards experiencing the Semi-strong form of market efficiency. This

can be attributed to a number of factors including insider trading problems, weak regulatory- framework, creative accounting and investor ignorance. No specific comprehensive studies have been done to confirm the wide-ranging implications of efficient market hypothesis in Kenyan capital markets. While Rioba (2003), notes that NSE is one of the most active capital markets in Africa, Munga (1974), found that the NSE is characterized by illiquidity and low turnover. But empirical evidence generated from studies in the developed markets tends to show a high degree of correlation to the statistics available in the Kenyan capital markets scene.

2.2 CONCEPT OF EFFICIENT CAPITAL MARKET

In a world of uncertainties, information becomes a useful commodity. Acquisition of information to eliminate uncertainty should then be considered as an alternative to productive investment subject to uncertainty.

When economists speak of capital markets as being efficient, they usually mean that they view assets prices and returns as being determined by the outcome of supply and demand in a competitive market peopled by rational traders. These rational traders rapidly assimilate any information that is relevant and adjust prices accordingly; hence individuals do not have different comparative advantage in the acquisition of information.

It follows that in such a world there should be no opportunities for making a return on stock that is in excess of a fair payment for the riskiness of that stock. In short, abnormal profits from trading should be zero, thus agents process information efficiently and immediately incorporates this information in stock prices.

An efficient capital market is one in which security prices adjust rapidly to the arrival of new information and therefore, the current prices of securities reflect all information about the security. Fama (1965), "...in an efficient market at any

point in time the actual price of a security will be a good estimate of its intrinsic value”.

2.2.1 WHY SHOULD CAPITAL MARKETS BE EFFICIENT?

There were several reasons for the popularity enjoyed by the Efficient Market Hypothesis (EMH) in the 1960's and 1970's.

First it was rooted in a very strong theoretical foundation. This foundation begun with Samuelson's work on the behavior of speculative prices in which he showed that the price of speculative assets should follow a random walk (1965). It was further stressed by Henry Markowitz's theory of portfolio selection (1952) and by William Sharpe's Construction of the Capital Asset Pricing Model (CAPM), which described the implication of optional portfolio construction for assets prices in security market equilibrium (1964); both Markowitz and Sharpe won the 1990 Nobel prize in economics for their contributions.

A second reason for the popularity of the EMH was the hubris of financial market practitioners during the 1960's. The "go-go" years had rested upon the notion that opportunities for unusual profits were abundant and that it required only a reasonable person and a bit of care to sort out the wheat from the chaff in financial markets.

The EMH provided an antidote to this hubris for it argued that opportunities to make unusual profits were such rare and ephemeral, by their very nature they were the result of temporary market disequilibria that are quickly eliminated by the actions of informed traders. A study by Fama, Fisher, Jensen and Roll (1969) lend considerable support to their conclusion that the stock market is “efficient” in the sense that stock prices adjust very rapidly to new information.

A number of conditions are necessary for efficient capital market to exist. Some assumptions are however necessary as follows:

- The existence of a minimum number of competing profit maximizing participants that analyze and value security, each independently of the other.
- New information regarding security come to the market in a random fashion and timing of one announcement is generally independent of others.
- The competing investors try to adjust prices rapidly to reflect new information.

The first two assumptions imply that price changes should be independent and random. These assumptions therefore constitute the factors necessary for the functioning of efficient markets namely:

- Need for large number of competing investors who analyze information and trade.
- Competing investors necessary to cause price adjustment making the market more efficient.
- Because security prices adjust to any new information, their prices should reflect any information that is publicly available. These security prices that prevail should be an unbiased reflection of all currently available information including the risks involved in owning the security. Therefore expected returns implicit in the current price of the security should reflect its risks.

The efficient market concept has been studied and documented by several scholars, the majority of whom emphasize the importance of Market Efficiency Hypothesis (EMH) in asserting that information has to be reflected quickly in the stock prices in an efficient market, Fama (1970, 1976).

2.2.2 EFFICIENT MARKET HYPOTHESIS

Most of the early work on efficient capital market was based on the random walk hypothesis, which contended that changes in stock prices occur randomly. This hypothesis also commonly known as alternative efficient market hypothesis was not backed by theories that could be empirically tested but was premised only

on several empirical tests. Fama presented the efficient market theory in terms of a fair game model which dealt with price of security at a specific point in time. By articulating efficient market theory this way, he divided the overall EMH and the empirical tests of the hypothesis into three depending on the information set involved i.e. weak form efficient market hypothesis (WF-EMH), semi-strong form hypothesis (SSF-EMH) and strong form market hypothesis (SF-EMH).

2.2.3 EVENT STUDIES ON MARKET EFFICIENCY

According to Copeland and Weston (1992) and Redly and Brown (1997) various event studies conducted on market efficiency over the years have had mixed results: -

(i) Stock split

Ordinarily it is expected that when stocks are split, they increase in value due to increased demand of lowly priced splits. Studies however reveal no change in value. Majority of results of studies attribute no short run or long run positive impact on security return because of stock splits.

(ii) Initial public offerings (IPO's)

It is difficult to determine stock prices for IPO's due to uncertainties of risks and prices hence the possibility of under pricing them. Evidence however indicates that the investors acquiring stocks after IPO's do not get abnormal returns.

(iii) Exchange listing

This is the decision to become listed in the stock exchange. Such listings are expected to increase market liquidity of the stock and add to its prestige. Studies indicate no long run effect on value or risk. They however give some evidence of short run profit opportunities from public information, which supports semi strong form EMH.

(iv) Unexpected world events and economic news

Result of several studies on the response of security prices to world economic news has supported semi strong form EMH.

(v) Change in accounting method

Changes in accounting methods like depreciation and stock valuation methods like FIFO to LIFO etc. lead to positive reaction of stock returns.

(vi) Corporate events

Events like changes in top management e.g. CEO, sponsorship, social responsibility activities affect stock prices depending on the underlying economic benefit of the event. Evidence adduced by Joy et al (1976), asserts that the information concerning subsequent performance that is contained in the sign of deviation of the reported quarterly earning from expected quarterly earnings appears to be reflected in security prices by the end of the announcement week, evidence that is consistent with the semi-strong form of the efficient market hypothesis.

In summary, evidence indicates mixed results. It recommends strong support for SSEMH from numerous events studies like stock splits, economic news, world events, IPO's, accounting change, corporate finance events with only exchange listings giving mixed results.

In contrast, studies on predicting rates of return over time or for cross section of stocks presented evidence that indicated markets were not semi strong efficient these include time series, risk premiums, calendar patterns and quarterly earning surprises. Also size, BV/MV ratio, E/P ratio and neglected firms were equally evasive.

2.3 STOCK PRICES BEHAVIOUR

2.3.1 UNDER REACTION

According to Conrad J. and Gautam Kaul, (March 1993), studies show that when stocks are sorted out on the first 6-12 months returns, winners (losers) tend to continue to outperform (underperform) in the next 6-12 months i.e. there's positive short term autocorrelation of stock returns.

Barberis et al (1998), "in each time period an investor receives news about a particular company, this news he receives in period t and denoted by z_t can be good or bad news i.e. $z_t = G, z_t = B$ ". By underreaction we mean that the average return on the company's stock return in the period following an announcement of good news is higher than the average return in the period following bad news.

$$E(r_{t+1} / Z_t = G) > E(r_{t+1} / Z_t = B)$$

The stock underreacts to the good news, a mistake which is corrected in the following period giving a higher return at that time.

The underreaction is corrected by continued drift upwards in the future. The reverse occurs for arrival of bad news being incorporated slowly. All these occur in the short term.

Empirical evidence

Cutler (1991) examines autocorrelation in excess returns on various indices over different time horizons and finds positive autocorrelation in excess index returns at horizons of between 1 month and 1 year. This is consistent with underreaction hypothesis which states that stock price incorporate information slowly leading to positive trends in returns over short horizons.

Bernard et al (1990) uses the surprise contained in earnings announcements to show that the market under reacts. He measures surprise by S.U.E (standard unexpected earnings) and finds that stocks with higher earnings surprises also earn

higher returns in the period after the P/F formation i.e. the market under reacts to earnings announcements in revising company's stock prices

He took
$$S.U.E = \frac{\text{earnings in quarter} - \text{Earnings in the quarter in the previous Years same quarter}}{\text{Standard deviation}}$$

The companies with higher SUE under reacted more as compared to companies with lower S.U.E over the 60-day period after the P/F formation; the higher SUE Company outperformed the lowest SUE Company by 4.2%.

Jegadeesh & Titman (1993), they examined a cross section of US stocks and find that over the six months horizon the stock returns are positively auto correlated and interpret this as evidence of a momentum in stock returns.

Chan et al (1996), they show that sorting stock into deciles by prior six month returns, with yields spreads in returns of extreme deciles of 8.8% over the subsequent 6 months, suggesting price momentum effect.

There is also evidence of stock price drifts following other announcements. For example, Ikenberry et al (1995) found that stock prices rise on the announcements of share repurchases and continued to drift in the same direction over the next few months.

Also Ikenberry et al (1996) documents such drifts following stock splits.

2.3.2 OVER REACTION

Stocks that have had lowest returns over given 3-5 years period tend to have higher returns over the subsequent 3-5 years and vice versa. When there's a sustained streak of good news about an asset, its price overshoots its fundamental value and ultimately must experience a correction. Stock returns are negatively auto correlated in the long term.

Using Barberi's notation in overreaction model

$$E(r_{t+1} / Z_t = G, Z_{t-1} = G; \dots, Z_t = G) < E(r_{t+1} / Z_{t-j} = B, z_{t-1} = B \dots, Z_{t-j} = B)$$

Where j is more than one

Overreaction may be defined as occurring when the average return following not one but a series of announcements of good news is lower than the average return following a series of bad news announcements. After a series of good news, the investor becomes overly optimistic and expects the trend to continue but with announcement of bad news the correction starts taking place by price reductions. Contrarians strategies have shown case for abnormal returns.

Empirical evidence

DeBondt and Thaler (1985) first's paper on reversals category. They found that stock returns were negatively correlated in the long run. Formed P/F of winners and losers and held them for 5 years, then they found that winners became losers and losers became winners.

Chopra et al (1992), after adjusting for size and beta risk, they find that extreme prior losers outperform extreme prior winners by 5-10% per year, during the subsequent 5 years. They also tested for the small firm effect, where in small firms the effect was more pronounced. January effect was not pronounced, when tested.

Other evidence

For the aggregate index, Fama and French (1988) and Poterba & Summers (1988) and Cuttler et al (1991), find that profitable contrarians strategies can be devised based on stock market indices. The thrust of their evidence is that over horizons of 3-5 years there's a relatively slight negative autocorrelation in stock prices in many markets.

Zarowin (1990) find that firms that have had a sequence of bad earnings realization subsequently outperform firms with a sequence of good earnings, suggesting that firms with a consistent record of good news are over valued and

that an investor can therefore earn abnormal returns by betting against this overreaction to consistent patterns of news. The reverse is also true that firms with consistent bad news are undervalued and subsequently can earn superior returns.

Subsequent work of overreaction changes focus to other measures of valuation such as ratio of market to book value of assets and market value of cash flows. The evidence points in the same direction i.e. stock with very high valuation relative to their assets (growth stocks) and earns relatively low risk adjusted returns in the future whereas stocks with low valuation (value stocks) earn relatively higher returns.

2.4 EMPIRICAL TESTS OF STOCK PRICE BEHAVIOUR AND EARNINGS ANNOUNCEMENTS

The effect of quarterly report on prices was studied by Joy et al (1976) with results that positive earning surprises contained there in are not instantaneously reflected in stock prices. Later review of these results by Ball and Brown (1968) revealed that abnormal returns are due to problems with CAPM used to derive the expected returns and not market inefficiencies.

In all, test results indicate that the market doesn't adjust prices to reflect the release of "quarterly surprises" as fast as expected by SSEMH.

The evidence gathered in a study by Fama, Fisher, Jensen and Roll (1969) indicates that on average the market's adjustment concerning the information implications of a split are fully reflected in the price of a share at least by the end of the split month but most probably almost immediately after announcement date. Thus the result of the study had considerable support to the conclusion that the stock market is efficient in the sense that stock prices adjust very rapidly to new information announcement.

Meek (1994) documents US stock market reactions to annual and interim earnings announcements by non-US companies with shares traded on the New

York stock exchange. Meek finds that the stock price responses to earnings announcements (EAs) are generally higher in the United States than the United Kingdom. The strongest implication of these results for future research is that empirical designs that use stock returns to assess the relative usefulness of EAs may not easily generalize to international context.

Kross & Schroeder (1990) findings show that the earnings coefficient is seasonal for small firms. Fourth quarter stock returns responses are significantly smaller in magnitude than the interim responses of small firms. There is little evidence of any seasonality for large firms.

Salamon and Stober (1994), "our evidence also shows that fourth quarter earnings announcements have smaller stock price responses coefficient than do interim announcements. We find some evidence that fourth quarter earnings response coefficients are smaller than interim quarter response coefficients for large firms as well as for small firms".

Cornell and Landsman (1989) find that, "audited annual announcements are uniquely informative....." (P. 691)

The results of Salamon and Stober (1994) suggest that explanation for smaller fourth quarter earnings response coefficients need to be applicable to both large and small firms.

Beaver (1968) contends that investors might even postpone the purchase and sales of their securities until the earning report is released. A research done by Beaver (1968) studied the relationship between interim and annual EAs and the stock market behaviour. His argument was that there should be increased security return variability associated with release of financial statements if at all the statements have any informational content.

The research sampled 143 companies and observed the stock market behavior for the period 1961- 1965. He used trading volume activity (TVA) and

the market model to test the informational content of interim and annual reports, the tests revealed a drastic increase in trading volume and a high variability in stock returns in the 17 weeks surrounding the announcement date. His conclusion was that the earnings reports have informational content.

Ball and Brown (1968) examined the behaviour of stock return within 12 months up to EAs date for 8 years between 1957 and 1965. They intended to determine the time and information content of accounting numbers. They selected a sample of 261 companies from NYSE and classified them into two groups for each year of study i.e. companies whose earnings increased and companies whose earnings decreased. Ball and Brown noted that the stock returns of firms whose earnings decreased had a negative abnormal return of 11.3% while the firms whose earnings increased had a positive abnormal return of 5.6 %. They concluded that the year's income number captures 50% or more of the information about firms available during a year.

2.5 STUDIES ON NSE

Several studies have been carried out on the NSE, which among them include Munga (1974), Omosa (1989), Lishenga (1989), Kerandi (1993), Ondigo (1995), Iminza (1997), Nyamute (1998), Murithii (2001). Others include Oluoch (2002) and Rioba (2003).

Munga (1974) studied the history, organization and the role of NSE in the Kenyan economy. He found the NSE to be characterized by high illiquidity and low turnover. Thirty years down the time many things have changed.

Omosa (1989) studied the predictive ability of asset pricing models on the NSE and found that the models were not generally good predictors of prices due to what she argued to be inefficiency of the models or imperfection in the market.

In his study of the relationship between corporate attributes and timeliness of annual reports of companies listed at the NSE, Lishenga (1989), found evidence

that there is a tendency for less profitable companies to delay in reporting. In his research, timeliness was defined as the time lag occurring between the balance sheet date and the EAs date. (Kerandi (1993))

Kerandi (1993) tested the predictive ability of the dividend valuation model in the NSE. He finds that the models have less predictive ability in the NSE. Kerandi collected data in form of share prices, market indices and dividend per share. These were used to predict the price for the companies studied. Predicted prices were compared with actual prices and tested for significance of differences. Kerandi was interested in confirming whether share price can be predicted, implying that investors could be interested in correctly priced shares. It is argued in Finance literature that a stock can be mis-priced and still generate attractive return for investors. A necessary condition is that the price be consistently mis-priced.

Ondigo did an empirical test on the information content of annual reports and accounts of companies listed in the NSE in 1995. This study was based on a sample of 18 Blue chip companies and the focus was on the behaviour of share prices before and after the release of the annual reports. The study concluded that on average, the annual reports of the sampled companies had no information content during the period of study. One possible explanation of the finding is that the investors may be in a position to predict earnings such that the share prices before the EAs have already adjusted to most of the information contained in the fourth coming annual reports. This can only be confirmed by a research on an unexpected share prices changes during the period shortly preceding the EAs date.

In his study, The timing effect of earnings announcement on stock returns of companies quoted at the NSE, Oluoch (2002), the findings indicated no systematic relationship between a firm's earnings (whether good or bad) and the timing of the release of the annual reports. This implies that companies quoted on NSE do not deliberately delay the announcement of poor results, an indication that

there may be other factors explaining the delay on reporting. However, the findings of this study tend to contradict early researches done on time lag, for example a similar study conducted by Lishenga (1989).

In a recent study, Rioba (2003) evaluated the predictability of ordinary stock returns at the NSE in Kenya. The results of the study on a sample of 10 randomly selected companies covering the period January 1995 to December 2002, evidenced that short term changes in stock market indexes may well be influenced by “investor psychology”. He concluded that the predictability evidence for ordinary shares in the NSE is weak and not definitive.

3.2 SAMPLING PLAN AND SAMPLE SIZE

The sampling plan captured companies that had been listed at the NSE for over five years from 1998- 2003. The five year period chosen was consistent with other studies on capital markets like Beaver (1998) and Kross (1992) in Kenya. Kross (1998) and Oluch (2003) also used a five-year period in testing the efficiency of the capital market.

The data requirements used for the screening procedure in selecting the sample shall be as follows:

To qualify, the company must at least have:

- a) Been listed in the NSE for six years from 1998 to 2003.
- b) Annual reports and accounts and the corresponding data available for the period of study.
- c) Daily stock values for at least 3 months period preceding and succeeding the earnings announcement dates.
- d) The fiscal year ending in December.

The first requirement was imposed to enable us have the latest contemporary data relating to the most recent period to improve on the efficacy of the findings.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 THE POPULATION

Our population of interest was based on all companies listed in the Nairobi Stock Exchange that had been listed in the NSE as at 31st December 2003. This being the most recent period, it is believed that the results based on the period would be reflective of the current developments in the stock market.

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- c) Daily stock values for at least 3 months period preceding and succeeding the earnings announcement dates.
- d) The fiscal year ending in December.

The first requirement was imposed to enable us have the latest contemporary data relating to the most recent period to improve on the efficacy of the findings.

The second was employed to allow us ascertain the date on which the EAs first became publicly available and also allow an examination of the EAs time series for purposes of eliminating errors in the data source. The third requirement allowed us to obtain parameter estimates and stock returns around the EA dates. The fourth requirement facilitated the data gathering activities.

3.3 DATA COLLECTION

Secondary data was used for this study. The following data was collected from the NSE: -

- i. Annual earnings for the sampled companies and dates of EAs and dividend declared.
- ii. Weekly stock prices for the selected companies for the six months.
- iii. Weekly NSE 20 share index for the research period covered.

The annual earnings and dividends declared were obtained from the annual reports and accounts of the sampled companies. Dates of earning announcements means the day the reports are publicly announced either through the media or any other means. In Kenya, dividend announcements dates may be taken as the EA dates because most Companies announcements and especially dividends are contained in the internal or audited annual reports.

3.4 DATA PRESENTATION AND ANALYSIS

We conducted our investigation for all earnings announcements occurring in the calendar years of 1998 to 2003. We used the Kross and Schroeder (1989) model specification to present and analyse the data.

Hypothesis:-

We formulate the following null hypothesis:

H_0 : The magnitude of the stock return response coefficient to EAs dates is the same across all months (preceding and succeeding months of announcements). This implies random walk hypothesis is applicable on the NSE.

H_1 : The stock returns response coefficient in the preceding months before EAs is higher in magnitude than the succeeding months

Although we included both large and small firms, we made no hypothesis regarding differential magnitude in the response due to size effect. As in Kross and Schroeder (1989) study, we used the market value of the firm's common stock as the measure of size to assist in any further inference into size effect.

Stock Return Model

Stock return responses to EAs are evaluated after adjusting for the influence of the general market. We use the traditional market model for that purpose.

$$R_{ik} = \beta_0 + \beta_1 R_{mk} + e_{ik} \dots\dots\dots(1)$$

Where R_{ik} is the return of stock i on day k and R_{mk} is the return on the NSE 20 share value weighted index for day k .

The parameters of this model are estimated using three months of daily values prior to the date the earnings are announced and three months after the announcements. The observation interval is chosen to exclude confounding effects resulting from interim earnings announcement (mid year financial results). The parameter estimates are used to compute cumulative abnormal returns for a two-point date around the time of the EAs. Thus,

$$e_{ik} = R_{ik} - (\beta_0 + \beta_1 R_{mk}) \dots\dots\dots(1')$$

Our dependent variable is the earnings response - the sum of the abnormal returns (e_{ik}) on the day before (day -1) the announcement and the last day of the succeeding period after the announcement. We measure the earnings response (expressed in percentages) in two ways:

$$CR1 = \sum e_{ik} * 100 \dots \dots \dots (2)$$

$$CR2 = \sum (e_{ik} * /100/SE) \dots \dots \dots (2')$$

Where $\sum$ is summation over -1 day to announcement and again the last date after the announcement observation period. And SE is the standard error of the residuals of model 1 above.

Different computer applications will be used for data analysis. Initially data will be captured in excel sheet and basic data generated. We then use the relevant software to estimate parameters or coefficients of the linear regression function. The coefficients measure each share's sensitivity to the dependent variable. Tests to be carried out will include:

- computation and evaluation of R^2
- Tests for significance of the sensitivity of return response coefficients.
- Share prices regressed on announcements dates.

CHAPTER 4

4.0 DATA ANALYSIS AND FINDINGS

4.1 CUMULATIVE AVERAGE RESIDUALS

For each earnings observation, daily rates are converted into weekly indices of share prices which are observed over the 8 weeks prior to and 8 weeks subsequent to the announcement week. Employing cumulative average residuals for all the 16 firms in the sample, we then use residual weekly share prices to calculate the change statistics for each year of observation. If the information contained in a given year's earnings announcement for the sample is fully reflected in the sample stock price the magnitude of the stock return response coefficient residuals after the subsequent announcement should be higher in magnitude than the preceding weeks.

The resulting average residuals for the study period are shown below in table A, covering the 17 weeks window period for each year of announcement.

4.2 STOCK PRICE RESPONSES TO EARNINGS ANNOUNCEMENTS

Separate analysis of each year's earnings announcements information content was done, overall analysis of the information content for all firms for the 17 year period was also done.

Table A: Cumulative Average Residuals for 1998 – 2003

	1998		1999		2000		2001		2002		2003
wkno	Sprices	wkno	Sprices	Wkn o	Sprices	wkno	Sprices	wkno	Sprices	wkno	Sprices
-8	85.72	-8	91.36	-8	30.23	-8	54.5	-8	92.13	-8	27.09
-7	88.34	-7	79.03	-7	29.7	-7	54.61	-7	103.91	-7	24.06
-6	119.5	-6	79.18	-6	32.75	-6	65.24	-6	98.86	-6	29.2
-5	115.72	-5	101.75	-5	35.77	-5	59.74	-5	75.89	-5	75.11
-4	98.03	-4	94.15	-4	67.91	-4	51.88	-4	68.96	-4	115.44
-3	97.36	-3	84.8	-3	79.66	-3	51.92	-3	67.8	-3	123.09
-2	95.19	-2	84.5	-2	79.3	-2	52.32	-2	79.54	-2	126.06
-1	94.29	-1	82.82	-1	78.48	-1	54.12	-1	87.41	-1	134.44
0	94.07	0	83.05	0	78.24	0	55.78	0	87.16	0	106.83
1	94.98	1	84.94	1	78.89	1	55.25	1	90.03	1	170.37
2	95.09	2	83.03	2	78.17	2	54.72	2	90.73	2	268.76
3	92.94	3	80.59	3	77.96	3	54.51	3	90.35	3	288.21
4	92.77	4	80.75	4	76.42	4	51.91	4	89.59	4	304.29
5	97.15	5	78.76	5	76.33	5	51.48	5	91.24	5	301.71
6	103.88	6	78.32	6	75.92	6	51.11	6	95.15	6	291.14
7	104.11	7	78.05	7	76.62	7	50.77	7	96.27	7	285.86
8	104.21	8	77.5	8	75.84	8	50.94	8	105.66	8	271.75

4.2 STOCK PRICE RESPONSES TO EARNINGS ANNOUNCEMENTS

Separate analysis of each year's earnings announcements information content was done, overall analysis of the information content for all firms for the five year period was also done.

Overall (1998 – 2003)

Table B: Regression Statistics for the Overall Full Sample

Regression

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.369 ^a	.273	.164	54.08543	.143	8.531	1	109	.004	.098

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24956.581	1	24956.581	8.531	.004 ^a
	Residual	318850.5	109	2925.234		
	Total	343807.0	110			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	92.147	5.144		17.914	.000
	Number of week before and after announcement	.001	.000	.369	3.921	.004

a. Dependent Variable: Share prices

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	77.1020	107.1936	93.0949	15.06247	111
Residual	-56.4064	197.0952	.0000	53.83902	111
Std. Predicted Value	-1.062	.936	.000	1.000	111
Std. Residual	-1.043	3.644	.000	.995	111

a. Dependent Variable: Share prices

Overall (1998 – 2003)

Table C: Regression Statistics for 1998 Announcements

These analyses produced a model summary, ANOVA, analysis of the coefficients and their residuals statistics. While the dependent variable was share prices, the predictors were number of weeks before and after announcement.

The following statistics were derived from the test of regression model

- i. The statistic R
- ii. R^2
- iii. Standard error of the estimate
- iv. The t & F statistics
- v. B- Coefficients and
- vi. The residuals

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	56.479	2.186		25.836	.000
Number of weeks before and after announcement	.000	.000	-.000	-.369	.724

a. Dependent Variable: Share prices

b. Year = 1998

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	57.0871	62.2679	57.4793	21.385	17
Residual	-12.9478	20.2324	.0000	8.73266	17
Std. Predicted Value	-.965	1.025	.000	1.000	17
Std. Residual	-1.495	2.328	.000	.869	17

a. Dependent Variable: Share prices

b. Year = 1998

Table C: Regression Statistics for 1998 Announcements

Model Summary^{a,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.092 ^a	.009	-.058	9.04002	.009	.129	1	15	.725	1.128

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 1998

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.539	1	10.539	.129	.725 ^a
	Residual	1225.829	15	81.722		
	Total	1236.368	16			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 1998

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	98.479	2.196		44.838	.000
	Number of week before and after announcement	.000	.000	-.092	-.359	.725

a. Dependent Variable: Share prices

b. Year = 1998

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	97.6901	99.2679	98.4326	.81160	17
Residual	-13.5479	20.2322	.0000	8.75296	17
Std. Predicted Value	-.915	1.029	.000	1.000	17
Std. Residual	-1.499	2.238	.000	.968	17

a. Dependent Variable: Share prices

b. Year = 1998

Table D: Regression Statistics for 1999 Announcements

Model Summary^{b,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.547 ^a	.299	.255	5.61863	.299	6.831	1	16	.019	1.740

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 1999

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.647	1	215.647	6.831	.019 ^a
	Residual	505.104	16	31.569		
	Total	720.751	17			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 1999

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	83.717	1.333		62.823	.000
	Number of week before and after announcement	.000	.000	-.547	-2.614	.019

a. Dependent Variable: Share prices

b. Year = 1999

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	80.2329	87.2000	83.3295	3.56161	18
Residual	-8.1655	14.5491	.0000	5.45087	18
Std. Predicted Value	-.869	1.087	.000	1.000	18
Std. Residual	-1.453	2.589	.000	.970	18

a. Dependent Variable: Share prices

b. Year = 1999

Table F: Regression Statistics for 2001 Announcements

Table E: Regression Statistics for 2000 Announcements

Model Summary^{b,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.596 ^a	.355	.312	16.41179	.355	8.267	1	15	.012	.429

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2000

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2226.734	1	2226.734	8.267	.012 ^a
	Residual	4040.205	15	269.347		
	Total	6266.939	16			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2000

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	65.691	3.987		16.475	.000
	Number of week before and after announcement	.001	.000	.596	2.875	.012

a. Dependent Variable: Share prices

b. Year = 2000

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	54.2242	77.1579	66.3653	11.79707	17
Residual	-24.5219	25.4301	.0000	15.89065	17
Std. Predicted Value	-1.029	.915	.000	1.000	17
Std. Residual	-1.494	1.550	.000	.968	17

a. Dependent Variable: Share prices

b. Year = 2000

Table F: Regression Statistics for 2001 Announcements

Model Summary^{b,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.364 ^a	.133	.075	3.52892	.133	2.298	1	15	.150	1.254

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2001

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.617	1	28.617	2.298	.150 ^a
	Residual	186.799	15	12.453		
	Total	215.416	16			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2001

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	54.241	.857		63.264	.000
	Number of week before and after announcement	.000	.000	-.364	-1.516	.150

a. Dependent Variable: Share prices

b. Year = 2001

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	52.9410	55.5408	54.1645	1.33736	17
Residual	-3.6606	9.6965	.0000	3.41686	17
Std. Predicted Value	-.915	1.029	.000	1.000	17
Std. Residual	-1.037	2.748	.000	.968	17

a. Dependent Variable: Share prices

b. Year = 2001

Table G: Regression Statistics for 2002 Announcements

Model Summary^{a,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.458 ^a	.210	.161	10.93190	.210	4.257	1	16	.056	.652

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2002

ANOVA^{a,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	508.766	1	508.766	4.257	.056 ^a
	Residual	1912.104	16	119.506		
	Total	2420.870	17			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2002

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	89.662	2.593		34.582	.000
	Number of week before and after announcement	.000	.000	.458	2.063	.056

a. Dependent Variable: Share prices

b. Year = 2002

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	84.3113	95.0127	90.2563	5.47060	18
Residual	-16.5127	19.6012	.0000	10.60550	18
Std. Predicted Value	-1.087	.869	.000	1.000	18
Std. Residual	-1.511	1.793	.000	.970	18

a. Dependent Variable: Share prices

b. Year = 2003

Table H: Regression Statistics for 2003 Announcements**Model Summary^{b,c}**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.823 ^a	.678	.655	60.25201	.678	29.424	1	14	.000	1.093

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2003

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106819.0	1	106819.027	29.424	.000 ^a
	Residual	50824.261	14	3630.304		
	Total	157643.3	15			

a. Predictors: (Constant), Number of week before and after announcement

b. Dependent Variable: Share prices

c. Year = 2003

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	171.976	15.182		11.328	.000
	Number of week before and after announcement	.004	.001	.823	5.424	.000

a. Dependent Variable: Share prices

b. Year = 2003

Residuals Statistics^{a,b}

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	89.6095	254.3461	182.2700	84.38761	16
Residual	-147.4832	49.9561	.0000	58.20897	16
Std. Predicted Value	-1.098	.854	.000	1.000	16
Std. Residual	-2.448	.829	.000	.966	16

a. Dependent Variable: Share prices

b. Year = 2003

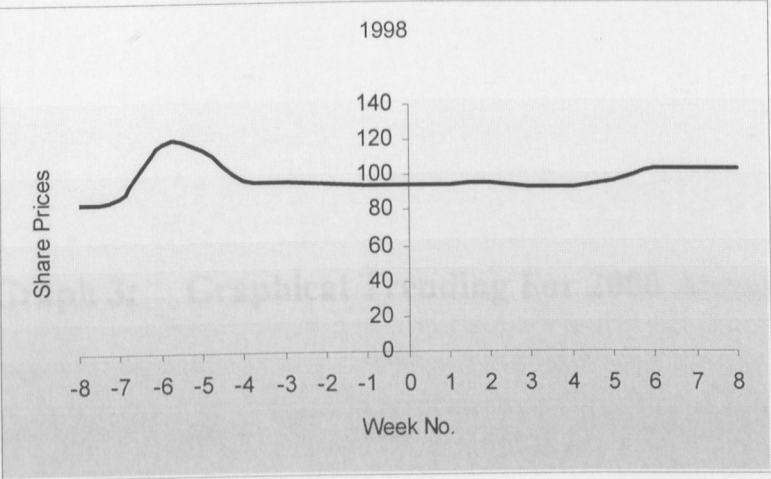
Based on the OLS regression estimates of a_i and b_j the measure of information content was computed over the seventeen week report period. Based on the full sample a graphical representation of the yearly stock price responses to EAs was depicted in the following graphs.

The general trend is strikingly similar. From graph 1 to graph 6, the regression coefficients tend to follow the same direction, except for graph 6. There appears to be a lot of volatility before the 4th week preceding the announcement date. Information flow seems to be captured in stock prices from the 3rd week before announcement week (week 0 {zero} is the week on which announcement date falls).

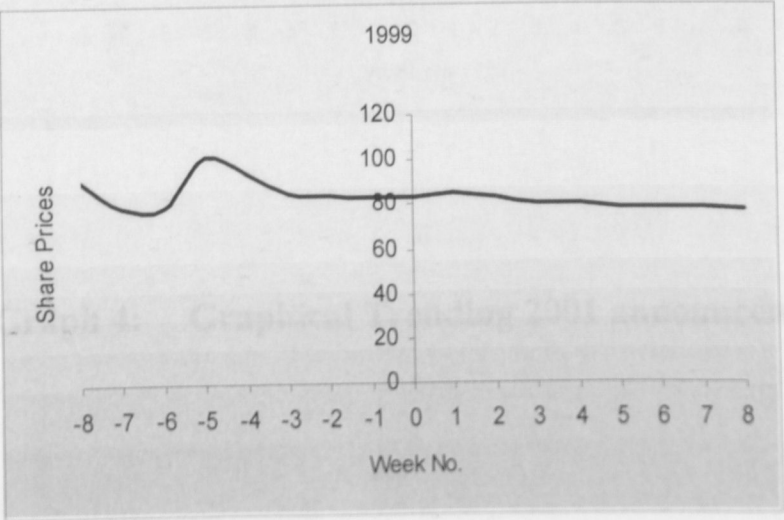
As can be seen from 1998 to 2002 regressions, a literal interpretation of the results for the sub-sample and the full sample in the context of information content hypothesis would suggest that on average EAs of the sampled firms for the period under study conforms to the semi strong form of stock market efficiency. Year 2003 appears to be an outlier probably due to the exceptional performance of the NSE in particular and the economy in general, compared to the earlier years.

In general, the stock price behaviours suggest that the data are fully impounded in stock prices prior to or almost instantaneously at time of announcement.

Graph 1: Graphical Trending For 1998 Announcements

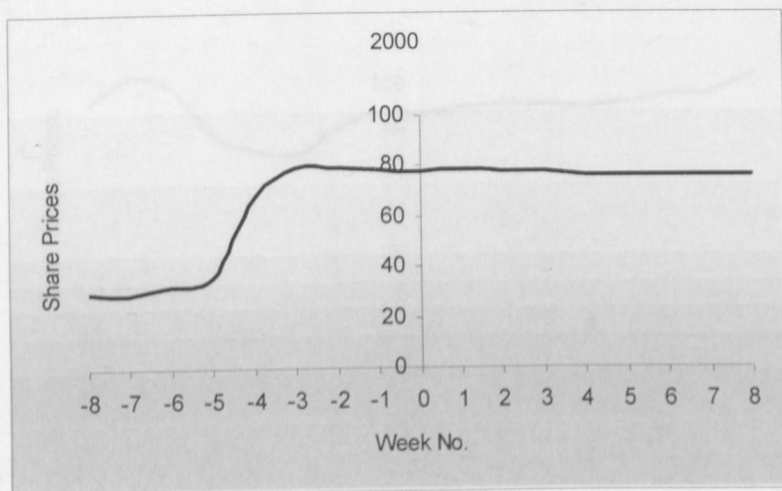


Graph 2: Graphical Trending For 1999 Announcements



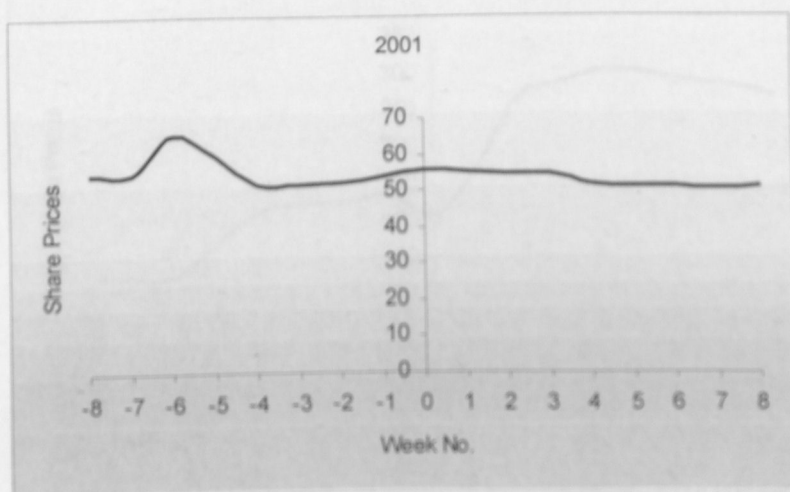
Graph 5: Graphical Trending for 2002 announcements

Graph 3: Graphical Trending For 2000 Announcements



Graph 6: Graphical Trending For 2003 Announcements

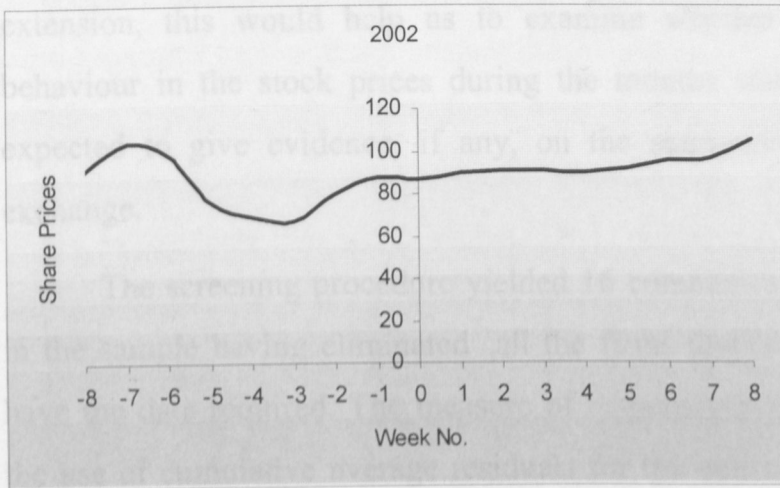
Graph 4: Graphical Trending 2001 announcements



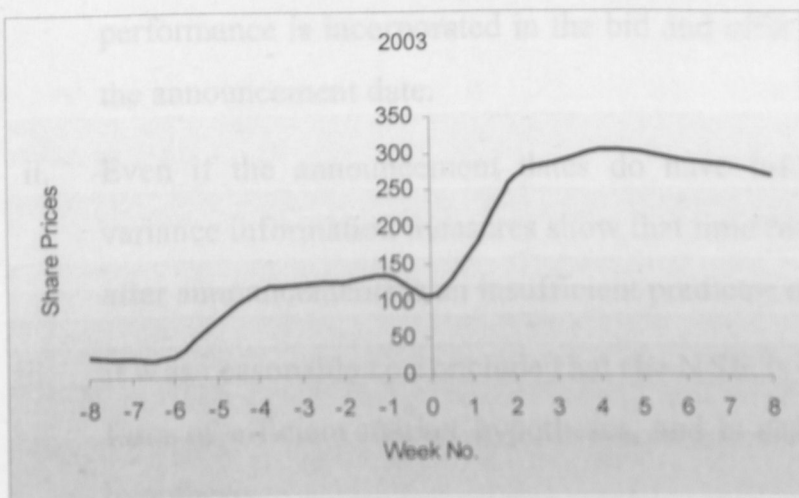
CHAPTER 5

5.0 SUMMARY AND CONCLUSIONS

Graph 5: Graphical Trending for 2002 announcements



Graph 6: Graphical Trending For 2003 Announcements



CHAPTER 5

5.0 SUMMARY AND CONCLUSION

5.1 CONCLUSIONS AND IMPLICATIONS

The objective of this study was to evaluate the stock price reactions to earnings announcements for companies listed at the Nairobi stock exchange. By extension, this would help us to examine whether there is some “unusual” behaviour in the stock prices during the months surrounding EAs. It was also expected to give evidence, if any, on the semi-strong model of EMH in the exchange.

The screening procedure yielded 16 companies that qualified for inclusion in the sample having eliminated all the firms that initially qualified but did not have the data required. The measure of responsiveness of stock prices employed the use of cumulative average residuals for the entire sample. The mean residual returns were computed for the full sample by year of announcement.

The results from this study tend to evidence the following interpretations:-

- i. From a sample consisting of 33% of the population (16 out of 48 firms), a clear pattern emerged that shows that information about share price performance is incorporated in the bid and offer prices several days before the announcement date.
- ii. Even if the announcement dates do have information content, residual variance information measures show that time (number of weeks before and after announcement) is an insufficient predictor of the response coefficient.
- iii. It was reasonable to conclude that the NSE is subject to the semi-strong form of efficient market hypotheses, and is characterized by overreaction hypothesis.

The first interpretation supports Beaver (1968) assertion that there are significant and abnormal changes in price and trading volume around earnings announcements. In this study, virtually all the relevant information is factored in the share price few days to the announcement date. It's worthy to note that since one of the criteria for sampling was the financial year ending 31st December, most of the firms had their announcement dates at least one and half months after the year ends. This confirms the notion that most of the desired information may have been captured by the more prompt media including perhaps interim reports and dividend releases (Ball and Brown). This is further validated by our findings that share prices get stabilized 3-4 weeks prior to announcement date with generally minor adjustments thereafter. Morse (1981) reported that price changes prior to the public announcement may therefore indicate that the signal or some clue about the announcement has been received by a sub set of the investors. Price volatility prior to a public announcement date might occur because of differences in belief about the probability of the different signals being emitted by the public announcement. The implication of this is that any astute investor can improve his chances of earning abnormal returns by analyzing the price movements before and after the EA dates.

The second interpretation is derived from the regression results for the five year period. Even though time in reference to announcement date can explain return magnitude and direction, its predictiveness is quite invariable. For example while in 2001 R^2 is 36%, it is only 0.9% in 1999. Further, for the full sample the R^2 is only 27%. Simply said, there are other factors that explain the return movements around EA dates. This could include exogenous factors like changing macro-economic environment and inter- sectoral adjustments. However the fact that the model's explanatory power (coefficient of determination) was too low calls for a test of its applicability in the NSE.

As for the third interpretation, the results suggest the existence of semi strong form of efficiency in the NSE. This contradicts the findings of a similar study carried out by Ondigo in 1995, whose evidence on the semi-strong model of EMH was inconclusive. The results of the analysis for the year's 1998- 2002 show that the share price adjustments tend to reflect both historical and all publicly available information. Fama (1965) suggests that a continuous effort is made in an efficient market dominated by professional investors to adjust prices to changing value levels.

However, this does not imply the existence of the strong form of efficiency in the NSE because of the widespread trading problems like weak regulatory framework, creative accounting and investor ignorance.

For the results of the year 2003, they purport existence of overreaction hypothesis resulting from the unusual "good" year end performance, investors appear to have overreacted to the latest information about the security and thus bid prices incorrectly. Overtime, their mis-pricing becomes apparent and the reversals take place until an equilibrium level is reached.

5.2 LIMITATIONS OF THE STUDY

The study faced a number of limitations which include:-

One of the limiting factors was data availability. Even some of the companies which passed the initial sampling criteria could not be included due to missing relevant data. The research had expected to use a larger sample but because of data availability problems, only 16 qualified. It would have been a lost easier to extrapolate and generalize on the findings if a larger sample was used. But still, with over 30% of the population qualifying for inclusion in the study, the results are statistically valid for our purposes.

The inherent weakness in the model and research methodology. The cumulative average residuals meant that daily trading activity prices are used to compute weekly indices which are then cumulated and averaged across the 16 firms for each announcement date. Obvious weakness is the assumption of non-existence of confounding factors. Any confounding factor is smoothened by averaging process rendering the validity of the results weak. Only in cases where the concerned factor is “enormous” as seen in 2003, do we realize its existence.

As discussed earlier, the predictive power of our model may not be wholly adequate. Since different firms have varying EA dates, the assumption that both endogenous and exogenous factors move in momentum is an over-assumption. This is quite evident in the overall model summary on Table B. The low explanatory power renders the approach open to criticism. Again, it's obvious from the conclusion that time to/from announcement date is not the only predictive variable as explained by the low degree of R^2

On the determination of EA dates, the researcher has relied heavily on the dividend announcement dates and where not available the day when the annual financial accounts are filed with NSE. These may not be convincingly accurate reference points for announcements dates. It was not easy to get the announcement dates of companies that did not declare dividends in a particular year. Also, the information contained in EAs could have easily leaked to the staff and related parties like stock brokers long before they are officially made available to the public. This poses a serious limitation in the determination of EA dates as a focal point of our regression analysis.

Another difficulty has to do with interpreting the results. Interpretations are often more difficult in an international context than in a domestic only context because the number of confounding factors multiplies when moving out of a strictly domestic setting. Cognizance must be taken of the fact that NSE is still in its infant stage of development and growth. It is therefore faced with problems of

emerging markets like other capital markets in most developing countries. Therefore, our findings may not easily be generalized to international context.

5.3 SUGGESTIONS FOR FURTHER RESEARCH

The study focused on the evidence from the NSE on stock price responses to earnings announcements. Based on our methodology and research findings, the following areas are suggested for further research.

Our study was directed at the response coefficient from the fourth quarter results, an investigation need to be done on seasonality in stock price responses to quarterly earnings announcements. Salamon et al (1994) notes, “our evidence shows that fourth quarter earnings announcements have smaller stock price response coefficients than do interim announcements”. Two explanations from previous studies in other stock exchanges are the existence of fiscal year end discretionary accruals from earnings management or the phenomenon of fourth quarter setting up described by Collins, Hopwood and Mckeown (1984). This would help ascertain any cross quarter differences in stock price responses to EAs.

This research does not narrow down to the accounting size effect. In their 1990 paper on seasonality in stock prices in the Journal of Business and Accounting, Kross & Shroeder found what appears to be a fourth quarter seasonal for small firms in the earnings-stock returns relationship. This is the result one expects if small firms “dump” corrections of interim estimation errors in the fourth quarter (the “discovery” approach), rather than correcting the separate interim quarters (the “restatement”) approach. The author has not inferred on the size effect and this can be an area of interest for further inquiry.

Given the low explanatory power of time reference as a predictor for returns response, there is also a need to conduct a study on the information content of other public data including interim dividends, interim earnings, stock splits, and

other new information announcements. It is only after such tests that enough evidence for semi strong model of EMH can be supported in the NSE.

Finally, future research on this issue should employ analyst forecasts as the earnings expectations, because measurement errors might be driving our results. We also encourage future researchers to consider alternative treatment of extreme observations and to report the sensitivity of their results to such alternative treatments.

2. KAKUZI TEA LTD	KAKUZI
3. LIMURU TEA LTD	LTED
4. NATION MEDIA GROUP	NMG
5. BARCLAYS BANK (K) LTD	BBK
6. CPC BANK	CPC
7. DIAMOND TRUST BANK OF KENYA LTD	DTB
8. HOUSING FINANCE COMPANY OF KENYA	HFCK
9. NIC BANK LTD	NICB
10. STANDARD CHARTED BANK LTD	SCB
11. HAMABURI CEMENT COMPANY LTD	BAMB
12. BRITISH AMERICAN TOBACCO	BAT
13. CROWN BERGER	CBERH
14. DUNLOP KENYA	DLN
15. FIRESTONE EAST AFRICA	FIRE
16. TOTAL KENYA LTD	TOTAL

APPENDICES

Appendix 1: List of the Sampled Companies and Their Codes

COMPANY	CODE
1. BROOKE BOND (K) LTD	BBOND
2. KAKUZI TEA LTD	KAKUZI
3. LIMURU TEA LTD	LTED
4. NATION MEDIA GROUP	NMG
5. BARCLAYS BANK (K) LTD	BBK
6. CFC BANK	CFC
7. DIAMOND TRUST BANK OF KENYA LTD	DTK
8. HOUSING FINANCE COMPANY OF KENYA	HFCK
9. NIC BANK LTD	NICB
10. STANDARD CHARTED BANK LTD	SCB
11. BAMABURI CEMENT COMPANY LTD	BAMB
12. BRITISH AMERICAN TOBACCO	BAT
13. CROWN BERGER	CBERH
14. DUNLOP KENYA	DUN
15. FIRESTONE EAST AFRICA	FIRE
16. TOTAL KENYA LTD	TOTAL

Appendix 2:

Announcement Dates for Sample Companies

Company	Security	Sec	1998	1999	2000	2001	2002	2003
Brooke Bond Ord. 10.00	Bbond	A	20-Feb-99	18-Feb-00	19-Feb-01	25-Feb-02	19-Feb-03	21-Feb-04
Kakuzi Ord. 5.00	KAKUZI	A	5-Mar-99	6-Mar-00	5-Mar-01	3-Mar-02	4-Mar-03	5-Mar-04
Limuru Tea Co Ord. 20.00	LTEA	A	1-Mar-99	18-Feb-00	9-Feb-01	10-Apr-02	19-Feb-03	10-Apr-04
Nation Media Group Ord. 5.00	NMG	C	15-Apr-99	16-Apr-00	24-Apr-01	20-Apr-02	7-Mar-03	10-Mar-04
Barclays Bank Ord. 10.00	BBK	F	17-Feb-99	15-Feb-00	13-Feb-01	14-Feb-02	20-Feb-03	15-Feb-04
CFC Bank Ord. 5.00	CFC	F	15-Mar-99	15-Mar-00	19-Feb-01	27-Feb-02	25-Feb-03	26-Feb-04
Diamond Trust Ord. 4.00	DTK	F	15-Mar-99	13-Mar-00	23-Mar-01	26-Feb-02	25-Feb-03	28-Feb-04
Housing Finance Company Ord. 5.00	HFCK	F	15-Feb-99	14-Feb-00	19-Feb-01	19-Feb-02	15-Feb-03	14-Feb-04
NIC Bank Ord. 5.00	NICB	F	2-Mar-99	6-Mar-00	1-Mar-01	1-Mar-02	25-Feb-03	25-Feb-04
Standard Chartered Bank Ord. 5.00	SCB	F	1-Feb-99	6-Feb-00	22-Feb-01	21-Feb-02	20-Feb-03	6-Feb-04
Bamburi Cement Ord. 5.00	BAMB	I	18-Feb-99	28-Feb-00	27-Feb-01	28-Feb-02	19-Feb-03	18-Feb-04
British American Tobacco Ord. 10.00	BAT	I	15-Feb-99	28-Feb-00	2-Feb-01	2-Feb-02	29-Apr-03	12-Mar-04
Crown Berger Ord. 5.00	Cberg	I	1-Jul-99	1-Jun-00	7-Jun-01	29-Apr-02	1-Jun-03	7-Jun-04
Dunlop Kenya Ord. 5.00	DUN	I	1-Jul-99	1-Jun-00	7-Jun-01	29-Apr-02	1-Jun-03	7-Jun-04
Firestone East Africa Ord. 5.00	FIRE	I	19-Feb-99	18-Feb-00	16-Jul-01	18-Feb-02	16-Jul-03	12-Feb-04
Total Kenya Ord. 5.00	Total	I	22-Feb-99	29-Feb-00	26-Feb-01	22-Feb-02	25-Feb-03	26-Feb-04

Appendix 3:**Profit After Tax – 1999 – 2003**

			Profit After Tax (KSh'000)				
Company	Security	Sec	2003	2002	2001	2000	1999
Brooke Bond	Bbond	A	-52434	-78957	-106189	-210000	-123402
Kakuzi	KAKUZI	A	-76233	8083	-54167	-43631	37892
Limuru Tea Co	LTEA	A	-6700	2077	-2983	11824	9301
Nation Media Group	NMG	C	319480	379300	263200	200100	249800
Barclays Bank	BBK	F	1892100	1783000	2955000	2068000	2254000
CFC Bank	CFC	F	190308	224725	191824	234910	206261
Diamond Trust	DTK	F	57446	112799	51407	200346	155259
Housing Finance Company	HFCK	F	-159509	55851	-186543	52223	70685
NIC Bank	NICB	F	220019	229135	257119	312589	300823
Standard Chartered Bank	SCB	F	2576033	2206127	2243082	2175138	1737119
Bamburi Cement	BAMB	I	1153000	1330000	787000	370000	716000
British American Tobacco	BAT	I	1140021	823120	604109	582710	1237398
Crown Berger	Cberg	I	46212	55442	23210	19480	45990
Dunlop Kenya	DUN	I	16227	13859	16098	1800	7572
Firestone East Africa	FIRE	I	157194	231407	333600	292484	390289
Total Kenya	Total	I	514963	360201	-222101	206509	551420

Appendix 4: Earnings Per Share 1998- 2003

Company	Security	Sec	Earnings Per Share (KSh.)					
			2003	2002	2001	2000	1999	1998
Brooke Bond	Bbond	A	3.1	2.82	4.57	9.19	4.4	4.7
Kakuzi	KAKUZI	A	0.4	0.39	-2.31	-1.44	1.87	5.11
Limuru Tea Co	LTEA	A	4.2	3.46	-4.97	59.12	46.51	103.81
Nation Media Group	NMG	C	7.89	7.55	7.2	5.7	7.01	9.16
Barclays Bank	BBK	F	10.25	9.6	16	11.2	14.6	19.4
CFC Bank	CFC	F	1.26	1.45	1.18	1.61	1.58	2.39
Diamond Trust	DTK	F	0.89	0.95	0.51	2.06	1.31	2.6
Housing Finance Company	HFCK	F	0.58	0.49	-1.62	0.45	0.61	2.48
NIC Bank	NICB	F	2.35	2.78	3.12	3.79	3.65	4.71
Standard Chartered Bank	SCB	F		8.92	9.07	8.8	10.54	8.67
Bamburi Cement	BAMB	I	2.94	3.38	2.01	0.8	1.74	
British American Tobacco	BAT	I	11.4	8.23	6.04	5.83	16.5	
Crown Berger	Cberg	I	1.98	2.57	1.08	0.9	2.13	1.05
Dunlop Kenya	DUN	I			1.61	0.18	0.76	0.63
Firestone East Africa	FIRE	I	0.56	0.83	1.2	1.05	1.4	
Total Kenya	Total	I	3.06	2.31	-2.23	3.69	9.85	

REFERENCES

- Ball, R&P. Brown, "An Empirical Evaluation Of Accounting Income Numbers", *Journal of Accounting Research* (Autumn, 1968) pp 159-178
- Barberis, N, A. Shleifer, and R. Vishney, 1998, "A model of Investor Sentiment", *Journal of Financial Economics* 49, 307-343
- Bamber Linda S. and Youngsoon S. Cheon, 1995, "Differential Price and Volume Reactions to Accounting Earnings Announcements", *Accounting Review* 70, 417 - 441.
- Beaver, W.H (1968). "The Information Content Of Annual Earnings Announcements: An Empirical Research in Accounting", *Journal of Accounting Research*, volume 6 (1968) pp 67- 92
- Bernard Victor L. and Jacob K. Thomas, 1990, "Evidence That Stock Prices Do Not Fully Reflect the Implications of Current Earnings for Future Earnings", *Journal of Accounting and Economics* 13, 305-341
- Birmingham J. M, "Random and Rational: Stock Price Behaviour and Investment Returns", *Journal of Investment Analysis*, pp 52 – 53
- Brown P. and J. Kennedy (1972) "The Information Content of Quarterly Earnings: An Extension and Some Further Evidence" *Journal of Business* (July 1972), pp 403-415.

Chambers O, A.E and S. H Rentiman, "Timeliness of Reporting and Stock Price Reaction to Earnings Announcement" *Journal of Accounting Research* (Spring 1984) pp 21-47

Chan, L. K., N. Jegadeesh, and J. Lakonishok, 1996, "Momentum Strategies", *Journal of Finance* 51, 1681-1714

Chopra N., J. Lakonishok, and J. R. Ritter, 1992, "Measuring Abnormal Performance: Do stocks overreact?", *Journal of Financial Economics* 31, 235 – 268

Conrad J and Gautam Kaul, "Long term Market Overreaction or biases in computed Returns?", *The Journal of Finance* volume XLVIII, March 1993.

Copeland and Weston, "Financial theory and Corporate Policy", 1992, 3rd Edition

Cornel, B and W. Landman, "Security Price Response to Quarterly Earnings Announcements and Analyst's Forecasts Revisions", *The Accounting Review* (October 1989) 650- 692

Cuttler D. M, J. M Poterba and L.H Summers, 1991, "Speculative Dynamics", *Review of Economic studies* 58, 529- 546

David R. "Stock Return Seasonality and Earnings Information" *Journal of Financial and Quantitative Analysis*, Volume 25 (June 1990)

Davis J. V "Stock Return Seasonality and Earnings Information" *Journal of Financial and Quantitative Analysis* No.3 (September 1968)

Joy, O.M., R. O. Lizenberger, and R.W. McNally, "The Adjustment of Stock
DeBondt, Werner F.M and Richard M. Thaler, 1985, "Does the Stock Market
overreact ?", *Journal of Finance* 40, 793- 805.

Fama E., "The Behaviour of Stock Market Prices" *Journal of Business*, Volume 38
No 1 (January 1965) pp 34 – 105

Fama E. F., "Random Walks In Stock Market Prices" *Graduate School Of
Business Paper No 16. The University Of Chicago* (October 1965)

Fama, E.F and K. R. French, 1988, "Permanent and temporary components of
stock market prices", *Journal of Political Economy* 96, 246-273

Fama, Fisher, Jensen and Roll, "The Adjustments Of Stock Prices To New
Information" *International Economic Review Journal*, Vol 10 No 1 (February
1969)

Iminza, W. I., "An Empirical Investigation of the Information Content of Dividend
Payment on Share Prices of Publicly Quoted Companies", *Unpublished MBA
Research Project, University Of Nairobi*, 1997

Ikenberry D., J. Lakonishok and T. Vermaelen ,1995, "Market Underreaction to
Open Market Share Repurchases", *Journal of Financial Economics* 39, 181- 208.

Jegadeesh, N. and S. Titman, 1993, "Returns to Buying Winners and Selling
Losers: Implications for Stock Market Efficiency", *Journal of Finance* 48, 65-91

Mandelbrot, B., "Forecasts of Future Prices, Unbiased Markets, and
Martingale Models" *Journal of Business* 33/3A (supplement, January 1960), 243-
258.

Joy, O.M., R. O. Litzenberger, and R.W. McEnally, "The Adjustment of Stock Prices to Announcements of Unanticipated Changes in Quarterly Earnings", *Journal of Accounting Research*, Autumn 1977, pp 207-225

Meek, G. K., "Discussion of A Comparison of The Stock Price Response To Earnings Disclosures in the United States and the United Kingdom,"

Kerandi M. A., "Testing The Predictive Ability Of The Dividend Valuation Model On Ordinary Shares" *Unpublished MBA Research Project, University of Nairobi*, 1993.

D., "Price and Trading Volume Reaction Surrounding Earnings Announcement: A Closer Examination", *Journal of Accounting* (Autumn, 1981).

King'ori, E.N., "Stock Market Seasonalities at the NSE; An Emperical Study", *Unpublished MBA Research Project, University of Nairobi*, 1995

Monch A. N., "Intermediate Accounting", McGraw Hill Company, 6th Edition

Kiwu J. M., "The Behaviour of Share Prices in the Nairobi Stock Exchange; An Empirical Investigation" *Unpublished MBA Project, University of Nairobi*, 1991.

Munga D.N., "The Nairobi Stock Exchange, it's History, Organization and Role

Kross, W., "Profitability, Earnings Announcement, Time Lags and Stock prices" *Journal of Business Finance and Accounting*, Volume 9 No 3 (Autunum 1982)

Murikhi Ollows L.W., "The Extent to which Interim Earnings can be used to

Kross W, & D Schroeder, "An Investigation of Seasonality in Stock Price Response To Quarterly Earnings Announcements" *Journal of Business Finance & Accounting*, 17, (5), winter 1990.

Lishenga L., "An Analysis of the Relationship Between Certain Corporate Attributes and Timeliness of Annual Reports of Companies Listed at the NSE" *Unpublished MBA project, University of Nairobi*, (1989)

Mandelbrot, Bbnoit, "Forecasts of Future Prices, Unbiased Markets, and Martingale Models", *Journal of Business XXXIX* (supplement, January 1966), 242-255.

Markowitz, H.M., "Portfolio Selection, *Journal of Finance*, 7th March, 1952 NSE",

University of Nairobi, 1989

Meek, G. K., "Discussion of A Comparison of The Stock Price Response To Earnings Disclosures in the United States and the United Kingdom," *Contemporary Accounting Research vol 11 No 1-I* (Summer1994) pp 85- 89.

Morse, D., "Price and Trading Volume Reaction Surrounding Earnings Announcement: A Closer Examination", *Journal of Accounting* (Autumn, 1981), pp 374-383.

Journal of Accounting, 1988, "Mean Reversion in Stock Prices;

Mosich A. N., "*Intermediate Accounting*", McGraw Hill Company, 6th Edition 1989.

Portfolio Analysis and Portfolio Management" 1997, 5th

Munga D.N., "The Nairobi Stock Exchange, it's History, Organization and Role in the Kenyan Economy". *Unpublished MBA Project, University of Nairobi*, 1974.

Kenya, C. O. "Predictability of Ordinary Stock Returns at the Nairobi Stock

Muriithi Ollows L.W., "The Extent to which Interim Earnings can be used to Forecast year end Earnings: A study of Companies Quoted in the Nairobi Stock Exchange for the period 1996 to 2000". *Unpublished MBA research project, university of Nairobi*, 2001

Stuber, "Cross Quarter Differences in Stock Price Responses to Earnings Announcements: Fourth-quarter and Seasonality

Nyamute M. N., "The Relationship Between the NSE Index and Major Economic Variables: Inflation rate, Money supply, Treasury Bills rate and Exchange Rate" *Unpublished MBA Research Project, University of Nairobi*, 1998

Samuelson, Paul A., "Proof that Properly Anticipated Prices Fluctuate Randomly"

Oluoch W. O., "The Timing Effect of Earnings Announcement on Stock Returns of Companies quoted at the Nairobi Stock Exchange" *Unpublished MBA Research Project University of Nairobi*, 2002.

Omosa, F. Y., "Predictive Ability of Asset Pricing Models on the NSE", *Unpublished MBA Research Project University of Nairobi*, 1989

Ondigo H. O., "The Information Content of Annual Reports and Accounts: An Empirical test," *Unpublished MBA Project University of Nairobi*, 1995

Oppong A "Cross-Sectional Differences in the Information Content of Annual Earnings Announcement", *Dissertation, University of Iowa*, 1976.

Poterba, J.M., and L. H. Summers, 1988, "Mean Reversion in Stock Prices; Evidence and Implications", *Journal of Financial Economics* 22, 27-59

Redly and Brown, "*Investment Analysis and Portfolio Management*" 1997, 5th Edition

Rioba, G. O "Predictability of Ordinary Stock Returns at the Nairobi Stock Exchange in Kenya", *Unpublished Management Research Project, University of Nairobi*, 2003.

Salamon, G. L and T. L Stober, "Cross Quarter Differences in Stock Price Responses to Earnings Announcements: Fourth-quarter and Seasonality Influences", *Contemporary Accounting Research Vol 11 No 1- II*, (Fall 1994) pp 297- 330.

Samuelson, Paul A., "Proof that Properly Anticipated Prices Fluctuate Randomly", *Industrial Management Review*, (Spring 1965), 41- 49.

Sharpe William F. "Capital Asset Pricing: A Theory of Market Equilibrium under Conditions of Risks", *Journal of Finance*, *XIX* (September 1964)

Zarowin, Paul (1990), "Size, Seasonality, and Stock Market overreaction", *Journal of Financial and Quantitative Analysis* 25, 113- 135