

**THE INFORMATION CONTENT OF MERGERS AND ACQUISITIONS
ANNOUNCEMENT FOR COMPANIES QUOTED AT THE NAIROBI
SECURITIES EXCHANGE**

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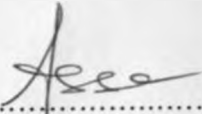
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DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL
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DECLARATION

This research project report is my original work and has not been submitted to any University.

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DEDICATION

To my family for the love, patience and faith they had in me throughout the study period and the entire course.

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For the success of this research I am heavily indebted to various people and organizations for their material and non-material support. I take this opportunity to express my sincere thanks to each one of them. My appreciation goes to the entire staff of the University of Nairobi for providing me with the necessary facilities especially the library. From these able staff I was able to access not only research reports from earlier MBA research findings but also scholarly publication from the wider academic sphere. I also acknowledge my supervisor Dr. Fredrick Ogillo for the tireless and continuous guidance provided to me throughout the entire research period.

I wish to pass my special thanks to the NSE staff that provided me with the required data. It would not have been possible to conduct the data collection, research analysis and extraction of the final findings if the data was not available in the first place. In my literature review I have cited quite a lot of scholarly publication. Some are from earlier research findings from projects done by other MBA students. I have used scholarly papers from the wider academia. These are works without which I could not have had a scholarly insight into this research. Finally I would wish to thank my family that provided me with encouragement throughout the period I was conducting this research.

ABSTRACT

The objective of this study was to establish whether Nairobi Securities Exchange market reacts to merger and acquisition announcements. The study was conducted based on twelve listed companies that had undergone mergers and acquisition within a period of 10 years beginning 1st January 2001 to 31st December 2010. The event study methodology was used to analyse on the returns of the listed companies for a period of thirty days before the mergers and acquisitions announcements and thirty days after. A model was used to project post-merger announcement returns for each company. The projected returns were compared with the actual returns and tested for significance using 95 % confidence level. The study found that there was weak relationship between company returns for the period before and after the mergers and acquisition announcements. The regression analysis also revealed that the relationship between the returns and the dummy variables was not statistically significant. The analysis of the difference between the projected and the realized returns for the period after the mergers for the companies was significant recording a Z-value of -50.13 whose absolute value is higher than the critical value of 1.96. It was therefore concluded that the Nairobi Securities Exchange reacts to any merger and acquisition announcements. This was evidenced by the instant reaction of share prices after the announcements. The study recommends that companies should be careful when deciding to undergo merger and acquisition activity. The merger can bring about enthusiasm or despair as demonstrated by the reaction of the stock prices of the listed firm after the announcements of mergers and acquisitions.

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ABBREVIATIONS

CBK	Central Bank of Kenya
CAR	Cumulative Abnormal Returns
CMA	Capital Market Authority
EMH	Efficient Market Hypothesis
MBA	Master of Business Administration
M&A	Mergers and Acquisitions
NPV	Net Present Value
NSE	Nairobi Securities Exchange
UK	United Kingdom
USA	United States of America

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Clara (2005) argues that security prices should fully reflect all available information at any given time. There is good reason to believe that stock markets are efficient because such markets are examples of competition. The reactions of securities markets to merger and acquisition announcements have been of considerable interest to researchers over the last couple of decades. Recent studies have focused on the stock's performance of individual merger announcements. Chatterjee (1986) observed that in an efficient market any immediate wealth effects realized after a merger announcement should quickly be neutralized after the specific event. This argument is based on the capital market's overall unbiased assessment of the present value of the future benefits of the merger. Paolo & Giovanni (2010) observed that market reaction towards merger announcements will influence the stock prices. Stocks of firms whose prospects are highly uncertain display a relatively large delayed price reaction after the announcement.

Berkovitch & Narayanan (1993) observed that merger announcements lead to positive market-adjusted announcement-window returns although target shareholders capture the lions' share of the value created. Ruback (1983) posits that the net change in the wealth of the merging firms' shareholders is negative in some cases and that bidder shareholders experience negative market-adjusted announcement-window returns. Bernile (2003) argues that announcement-window market-adjusted returns imply negative total gains to the acquiring firm in approximately one third of the deals between publicly traded firms,

and that in almost 60% of the cases bidder shareholders suffer wealth losses around merger announcements.

John & Mishra (1990) observed that in their public statements shortly following merger announcements, acquiring firms' managers routinely portray mergers as having the potential for material benefits. These statements are typically released with the intent of winning over the necessary support of the parties involved in the merging process. It is virtually impossible to find an instance where a business combination is not described by managers as a winning proposition. Managers of merging firms release forecasts quantifying merger-related incremental cash flows in order to positively influence the public reaction towards the merger. Forecasting future cash flows is an inherently speculative activity.

According to Rhoades (1998) stock markets tend to have a positive view of merger and acquisition announcements. Stock prices of the acquiring firm increase around the announcement date relative to the market. Linder & Dwight (1992) found that the stock market has a negative return to the acquiring firm's stock upon announcement of a merger. In their frequently cited surveys of US firms that merged, Brown & Warner (1980) found that over 90% of their respondents agreed that merger announcements would change demand and supply of stocks depending on how they view the event. This in essence means that when a merger activity is announced, the stock price is theoretically expected to fluctuate up and down. As per their study, a merger announcement has a direct effect on stock price. On the other hand, Fuller & Chan (2002) found that companies use mergers to send positive signals to the market about their

future. According to them among those signals are in relation to profitability which to them is an attraction to investors.

1.1.1 Merger and Acquisition Announcements

According to Akhavein, Berger and Humphrey (1997) merger occurs when two organizations of about equal size unite to form one enterprise. Pandey (2010) defines a merger as a combination of two corporations in which only one corporation goes into existence. In a merger the acquiring company assumes the assets and liabilities of the merged company. Although the buying firm may be a considerably different organization after the merger, it retains its original identity. Beatty, Santomero & Smirlock (1996) observed that mergers and acquisition activities results in overall benefits to the shareholders when the consolidated post-merger firm is more valuable than the simple sum of the two separate pre-merger firms. The primary cause of this gain in value is supposed to be the performance improvement following the merger. The main areas of focus on the post-merger improvements are; efficiency, increased market power and heightened diversification.

An acquisition refers to the purchase of an asset such as a plant, a division, or even an entire company. It is the act of taking effective control by one company over the assets or management of another company without any combination of companies. The companies remain independent separate legal entities with some control. An acquisition is a means that companies use to increase their capital base (DePamphilis, 2003).

1.1.2 Nairobi Securities Exchange

In Kenya, dealing in shares and stocks started in the 1920's when the country was still a British colony. However the market was not formal and there were no rules and regulations to govern stock broking activities. Trading took place on a 'gentleman's agreement.' Standard commissions were charged with clients being obligated to honour their contractual commitments of making good delivery, and settling relevant costs. At that time, stock broking was a side line business conducted by accountants, auctioneers, estate agents and lawyers who met to exchange prices over a cup of coffee. Because these firms were engaged in other areas of specialization, the need for association did not arise (NSE, 2011).

In 1954 the Nairobi securities Exchange was constituted as a voluntary association of stockbrokers registered under the Societies Act with the name Nairobi stock exchange. Since Africans and Asians were not permitted to trade in securities, until after the attainment of independence in 1963, the business of dealing in shares was confined to the resident European community. The NSE is a member of African Stock Association and it is a self-regulating organization for listed companies (Munga, 1974).

The NSE currently has 59 listed companies. These have been grouped into 10 main segments namely, agricultural, automobiles, banking, commercial and services, construction, energy and petroleum, insurance, investment, manufacturing and telecommunications. Various companies listed in the Nairobi Securities Exchange have undertaken merger activity. It is a requirement that any company undertaking any activity

or events that have or are likely to have a material effect on the financial results must disclose it to the public within twenty four hours after the board resolution (NSE, 2011).

1.2 Research Problem

According to Fama (1970) the stock prices should be able to reflect all the publicly available information. Securities markets are deemed to be extremely efficient in reflecting information about individual stocks and about the stock market as a whole. When new information arises, the news spread very quickly and is incorporated into the prices of securities without delay. Thus, neither technical analysis, which is the study of past stock prices in an attempt to predict future prices nor fundamental analysis can enable an investor to achieve returns greater than those that could be obtained by holding a randomly selected portfolio of individual stocks with comparable risk. To achieve efficiency in any market, the information should be channelled to all the participants at the same time. This will eliminate information asymmetry which may lead to insider trading.

Fleming, Eli & Remolona (1999) examined the stock price reactions to information content in the USA capital markets and concluded that the capital markets are efficient since all information known to investors is quickly incorporated in the price of securities in an unbiased manner leaving no room for abnormal returns. However, Bacon (2006) questioned the validity of the efficient markets hypothesis (EMH) through a study where abnormal returns were experienced for companies that made merger announcements in the UK securities market by trading on the basis of public information. The study found that stocks of UK firms that were in the process of merging tended to experience

significant negative price reactions. Other studies which question the EMH have found evidence of slow post-announcement stock price adjustment to merger and acquisition disclosures. Zarowin (1990) examined the information content of merger announcements in the Danish stock market. The study found significant abnormal price reactions in the period surrounding the announcements. Contrary to the EMH, the abnormal price reactions persisted several days after the announcement, suggesting that the Danish stock market may not be efficient.

Studies on testing the market efficiency of Nairobi Securities Exchange are few. Dickinson & Muragu (1994) conducted a study to test the efficiency form of the Nairobi Securities Exchange. The study concluded that the NSE is of the weak form of market efficiency. However the results presented in the study are not above limitations of aspects such as technical trading rules or adjusting transaction costs. Chesang (2002) studied the financial performance of merged commercial banks in Kenya. The study found that mergers and acquisition activity did not improve profitability. This study did not test the impact of merger announcements on share prices. It also left out firms from other sectors since only banks were considered. Korir (2006) found some improvement in financial activity after merger activity. The study however, did not look at the share price in its analysis.

Barasa (2008) conducted a study on the effect of mergers and acquisitions announcement on share prices quoted at the NSE. The study was done on 11 companies that had made merger announcements for the period 1997-2006. It was found out that merger announcements do not affect share prices of the NSE quoted companies. There have been changes at the NSE such as computerized systems and introduction of CDS accounts

which affect the way investors make their decisions. This study covered the period 2001 to 2010 to accommodate these new changes since the way information is communicated to the investors affect their decision making. This study provided an answer to the question: Does the Nairobi Securities Exchange market react to merger and acquisition announcements?

1.3 Objective of the Study

To establish whether Nairobi Securities Exchange market reacts to merger and acquisition announcements

1.4 Value of the Study

The findings of this study will offer valuable contribution to theory and practice. First the study will add to the body of knowledge that exist on information content of merger announcements and will form the basis of further research by identifying the knowledge gap that arises from this study. The study will create a forum for further discussions and debate on market reactions to new information among researchers, consultants and practitioners thus contributing to the body of knowledge that already exist.

The study will greatly contribute to practice in that it will assist managers in making prudent decisions before undertaking any merger announcements since this may have an effect on value of company stocks. It will also assist shareholders in making informed decisions towards intended mergers. They will participate in safeguarding their investments.

Regulators of the business firms in Kenya who include the Capital Markets Authority, Nairobi Securities Exchange and the Central Bank of Kenya will also benefit from the research findings. Since the regulators have the responsibility of ensuring that investors are protected, they will use the findings to scrutinize and evaluate any proposed mergers and acquisitions activity before giving their approval. The information asymmetries highlighted by the study will be of great interest to the regulators who have the responsibility of dealing with issues that may arise as a result of insider trading. They will also use the information to ensure that regulations are followed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review of the area of study. It provides and discusses the various theories that inform the study. It also covers a review of the theoretical and empirical studies that have been conducted in the area of study. The chapter concludes with a summary of the reviewed literature.

2.2 Theoretical Literature Review

2.2.1 Efficient Market Hypothesis

The efficient market hypothesis is popularly known as the random walk theory. The proposition of this theory is that current stock prices fully reflect available information about the value of the firm, and there is no way one can earn excess profits more than the market expectations by using this information. It deals with one of the most fundamental and exciting issues in finance; why prices change in security markets and how those changes take place. It has very important implications for investors as well as for financial managers. The efficient markets hypothesis (EMH) suggests that profiting from predicting price movements is very difficult and unlikely (Fama, 1965).

The most common way to describe the weak form of efficiency in stock prices is that they are said to follow a random walk. The random walk states that successive returns are independent and that the returns are identically distributed over time, i.e. the stock prices follows a random walk. This form of efficiency exists when security prices reflect

historical price information. That is, an investor cannot generate an abnormal profit by trading based on historical price information and that future prices cannot be predicted by analysing prices from the past prices (Fama, 1970).

The semi strong level of efficiency is an extension of the weak form of efficiency and advocates that prices reflect all public available information. This implies that there is no advantage in analysing public information, since this information has already been included in the price. Hence if a company undertakes a particular economic event, this information will be reflected in the share price. This form of efficiency implies that neither fundamental analysis nor technical analysis will be able to reliably produce excess returns. To test for semi-strong form efficiency the adjustments to previously unknown news must be of reasonable size and instantaneous. The tests for the semi-strong market efficiency include time series analysis, cross sectional tests and event studies.

The strong form of market efficiency hypothesis states that the current price fully incorporates all existing information, both public and private. This form of efficiency is a prolongation of the semi strong form of efficiency and indicates that prices reflect all information both public and private. This conveys that not even insiders that use both public and private information can gain abnormal returns Ross (1977). This hypothesis thus ignores insider dealings which are common market activities.

2.2.2. Agency Theory

The hubris hypothesis theory formulated by Jensen & Meckling (1976) postulates that managers systematically commit error of optimism in evaluating merger opportunities due to their excessive self-confidence. The higher valuation of the bidders, compared to

the true value of the target, would not have been made by rational bidders. Thus, managerial motives are important determinants for the outcome of the M&A as manager may act to maximize their own utility and engage in 'empire building' instead of their shareholders' value which is the paramount goal of classical finance theory. Jensen & Ruback (1983) explains that managers may invest the free cash flows in projects such as acquisitions with negative NPV if that would lead to increased personal utility rather than maximize shareholder value. These free cash flows, which are generally found in the reserves, should rather be paid out to shareholders in the form of dividends if the firm is to be effective and to maximize the stock price (Schweitzer, 1989).

Berkovitch & Narayan (1993) concluded three motives for mergers and acquisitions were found; synergy motives which would have a positive influence on the abnormal return to bidders and targets, agency motives and hubris motives would influence abnormal return to bidders in a negative way. On the contrary, targets would experience a positive influence on abnormal return if bidder's M&A is based on agency and hubris motives. Therefore, it can be concluded that targets are likely to experience higher abnormal returns than bidders in the case of M&A announcements.

2.2.3 Behavioural Finance Theory

Markowitz (1952) argues that behavioural finance is part of finance that seeks to understand and explain the systematic financial market implications of psychological decision processes. It utilizes knowledge of cognitive psychology, social sciences and anthropology to explain irrational investor behaviour that is not being captured by the traditional rational based models. It is the study of psychology influence on the behaviour

of investors and their advisors. The theory is based on the notion that investors act rationally and consider all available information in the decision-making process, and hence investment markets are efficient, reflecting all available information in security prices. Kahneman & Tversky (1979) observed that people manage risk and uncertainty hence the reason for the apparent regularity in human behaviours when assessing risk under uncertainty.

Shiller (1995) posits that human beings have the tendency to feel the pain or the fear of regret at having made errors. As such, to avoid the pain of regret, people tend to alter their behaviour, which may end up being irrational at times. Linked with fear of regret is 'cognitive dissonance', which is the mental suffering that people experience when they are presented with the evidence that their beliefs have been wrong. Barber & Odean (1999) highlighted that investors make two common mistakes: excessive trading and the tendency to disproportionately hold on to losing investments while selling winners. They argue that these systematic biases have their origins in human psychology. The tendency for human beings to be overconfident causes the first bias in investors, and the human desire to avoid regret prompts another bias.

2.2.4 Signalling Hypothesis

Signalling theory applies to the actions of insiders, in this case, the management. Traditionally, one of the most well-known aspects of signalling theory is directors' dealings. This approach argues that mergers are planned and executed by managers who have better information about the target's value than the stock market. When directors are acquiring other firms, it's seen as a positive signal for the company. Likewise, when

they're selling shares in an unexpected way, that's seen as a negative signal (Vander, 2002).

Ross (1977) argues that there is always information asymmetry between the management and the investors. The management has better information about the firm than the outsiders. The market values a firm's perceived returns, not its actual returns. Managers, as insiders, have monopolistic access to pertinent information about a firm's prospects and expected cash flows. Therefore, when it is in their strategic interest, they can use this insider information to send signals to investors about their firm's future prospects.

2.2.5 Price Pressure Hypothesis

Travlos (1987) observed that a substantial part of the negative reaction to stock merger announcements is due to downward price pressure caused by merger arbitrage short selling of acquirers' stocks around merger announcement dates. In particular, if excess demand curves for stocks are downward sloping in the short-run, then increases in the supply of stock will cause the equilibrium price to decrease. Although the common assumption that stocks' supply curves are vertical and fixed may be reasonable in many situations, it is unlikely to hold around merger announcements, when short sellers dramatically increase the effective supply of shares. As a result, shifts in excess demand caused by uninformed trading will have no impact on price. In the practical world capital markets, market frictions will limit market forces from keeping excess demand curves perfectly elastic.

Black & Scholes (1972) noted that prices will temporarily diverge from their information-efficient values with uninformed shifts in excess demand to compensate those that provide liquidity. This occurs when prices return to their information efficient values, presumably over a short period. If individual securities do not have perfect substitutes then arbitrage will be ineffective in keeping excess demand curves horizontal. However, it is difficult to hold the information effects associated with these trades constant. This only changes when new information is received.

2.3 Empirical Literature Review

Mei, Bert & Christopher (1996) examined market efficiency by analysing the behaviour of share prices of Trust Bank New Zealand Limited around the date it was involved in a merger announcement. The study sought to test the market efficiency based on the announcement event and simultaneously tested the information content. The empirical analysis of this study provided some evidence that the market was efficient in assimilating information on the occasion under review, and it supported the semi-strong form of the efficient capital market hypothesis; that is, on average the stock market adjusts in an efficient manner to an event announcement. The Bank New Zealand Limited stock price change was absorbed by the market in a single day. There was no evidence of any significant price movements either preceding or following the announcement day. It would thus appear that the market is efficient and is characterized neither by leakage of information or by learning lags.

Jensen and Ruback (1983) reviewed 13 merger announcements in Japanese oil companies. The study sought to whether there were abnormal stock returns around

takeover announcements. They found that the average excess returns to target firms' stockholders are of 30% and 20% for the successful tender offers and mergers respectively while bidding firms' stockholders gained an average of 4% around tender offers but no abnormal return around the merger. Eckbo (1992) however, found no evidence to support significant abnormal returns of acquiring firms over a three-year period after the bid date. Agrawal, Jeffrey, Jaffe & Mandelker (1992) concluded that bidding firms lost from the acquisitions over several years.

Cready and Gurun (2010) examined the aggregate market reaction to merger announcements in 29 merger announcements in Singapore. The study found evidence that abnormal returns persisted beyond the post-merger announcement period. Their finding is consistent with the post-merger announcement drift phenomenon, which relates to the tendency for stock prices to continually drift after information disclosures, leaving room for profitable trading opportunities. The results indicated an inefficient stock market in which stock prices did not adjust accordingly to the information as it is received hence postulating that financial markets might fail to reflect economic fundamentals under a number of conditions which can result in significant and persistent biases.

Olowe (2007) examined the informational efficiency of the Nigerian stock market by analysing abnormal stock returns after merger and acquisition announcement for 59 announcements. The study found the existence of abnormal returns after the announcements. The abnormal returns however continued even after the event window period. Cohn, Gross & Pinoyer (1996) examined the speed of adjustment of stock prices to merger announcements for a total of 65 announcements dates in the UK using the event study methodology. Significant positive abnormal returns for merging firms were

reported 20 days from the date of the announcement. The study concludes that the Nigerian stock market is not of the semi-strong form of efficiency and that merger announcements do contain relevant information to which stock prices react.

Locally some research has been done on mergers and acquisitions. Chesang (2002) conducted a study on the financial performance of merged commercial banks in Kenya. She found out that merger restructuring did not improve the financial performance of merged banks as indicated by profitability and earnings ratios. It was however found out that capital adequacy and solvency ratios improved after M&A activity. Korir (2006) carried out a study on Effects of Mergers on Financial Performance of Companies listed at the Nairobi Securities Exchange. The objective of this study was to determine the effects of mergers, if any on performance of companies listed at the NSE. The timeframe observed was from 1994-2005. The study concluded that mergers improve performance of companies listed at the NSE.

Tuni (2011) conducted a study on the impact of mergers and acquisitions on profitability of commercial banks in Kenya. She sampled 20 banks that had undertaken successful merger and acquisitions in the period 1995 to 2010. The study found out that merger activity improved the profitability of bank. Barasa (2008) sought to find out the effect of merger and acquisition announcement on share prices. The study sampled 11 companies that made merger announcements in the period 1997 to 2006. The study found a high fluctuation of cumulative average return for some companies over the whole estimation window. This indicated the presence of other factors beyond the control of the study that were causing changes in stock returns.

2.4 Event Study Methodology

Craig (2010) defines an event study as a means of measuring the impact of a specific economic event on the value of the firm. The usefulness of such a study comes from the fact that given rationality in the market place, the effect of an event will be reflected immediately in the security price. The event study has many applications in the field of Economics and Finance. Examples where the methodology has been used include mergers and acquisitions, earnings announcements, issues of new equity and announcements of macro-economic variables such as trade deficits.

This methodology has been widely used to study the price reactions to economic events of interest: Jensen & Ruback (1983), Travlos (1987), Mei & Christopher and Barasa (2008). This method averages cumulative average returns of stock prices for a given period before the event to a given period after the event. The price of each stock is adjusted for market effects. The speed at which the stock prices change and the percentage changes can also be determined using this methodology.

MacKinlay (1977) outlines the procedures of conducting an event study. The first activity being to define the event of interest and identify the period over which the stock prices of the firm will be examined. Secondly, one needs to determine the selection criteria for inclusion of a given firm in the study. The third step is to appraise the event's impact using a measure of the abnormal return. Once a normal performance model has been selected, the parameters of the model must be estimated using a subset of data known as the estimation window. The testing framework for the abnormal returns is then designed.

Presenting the empirical results is the next step which is finally followed interpretation and conclusions.

The event of the study was the merger announcement and the event window was the day of the announcement. The criterion was all the firms that undertook merger activity in the years 2001-2010 with both years being included. To determine the event's impact the abnormal return was calculated. The abnormal return is the actual ex-event return of the stock over the event window minus the normal return of the firm over the event window. The normal return is defined as the return that would be expected if the event did not take place. A period of 120 days prior to the event was used to estimate the market model parameters. The testing framework of the abnormal returns was designed after which the empirical results were presented.

2.5 Summary of Literature Review

The reviewed literature indicates that some markets are efficient with no information leaks. In such markets lack of market reaction following an event may be interpreted as evidence of the irrelevancy of the event rather than market efficiency. Share prices may also be affected not only by the content of the information, but by how it relates to previous information. Merger and acquisition announcements may or may not influence the investors' reaction. Their reaction will determine their decisions on whether to sell or buy the securities which in turn affect demand and supply. Good news will increase the demand which will lead to high prices while bad news will lead to high supply hence low prices.

The findings of some studies indicate evidence that abnormal stock returns persisted beyond the post-merger announcement period. This may leave room for profitable trading opportunities. This indicates a sign of an inefficient stock market in which stocks do not adjust accordingly to information hence the argument that financial markets may fail to reflect economic fundamentals under some conditions which can lead to market anomalies and biases. This is contrary to the basics of the efficient market hypothesis theory.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses how the research was conducted. It gives the proposed study approach and methodology in terms of research design, the population, data collection and data analysis.

3.2 Research design

The event study methodology was used to test for the reaction of share prices after merger and acquisition announcements. Craig (2010) defines an event study as a means of measuring the impact of a specific economic event on the value of the firm. This methodology has been widely used to study the price reactions to economic events of interest. Several studies (Jensen & Ruback, 1983; Travlos, 1987; Mei & Christopher, 1996; Barasa (2008) support this methodology.

3.3 Population of the Study

The population of this study comprised of all the 15 companies which had made merger and acquisition announcements at the Nairobi Securities Exchange (see appendix II). All these companies made merger and acquisition announcements in the period 1st January 2001 to 31st December 2010. The companies have been continuously listed and actively trading on the NSE in the period of study. The period of 10 years were considered since it incorporates the changes such as computerization of the NSE processes and new developments in communication technology.

3.4 Data Collection

The research was based on secondary data which was obtained from the Nairobi Securities Exchange and the Capital Markets Authority. The data included name of company, announcement date and share prices (See Appendix II).

3.5 Data Analysis

The event window consisted of 61 days; 30 days before the announcements, 1 day announcement day and 30 days after the announcement. A period of 120 days prior to the announcements was used to estimate the market model parameters. The procedures outlined in chapter two were used to determine the abnormal returns which would be an indicator of the stock market's reaction to arrival of new information. The model that relates the return of the security to the return of the market portfolio as used by Dodd & Warner (1983) is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$$

Where

R_{it} = the rate of return on the share price of firm i on the day t

R_{mt} = the rate of return on market portfolio of stocks on day t

α_i = the intercept term

β_i = the systematic risk of stock i

e_{it} = error term with $E(e_{it}) = 0$

From the estimation of the above equation, estimates of daily abnormal returns for the i th firm were derived using the following equation;

$$AR_{it} = R_{it} - (\alpha_i + b_i R_{mt})$$

Where

a_i & b_i = ordinary least squares parameter estimates

AR_{it} = abnormal returns earned by the firm after adjusting for the normal return.

The test statistics were used to assess whether the average cumulative abnormal return was significantly different from zero. If significant, the cumulative abnormal return will be assumed to measure the average effect of the share value of the n firms.

Standardized abnormal returns (SAR) were computed using Mackinlay (1977) model as follows:

$$SAR_{it} = AR_{it} / SD_{it}$$

The standardized abnormal return was cumulated over the event window period to derive a measure of the cumulative abnormal return (CAR). The average standardized cumulative abnormal return across n firms was computed over the event window period.

The test statistic was used to determine whether the average cumulative abnormal return is significantly different from its expected value as follows:

$$Z = ACAR_t / n^{0.5}$$

If significant, the cumulative abnormal return was assumed to measure the average effect of the value of the n firms.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter discusses the analysis of the data used for this study. In this chapter the first part provides the presentation of the data in terms of the sample of the study, data collection, the descriptive statistics of the data used, and the regression analysis. The study found the relationship between economic growth and market capitalization to be positive and significant.

4.2 Preliminary Analysis

4.2.1 Firm Returns

The behaviour of returns of all the listed firms that had made merger and acquisition announcements were observed both before and after the announcements. The returns were found by using the daily stock prices of each of the listed firms. The values are in Table A and Table B in the appendix. The returns are the sum of the daily change in price and the daily dividend divided by the price of the preceding trading day. The average daily market return with the average portfolio returns made a complete observation for the regression analysis.

4.2.2 Correlation Analysis of Variables and Regression Results

The correlation between the returns for each firm and the dummy variables before and after the announcements were calculated and presented in the Table 1. The study found that there were generally low levels of correlation with Pan Africa Insurance Holdings recording the highest value of positive correlation (0.361) followed by Kenya

Commercial Bank (0.315). The highest negative correlations were recorded by Standard Group (-0.164) followed by National Bank (-0.076). Generally there was weak correlation between companies' returns and the dummy variables.

As shown in Table 1, the highest constant of regression was achieved by CFC Stanbic followed by The Standard Group both having values of 0.0347 and 0.0248 respectively. Those with the lowest coefficients were Unga group and Kenya Commercial Bank with values of -0.0663 and -0.0643 respectively. The gradients of the regressed linear relationships showed that the highest positive gradient was recorded by Kenya Commercial Bank and Safaricom with gradients of 0.0108 and 0.00481 respectively. The most negatively slanting gradients were recorded by The Standard Group and CFC Stanbic with gradients of -0.00138 and -0.0012 respectively.

Table 1 Correlation and Regression Analysis of Returns and Pre-Merger Dummy Variables

	CORR	CON	COE	T- CON	T-COE	P-CON	P-COE	F	P(F)	R SQ
ACCESS	0.141	-0.003	0.0021	-0.058	0.752	0.954	0.458	15.83	0.0005	0.0179
CFC	-0.055	0.0347	-0.0012	0.464	-0.290	0.646	0.774	2.348	0.1366	0.0030
KBL	0.076	-0.0005	0.00018	-0.065	0.404	0.949	0.689	4.574	0.0413	0.0058
EQUITY	0.254	-0.0117	0.00214	-0.426	1.387	0.674	0.176	53.87	0.0000	0.0643
KENOL	-0.060	0.0072	-0.00022	0.585	-0.318	0.563	0.752	2.840	0.1030	0.0036
KCB	0.315	-0.0663	0.01080	-0.899	0.994	0.392	0.346	8.901	0.0154	0.0990
NBK	-0.076	0.0154	-0.00050	0.682	-0.401	0.501	0.6914	4.504	0.0428	0.0057
NMG	0.054	-0.0018	0.00061	-0.049	0.288	0.961	0.776	2.316	0.1390	0.0030
PAN	0.361	-0.0307	0.00240	-1.475	2.046	0.151	0.0502	117.3	0.0000	0.1301
SAF	0.256	-0.0439	0.00481	-0.808	1.214	0.428	0.238	30.93	0.00002	0.0660
STD	-0.164	0.0248	-0.00138	0.885	-0.878	0.384	0.388	21.57	0.00007	0.0268
UNGA	0.195	-0.0643	0.00382	-0.997	1.052	0.327	0.032	30.98	0.00001	0.0380

Source: Research Data

KEY

CORR Correlation Coefficient

P-CON	P-value of T-Statistic of the Constant
CON	Constant Term of Regression
P-COE	P-value of T-Statistic of the Coefficient Term
COE	Coefficient Term of Regression
P (F)	P-value of the F-Statistic
T-CON	T-Statistic of the Constant
T-COE	T-Statistic of the Coefficient Term
RSQ	R Squared

The P-values of both the constant term and the coefficients showed that these regression constants were not statistically significant except the coefficient of Unga group which had a P-value of 0.032. However, the F-statistics were significant except for CFC Stanbic, KenolKobil and Nation Media Group which had P-values of their T-statistics as 0.1366, 0.1030 and 0.1390 respectively. This indicated that the variables had a statistically significant linear relationship. The variability in returns was poorly explained by the dummy variables as shown by the low levels of the R Squared. The highest explanation was achieved by Pan Africa Insurance Holdings (0.1301) while the lowest was recorded by CFC Stanbic (0.0030) and Nation Media Group (0.0030).

4.2.3 Market Reaction to Merger and Acquisition Announcements

Table 2 below shows the cumulative abnormal stock returns surrounding the announcement of Access Kenya merger. The CAR is negative over the 30 days prior to the event and negative during the post event period. This implies the market reacted negatively to the information. The Z statistic is significantly different from zero in the post-merger period indicating the market reacted sharply to the announcement.

Table 2 Cumulative Abnormal Returns for Access Kenya

ACCESS	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.003	0.0021	-0.04859	-0.00025	0.12842	-0.00085
AFTER	-0.003	0.0021	-10.296	-0.05203	0.15160	-0.1802

Source: Research Data

Table 3 below indicates cumulative stock returns surrounding the CFC Stanbic merger announcement. The CAR is positive during the 30 days prior to the event and positive during the 30 days after the event. The market is seen to react to the announcement in the post event period because the z statistic is significantly different from zero.

Table 3 Cumulative Abnormal Returns for CFC Stanbic Bank

CFC	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	0.0347	-0.0012	0.00522	0.0000341	0.1961	0.00012
AFTER	0.0347	-0.0012	13.147	0.01481	0.03379	0.0513

Source: Research Data

Table 4 indicates cumulative stock returns surrounding the announcement of merger for the East African Breweries. The CAR is negative during the 30 days prior to the event and positive during the 30 days after the event. The market is seen to react to the announcement in the post event period because the z statistic is significantly different from zero.

Table 4 Cumulative Abnormal Returns for East African Breweries

EABL	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0005	0.00018	-0.03215	-0.00002	0.02058	-0.00008
AFTER	-0.0005	0.00018	6.069192	0.01203	0.05945	0.04166

Source: Research Data

Table 5 indicates cumulative stock returns surrounding the announcement of merger for the Equity Bank. The CAR is positive during the 30 days prior to the event and negative during the 30 days after the merger. The market is seen to react to the announcement in the post event period because the Z statistic is significantly different from zero.

Table 5 Cumulative Abnormal Returns for Equity Bank

EQUITY	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0117	0.00214	0.01179	0.00003	0.07193	0.000098
AFTER	-0.0117	0.00214	-12.886	-0.08172	0.19027	-0.2831

Source: Research Data

Table 6 indicates cumulative stock returns surrounding the announcement of merger for KenolKobil. The CAR is negative during the 30 days prior to the event and negative during the 30 days after the merger. The market does not seem to react to the announcement in the post event period because the Z statistic is not significantly different from zero.

Table 6 Cumulative Abnormal Returns for KenolKobil

KENOL	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	0.0072	-0.00022	-0.01815	-0.000024	0.03236	-0.00008
AFTER	0.0072	-0.00022	-1.72633	-0.00225	0.03913	-0.00780

Source: Research Data

Table 7 indicates cumulative stock returns surrounding the announcement of merger for the Kenya Commercial Bank. The CAR is positive during the 30 days prior to the event and negative during the 30 days after the merger. The market is seen to react to the

announcement in the post-merger period because the Z statistic is significantly different from zero.

Table 7 Cumulative Abnormal Returns for Kenya Commercial Bank

KCB	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0663	0.01080	-86.1	-0.24324	0.08475	-0.8426
AFTER	-0.0663	0.01080	-115.99	-0.429	0.111	-1.4861

Source: Research Data

Table 8 indicates cumulative stock returns surrounding the announcement of merger for National Bank of Kenya. The CAR is negative during the 30 days prior to the event and positive during the 30 days after the merger. The market is seen to react to the announcement in the post-merger period because the Z statistic is significantly different from zero.

Table 8 Cumulative Abnormal Returns for National Bank of Kenya

NBK	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	0.0154	-0.00050	-0.2745	0.00054	0.05932	0.00188
AFTER	0.0154	-0.00050	9.2513	0.0296	0.09597	0.10252

Source: Research Data

Table 9 indicates cumulative stock returns surrounding the announcement of Nation Media Group merger. The CAR is negative during the 30 days prior to the event and positive during the 30 days after the merger. The market does not seem to react to the announcement in the post-merger event period because the Z statistic is not significantly different from zero.

Table 9 Cumulative Abnormal Returns for Nation Media Group

NMG	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0018	0.00061	-0.02478	-0.00008	0.0980	-0.00028
AFTER	-0.0018	0.00061	0.79806	0.00253	0.0951	0.00876

Source: Research Data

Table 10 indicates cumulative stock returns surrounding the Pan Africa Insurance Holdings merger announcement. The CAR is negative during the 30 days prior to the event and negative during the 30 days after the merger. The market seems to react to the announcement in the post-merger event period because the Z statistic is significantly different from zero.

Table 10 Cumulative Abnormal Returns for Pan Africa Insurance Holdings

PANAFRICA	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0307	0.00240	-7.385	-0.246	0.1082	-0.0923
AFTER	-0.0307	0.00240	-35.98	-1.199	0.1238	-0.5143

Source: Research Data

Table 11 indicates cumulative stock returns surrounding the Safaricom Limited merger announcement. The CAR is negative during the 30 days prior to the event and negative during the 30 days after the merger. The market seems to react to the announcement in the post-merger event period because the Z statistic is significantly different from zero.

Table 11 Cumulative Abnormal Returns for Safaricom Limited

SAFARICOM	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0439	0.00481	-0.0149	-0.0005	0.05459	-0.00009
AFTER	-0.0439	0.00481	-38.38	-1.279	0.0510	-0.2262

Source: Research Data

Table 12 indicates cumulative stock returns surrounding the Standard Group merger announcement. The CAR is negative during the 30 days prior to the event and positive during the 30 days after the merger. The market seems to react to the announcement in the post-merger event period because the Z statistic is significantly different from zero.

Table 12 Cumulative Abnormal Returns for Standard Group

STD	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	0.0248	-0.00138	-0.0249	-0.00083	0.0734	-0.00021
AFTER	0.0248	-0.00138	35.40	1.1801	0.0366	0.1498

Source: Research Data

Table 13 indicates cumulative stock returns surrounding the announcement of merger for Unga Group. The CAR is positive during the 30 days prior to the event and negative during the 30 days after the merger. The market seems to react to the announcement in the post-merger event period because the Z statistic is significantly different from zero.

Table 13 Cumulative Abnormal Returns for Unga Group

UNGA	R_{it}	R_{mt}	CAR	ACAR	SD it	Z-value
BEFORE	-0.0643	0.00382	0.00155	-0.00025	0.1692	0.00003
AFTER	-0.0643	0.00382	-18.890	-0.6297	0.1211	-0.2642

Source: Research Data

Table 14 shows whether the average commutative returns after merger and acquisition announcements were significantly different from zero. If significant, the announcement was assumed to have an impact on the values of the company. From the table below, 10 out of the twelve companies felt the effect of the merger and acquisition announcements.

Table 14 Z-Value analysis for the Companies after Merger and Acquisition Announcements

Year of Merger	Company Name	Z values After Merger	Difference from zero (at $\alpha = 0.5$)	Impact
2007	Access Kenya Group	-0.1802	Different	Impact
2007	CFC Stanbic Bank	0.0513	Different	Impact
2002	East Africa Breweries	0.04166	Different	Impact
2008	Equity Bank	-0.2831	Different	Impact
2007	KenolKobil	-0.0078	Not Different	No Impact
2001	Kenya Commercial Bank	-1.4861	Different	Impact
2005	National Bank of Kenya	0.10252	Different	Impact
2002	Nation Media Group	0.00876	Not Different	No Impact
2003	Pan Africa Ins. Holdings	-0.5143	Different	Impact
2009	Safaricom	-0.2262	Different	Impact
2007	Standard Group	0.1498	Different	Impact
2002	Unga Group	-0.2642	Different	Impact

Source: Research Data

All the companies showed a significant difference between the projected and the actual returns. This showed that the stock market reacted to merger and acquisition announcements. The mean for all the twelve companies was -14.123 which was multiplied by the square root of 12 to get -48.924. The critical value of Z is 1.96 at 95 % confidence level. This means there is a significant difference between the actual return and the projected returns after the announcements since the absolute value of -48.924 is greater than 1.96.

Table 15 Analysis of the Abnormal Returns after M&A Announcements

BANK	CAR	REMARK
Access Kenya Group Ltd	-10.296	Significant difference
CFC Stanbic Bank Ltd	13.147	Significant difference
East Africa Breweries Ltd	6.069	Significant difference
Equity Bank Ltd	-12.886	Significant difference
KenolKobil Ltd	-1.726	Significant difference
Kenya Commercial Bank Ltd	-115.987	Significant difference
National Bank of Kenya Ltd	9.251	Significant difference
Nation Media Group	0.798	Significant difference
Pan Africa Ins. Holdings Ltd	-35.983	Significant difference
Safaricom Ltd	-38.377	Significant difference
Standard Group Ltd	35.403	Significant difference
Unga Group Ltd	-18.890	Significant difference
Mean	-14.123	
Z-VALUE	-48.924	Significant difference

Source: Research Data

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the summary of the findings, conclusions and discusses the limitations of this study. The areas for further study are discussed too. The study finds that the returns of listed companies after mergers were significantly different from projected returns indicating that stock prices react to mergers and acquisitions.

5.2 Summary of Findings

This study was to establish whether Nairobi Securities Exchange market reacts to merger and acquisition announcements. The study found that the NSE market react to merger and acquisition announcements. The CAR values of the listed firms kept on fluctuating during the study period. As shown in the analysis tables 2 to table 13, the absolute values of the CAR kept varying between the periods before and after the announcement of the merger indicating that there was a reaction by investors to the announcement.

The analysis of the difference between the projected and the realized returns for the period after the merger and acquisition announcements for the companies was significant recording a Z-value of -48.924 , as shown in Table 15, whose absolute value was higher than the critical value of 1.96. This indicated a market reaction to the merger and acquisition announcements. Only two out of the twelve companies studied indicated lack of market reaction to the merger and acquisition announcements.

This study has therefore shown clearly that, not only do investors react to merger and acquisition announcements, but the nature of the reaction is such that the variation in returns before the announcements are significantly different from the variation in returns after the announcement. And this study sufficiently answers the question of whether Nairobi Securities Exchange market reacts to merger and acquisition announcements.

5.3 Conclusions

The analysis of the projected returns by the regression model for the period before the merger and acquisition announcements and the period after showed a significant difference between them. There was presence of high fluctuations of CAR for some companies over the estimation window period. This indicates that there was a difference in behaviour of returns. Some firms had positive return changes in stock returns after merger and acquisition announcements while others had negative changes. The trends of some firms' returns were inconsistent over the event period. This study agrees with Zarowin (1990) who examined the information content of merger announcements in the Danish stock market and found significant abnormal price reactions in the period surrounding the announcements.

5.4 Recommendations

The study recommends that companies should be careful when deciding to undertake any merger and acquisition activity. The merger and acquisition can bring about stock price reactions of the listed firm after the announcement. If the news is good then the prices will soar after the announcement leading to higher post-merger movements. On the contrary if the news is bad , say the company being taken over or being merged with is

inferior, the investors will want to dispose of such shares and try to get the more attractive ones leading to a fall in the prices and therefore returns. In each case, there will be a change in the pattern of investor behaviour after the merger.

5.5 Limitations of the Study

One of the weaknesses of this study is the use of the NSE prices and returns to assess the effect of mergers on profitability of a listed firm. Markets in developing countries like Kenya are usually informational inefficient with significant information asymmetry between management and the traders on the stock market. It may not be true to assume that stock market prices can be used to measure the effect of mergers on profitability of a listed firm but, only as a measure of the reaction of the traders on information concerning expected future profitability. Specifically, stock market prices can measure more accurately the reaction of traders to information revealed to them but they may not capture what is going on deep inside the companies.

The regression models showed a weak relationship between the variables used for the study. The ability of the independent variable to explain the variation in the dependent variable was low as shown by the low values of the coefficients of determination. The use of either better models or better data to conduct the analysis may mitigate this problem.

It is not easy to tell from the study whether actually the stock market prices were reacting to the expected changes in profitability of the mergers or some other issues. And if the reactions were made so by merger then there is need to determine how much of the reaction was induced by the mergers. It cannot be determined whether there exists a causal relationship between profitability and the variation in the returns of stocks.

5.6 Suggestions for Further Research

This study can be improved to provide more plausible results by investigating deep information about the nature of reactions by traders with respect to the mergers. The study as it is, it has focused on the manner in which volatility of stock prices was behaving during the merger period of the listed companies. Other than being indicative of how the shareholders reacted to the information about the merger, it limits itself to that and assumes the NSE is efficient. This efficiency is a debatable matter in itself which can be investigated.

The issue of causality between the mergers and the volatility of the stock returns is not addressed. It needs to be established whether, for sure, the volatility in the stock returns was caused by merger or whether it was a reaction to a different matter, or a set of issues altogether. One can conduct a causal study to determine how much of the volatility was as a result of the mergers.

Other than using the linear model the study could be done using other models like the parabolic model or a cubic model to see the nature of the relationship between the variables, or confidently provide basis for concluding no relationship at all.

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APPENDICES

Appendix I

TABLE A RETURNS 30 DAYS BEFORE MERGER

DAY	ACCESS	CFC	KBL	EQUITY	KENOL	KCB	NBK	NMG	PAN	SAF	STD	UNGA
1	-0.1979	0.8550	0.0209	0.0495	0.0206	-0.2233	0.1875	0.3275	-0.0282	-0.1132	0.2195	-0.0526
2	-0.0251	-0.3991	0.0144	-0.0075	0.0051	-0.2233	-0.1053	-0.0378	-0.0282	0.0335	-0.0710	0.0000
3	0.0527	-0.0410	-0.0040	-0.0548	0.0000	-0.2233	0.0500	0.0007	-0.0282	-0.0300	-0.0427	0.0000
4	-0.0382	-0.1928	-0.0223	-0.0747	-0.0452	-0.2233	-0.0476	0.0087	-0.0282	0.0174	0.0614	0.0000
5	0.0949	-0.1150	0.0272	0.1085	0.0474	-0.2233	-0.0353	0.0007	-0.0282	-0.0464	-0.0087	-0.1444
6	0.1129	0.0501	0.0082	-0.0972	-0.0050	-0.2233	0.0701	-0.0152	-0.0282	-0.0987	-0.0088	0.0390
7	0.0432	-0.1047	-0.0040	0.0274	-0.0101	-0.2233	0.0171	-0.0477	-0.0282	-0.0356	-0.0186	-0.0625
8	0.0527	-0.0850	0.0082	0.0442	0.0204	-0.2233	-0.0364	-0.3382	-0.0282	0.0592	0.0157	-0.0667
9	-0.0354	0.3606	-0.0040	0.0003	0.0100	-0.2233	-0.0058	0.0268	0.0041	0.1287	0.0008	-0.0714
10	-0.0534	0.0257	0.0021	0.1600	0.0297	-0.2233	0.0263	0.0011	-0.1322	-0.0149	0.0252	-0.0462
11	0.0023	-0.0249	0.0021	-0.0722	0.0096	-0.2233	-0.0085	-0.0114	-0.0476	-0.0315	0.1962	-0.1129
12	0.0611	-0.0170	0.0021	0.0550	-0.0476	-0.2233	0.0029	0.0138	0.2500	-0.0495	-0.0152	-0.0909
13	0.1744	0.0262	-0.0406	0.0966	0.0000	-0.2233	0.0229	-0.0239	-0.0320	0.0014	-0.0680	-0.2000
14	0.0341	0.0001	-0.0424	-0.0470	0.0100	-0.2233	0.0896	0.0012	0.0744	0.0014	-0.0557	0.2000
15	-0.1688	-0.0253	0.0156	0.0430	-0.0099	-0.2233	0.0283	0.0012	0.0577	0.0014	-0.0083	0.2500
16	0.5646	0.0001	0.0023	-0.0540	0.0400	-0.2233	0.0375	0.0012	0.0145	0.0014	0.0055	0.4333
17	-0.0029	-0.0086	-0.0240	-0.0499	-0.0529	-0.2233	-0.0361	0.0012	-0.0681	0.0014	0.0055	-0.1279
18	-0.0241	0.0001	0.0300	-0.0147	0.0660	-0.2233	-0.0350	0.1486	-0.0769	0.0549	-0.1696	-0.1067
19	-0.0829	-0.0175	0.0161	0.0004	0.0286	-0.2233	-0.0130	-0.0102	-0.3750	-0.0495	0.0233	0.0000
20	-0.0469	0.0090	-0.0101	0.1543	-0.0556	-0.2233	0.0236	-0.0498	-0.0667	0.0014	0.0554	0.0000
21	-0.0825	0.0178	-0.0102	-0.0529	-0.0196	0.0000	0.0385	0.0249	0.0000	0.0192	-0.0557	-0.0299
22	0.0236	0.0001	0.0296	0.0215	0.0600	0.0125	-0.0938	0.0476	0.0071	0.1592	-0.0809	-0.1692
23	0.0675	0.0175	0.0224	0.1107	0.0189	0.0247	-0.0218	0.0066	0.1348	-0.0291	0.1083	-0.2870
24	0.0008	-0.0085	-0.0036	-0.0618	0.0278	-0.0241	-0.0947	-0.0211	0.0000	0.0325	-0.0043	-0.0909
25	0.0008	0.1380	0.0028	-0.0195	0.0090	0.0123	0.0154	0.0123	0.2000	0.1072	-0.0098	-0.1429
26	0.0425	0.0380	0.0028	0.0409	0.0179	-0.0244	0.0545	-0.0381	0.1823	0.0011	0.0011	-0.0167
27	0.0008	-0.0656	-0.0292	0.0069	0.0088	0.2500	-0.0316	0.0127	0.1189	0.0285	-0.0099	0.0169
28	0.0848	0.0235	0.0096	0.0584	0.0000	0.0800	0.0119	0.0183	-0.0157	-0.0256	-0.0045	0.4000
29	0.0898	-0.0305	-0.0037	0.1406	-0.0087	-0.0370	0.0499	0.1536	0.0440	0.0285	0.0177	-0.0476
30	0.1338	0.0473	0.0493	0.1340	-0.0614	-0.0865	0.0642	0.0107	0.0728	0.0410	-0.0044	0.3750

TABLE B RETURNS 30 DAYS AFTER MERGER

DAY	ACCESS	CFC	KBL	EQUITY	KENOL	KCB	NBK	NMG	PAN	SAF	STD	UNGA
31	0.0372	0.0828	0.0787	0.2125	-0.0554	0.0316	0.0420	0.0106	-0.0184	-0.0631	-0.0154	-0.0091
32	0.3159	-0.0069	-0.0092	0.0742	-0.0092	0.0204	0.0579	0.0393	0.1500	-0.0263	-0.0157	-0.0642
33	0.3919	-0.0069	-0.0509	-0.0396	-0.0893	0.0000	-0.0476	0.2971	-0.0679	0.0293	0.0409	0.0000
34	-0.1018	-0.0281	0.0028	0.0153	-0.0102	0.0300	0.0000	0.3721	0.1370	0.0011	0.0011	0.0294
35	-0.1672	-0.0289	0.0154	0.0300	0.0730	0.0485	0.1000	-0.0191	0.0769	0.0558	0.0065	0.0952
36	0.1857	-0.0895	0.0214	0.0507	-0.0874	0.0000	0.3182	-0.0940	0.0000	-0.0120	0.0554	-0.0087
37	-0.0066	0.0493	-0.0217	0.0036	-0.0163	0.0000	-0.2759	-0.0333	0.0000	-0.0253	-0.0299	0.0088
38	-0.2636	0.0157	0.0028	0.0139	0.1106	-0.2500	0.2143	0.0203	0.0714	-0.0125	-0.0149	-0.0435
39	0.1659	-0.0076	0.0278	0.0948	0.0007	-0.0370	-0.0490	0.0379	0.0667	0.0285	-0.0044	0.0364
40	0.3792	0.0001	0.0393	-0.0585	-0.0305	-0.0154	0.0000	-0.0154	0.0000	0.0144	0.0228	0.0000
41	0.1115	0.0233	-0.0033	0.0133	-0.0100	-0.0286	0.0103	0.0432	-0.0208	0.0273	-0.0096	0.1667
42	-0.0122	-0.0530	0.0795	0.0261	-0.0101	-0.0563	0.0306	-0.0376	0.0638	0.0138	-0.0205	0.0301
43	-0.0909	0.0241	0.0189	-0.0471	0.0227	0.0540	-0.0396	0.0020	-0.0392	0.0136	0.0175	0.1679
44	0.0415	-0.0234	-0.0030	-0.0561	0.0007	0.0296	0.0000	-0.0568	0.0841	0.0510	0.0551	-0.0313
45	0.0020	0.0160	0.0078	-0.0138	0.0061	-0.0550	0.0412	0.0146	0.3469	0.1676	-0.0195	-0.0968
46	0.0020	-0.0157	0.0024	-0.0247	-0.0153	-0.0305	0.0099	-0.0041	-0.0423	-0.0808	0.0429	0.0286
47	0.0323	-0.0480	0.0186	0.0112	0.0225	0.0143	0.1569	-0.0041	-0.4099	0.0120	-0.0493	-0.0208
48	-0.0274	-0.0168	0.0130	0.0110	-0.0099	0.0310	-0.0508	0.0709	-0.0370	0.0008	0.0116	-0.0355
49	-0.0283	0.0085	0.0550	-0.0569	-0.0047	0.1339	0.0625	0.0838	0.0931	0.0558	-0.0095	0.0294
50	0.1271	-0.0169	0.0322	-0.1475	-0.0155	-0.0602	0.0000	0.0451	0.1094	0.1250	-0.0149	0.0857
51	-0.1162	0.0259	0.0119	-0.2086	-0.0212	-0.0718	-0.0168	0.0691	0.0231	0.0370	0.0333	0.1053
52	-0.0530	0.0000	-0.0652	0.3205	0.0232	-0.0497	0.0000	-0.0275	0.0231	-0.0089	-0.0407	0.4464
53	0.0606	0.0084	0.0126	-0.1529	-0.0157	-0.0116	-0.0256	-0.0633	0.0231	-0.0360	0.0445	0.2346
54	0.0887	-0.0083	0.1043	-0.0952	-0.0104	0.0000	0.0088	-0.0410	0.0231	0.0093	0.0218	-0.1900
55	-0.1212	-0.0588	0.0854	-0.0497	0.0403	-0.0382	-0.0174	0.0577	0.0231	-0.0370	0.0418	-0.0288
56	0.0683	0.0089	0.0190	-0.3213	-0.0373	-0.0581	0.0088	0.0388	0.0231	0.0288	0.0009	-0.1102
57	-0.0057	-0.0354	0.2372	0.7677	0.0177	0.0065	-0.0088	0.0170	0.0231	0.0093	-0.0089	0.0905
58	0.0021	0.0000	-0.0797	-0.1997	-0.0048	-0.0323	0.0265	0.0067	0.0231	0.0093	-0.0139	0.1659
59	0.0959	-0.0092	-0.0719	0.0064	-0.0160	0.1167	-0.0086	0.0117	0.0231	0.0000	-0.0593	-0.0337
60	0.1019	0.0093	0.0103	-0.0603	0.0008	0.1761	0.0000	0.0116	0.0231	0.0092	0.0866	-0.0504

TABLE C PROJECTED RETURNS AFTER MERGER

DAY	ACCESS	CFC	KBL	EQUITY	KENOL	KCB	NBK	NMG	PAN	SAF	STD	UNGA
1	0.0621	-0.0032	0.0051	0.0547	0.0004	0.2688	-0.0025	0.0171	0.1052	0.0437	-0.0180	0.0541
2	0.0642	-0.0044	0.0053	0.0568	0.0002	0.2797	-0.0031	0.0177	0.1100	0.0461	-0.0194	0.0580
3	0.0663	-0.0056	0.0054	0.0590	0.0000	0.2905	-0.0037	0.0183	0.1148	0.0485	-0.0208	0.0618
4	0.0684	-0.0068	0.0056	0.0611	-0.0003	0.3013	-0.0043	0.0189	0.1196	0.0509	-0.0222	0.0656
5	0.0705	-0.0080	0.0058	0.0632	-0.0005	0.3121	-0.0049	0.0195	0.1245	0.0533	-0.0235	0.0694
6	0.0726	-0.0093	0.0060	0.0654	-0.0007	0.3229	-0.0055	0.0201	0.1293	0.0557	-0.0249	0.0732
7	0.0747	-0.0105	0.0062	0.0675	-0.0009	0.3337	-0.0062	0.0207	0.1341	0.0581	-0.0263	0.0771
8	0.0768	-0.0117	0.0063	0.0697	-0.0011	0.3445	-0.0068	0.0213	0.1389	0.0605	-0.0277	0.0809
9	0.0789	-0.0129	0.0065	0.0718	-0.0014	0.3553	-0.0074	0.0220	0.1437	0.0629	-0.0291	0.0847
10	0.0810	-0.0141	0.0067	0.0739	-0.0016	0.3661	-0.0080	0.0226	0.1485	0.0653	-0.0304	0.0885
11	0.0831	-0.0154	0.0069	0.0761	-0.0018	0.3769	-0.0086	0.0232	0.1533	0.0677	-0.0318	0.0923
12	0.0852	-0.0166	0.0071	0.0782	-0.0020	0.3878	-0.0092	0.0238	0.1581	0.0701	-0.0332	0.0962
13	0.0873	-0.0178	0.0072	0.0804	-0.0022	0.3986	-0.0098	0.0244	0.1629	0.0725	-0.0346	0.1000
14	0.0894	-0.0190	0.0074	0.0825	-0.0025	0.4094	-0.0104	0.0250	0.1677	0.0749	-0.0360	0.1038
15	0.0915	-0.0202	0.0076	0.0846	-0.0027	0.4202	-0.0110	0.0256	0.1726	0.0773	-0.0373	0.1076
16	0.0936	-0.0215	0.0078	0.0868	-0.0029	0.4310	-0.0116	0.0262	0.1774	0.0797	-0.0387	0.1114
17	0.0957	-0.0227	0.0080	0.0889	-0.0031	0.4418	-0.0123	0.0268	0.1822	0.0821	-0.0401	0.1153
18	0.0978	-0.0239	0.0081	0.0911	-0.0033	0.4526	-0.0129	0.0274	0.1870	0.0845	-0.0415	0.1191
19	0.0999	-0.0251	0.0083	0.0932	-0.0036	0.4634	-0.0135	0.0281	0.1918	0.0869	-0.0429	0.1229
20	0.1020	-0.0263	0.0085	0.0953	-0.0038	0.4742	-0.0141	0.0287	0.1966	0.0893	-0.0442	0.1267
21	0.1041	-0.0276	0.0087	0.0975	-0.0040	0.4850	-0.0147	0.0293	0.2014	0.0917	-0.0456	0.1305
22	0.1062	-0.0288	0.0089	0.0996	-0.0042	0.4959	-0.0153	0.0299	0.2062	0.0941	-0.0470	0.1344
23	0.1083	-0.0300	0.0090	0.1018	-0.0044	0.5067	-0.0159	0.0305	0.2110	0.0965	-0.0484	0.1382
24	0.1104	-0.0312	0.0092	0.1039	-0.0047	0.5175	-0.0165	0.0311	0.2158	0.0989	-0.0498	0.1420
25	0.1125	-0.0324	0.0094	0.1060	-0.0049	0.5283	-0.0171	0.0317	0.2207	0.1013	-0.0511	0.1458
26	0.1146	-0.0337	0.0096	0.1082	-0.0051	0.5391	-0.0177	0.0323	0.2255	0.1037	-0.0525	0.1496
27	0.1167	-0.0349	0.0098	0.1103	-0.0053	0.5499	-0.0184	0.0329	0.2303	0.1061	-0.0539	0.1535
28	0.1188	-0.0361	0.0099	0.1125	-0.0055	0.5607	-0.0190	0.0335	0.2351	0.1085	-0.0553	0.1573
29	0.1209	-0.0373	0.0101	0.1146	-0.0058	0.5715	-0.0196	0.0342	0.2399	0.1109	-0.0567	0.1611
30	0.1230	-0.0385	0.0103	0.1167	-0.0060	0.5823	-0.0202	0.0348	0.2447	0.1133	-0.0580	0.1649

TABLE D DEVIATIONS FROM PROJECTED RETURNS AFTER MERGER

DAY	ACCESS	CFC	KBL	EQUITY	KENOL	KCB	NBK	NMG	PAN	SAF	STD	UNGA
1	-0.0249	0.0859	0.0737	0.1579	-0.0558	-0.2373	0.0445	-0.0065	-0.1236	-0.1068	0.0026	-0.0632
2	0.2517	-0.0025	-0.0144	0.0173	-0.0094	-0.2592	0.0610	0.0217	0.0400	-0.0725	0.0037	-0.1222
3	0.3256	-0.0013	-0.0564	-0.0986	-0.0893	-0.2905	-0.0439	0.2788	-0.1828	-0.0193	0.0616	-0.0618
4	-0.1702	-0.0213	-0.0028	-0.0458	-0.0100	-0.2713	0.0043	0.3532	0.0174	-0.0499	0.0232	-0.0362
5	-0.2377	-0.0209	0.0096	-0.0333	0.0735	-0.2635	0.1049	-0.0386	-0.0475	0.0025	0.0301	0.0258
6	0.1131	-0.0802	0.0154	-0.0146	-0.0867	-0.3229	0.3237	-0.1141	-0.1293	-0.0677	0.0803	0.0819
7	-0.0813	0.0597	-0.0278	-0.0639	-0.0154	-0.3337	-0.2697	-0.0540	-0.1341	-0.0834	-0.0036	-0.0683
8	-0.3404	0.0274	-0.0036	-0.0558	0.1117	-0.5945	0.2210	-0.0010	-0.0675	-0.0730	0.0127	-0.1243
9	0.0870	0.0053	0.0213	0.0230	0.0021	-0.3924	-0.0416	0.0160	-0.0770	-0.0345	0.0247	-0.0483
10	0.2982	0.0142	0.0326	-0.1324	-0.0290	-0.3815	0.0080	-0.0380	-0.1485	-0.0510	0.0532	-0.0885
11	0.0284	0.0387	-0.0102	-0.0628	-0.0082	-0.4056	0.0189	0.0200	-0.1741	-0.0404	0.0222	0.0743
12	-0.0974	-0.0364	0.0725	-0.0521	-0.0081	-0.4441	0.0398	-0.0614	-0.0943	-0.0563	0.0127	-0.0661
13	-0.1782	0.0419	0.0117	-0.1275	0.0250	-0.3446	-0.0298	-0.0224	-0.2022	-0.0589	0.0521	0.0679
14	-0.0479	-0.0043	-0.0104	-0.1386	0.0032	-0.3797	0.0104	-0.0818	-0.0836	-0.0240	0.0911	-0.1350
15	-0.0895	0.0362	0.0002	-0.0985	0.0088	-0.4752	0.0523	-0.0110	0.1743	0.0903	0.0178	-0.2044
16	-0.0916	0.0057	-0.0054	-0.1115	-0.0124	-0.4615	0.0215	-0.0303	-0.2197	-0.1606	0.0816	-0.0829
17	-0.0634	-0.0253	0.0107	-0.0778	0.0256	-0.4275	0.1691	-0.0310	-0.5920	-0.0702	-0.0092	-0.1361
18	-0.1252	0.0071	0.0049	-0.0800	-0.0066	-0.4216	-0.0380	0.0434	-0.2240	-0.0837	0.0531	-0.1545
19	-0.1282	0.0337	0.0466	-0.1501	-0.0011	-0.3295	0.0760	0.0558	-0.0987	-0.0311	0.0334	-0.0935
20	0.0251	0.0094	0.0237	-0.2428	-0.0117	-0.5345	0.0141	0.0164	-0.0872	0.0357	0.0294	-0.0410
21	-0.2203	0.0534	0.0032	-0.3061	-0.0172	-0.5568	-0.0021	0.0398	-0.1783	-0.0547	0.0789	-0.0253
22	-0.1592	0.0288	-0.0740	0.2209	0.0274	-0.5456	0.0153	-0.0574	-0.1831	-0.1030	0.0063	0.3121
23	-0.0477	0.0384	0.0036	-0.2547	-0.0113	-0.5183	-0.0097	-0.0938	-0.1880	-0.1326	0.0929	0.0964
24	-0.0217	0.0229	0.0951	-0.1991	-0.0058	-0.5175	0.0253	-0.0721	-0.1928	-0.0896	0.0716	-0.3320
25	-0.2337	-0.0264	0.0760	-0.1557	0.0452	-0.5665	-0.0003	0.0260	-0.1976	-0.1384	0.0929	-0.1746
26	-0.0463	0.0426	0.0094	-0.4295	-0.0322	-0.5972	0.0266	0.0065	-0.2024	-0.0749	0.0535	-0.2598
27	-0.1224	-0.0005	0.2274	0.6574	0.0230	-0.5434	0.0096	-0.0159	-0.2072	-0.0968	0.0450	-0.0630
28	-0.1167	0.0361	-0.0896	-0.3122	0.0007	-0.5930	0.0455	-0.0268	-0.2120	-0.0993	0.0414	0.0087
29	-0.0250	0.0281	-0.0820	-0.1081	-0.0102	-0.4549	0.0109	-0.0225	-0.2168	-0.1109	-0.0027	-0.1948
30	-0.0211	0.0478	0.0000	-0.1770	0.0067	-0.4062	0.0202	-0.0232	-0.2216	-0.1041	0.1446	-0.2153
STD DEV	0.1516	0.0338	0.0595	0.1903	0.0391	0.1110	0.0960	0.0951	0.1238	0.0510	0.0366	0.1211

TABLE E STANDARDIZED DEVIATIONS

DAY	ACCESS	CFC	KBL	EQUITY	KENOL	KCB	NBK	NMG	PAN	SAF	STD	UNGA
1	-0.164	2.543	1.239	0.830	-1.427	-2.138	0.464	-0.068	-0.999	-2.093	0.071	-0.522
2	1.660	-0.074	-0.242	0.091	-0.241	-2.336	0.636	0.228	0.323	-1.420	0.101	-1.009
3	2.148	-0.039	-0.948	-0.518	-2.282	-2.618	-0.458	2.933	-1.477	-0.377	1.682	-0.510
4	-1.123	-0.630	-0.048	-0.241	-0.255	-2.445	0.045	3.714	0.140	-0.977	0.633	-0.299
5	-1.568	-0.618	0.161	-0.175	1.877	-2.375	1.093	-0.406	-0.384	0.050	0.820	0.213
6	0.746	-2.374	0.259	-0.077	-2.215	-2.910	3.373	-1.200	-1.044	-1.327	2.192	-0.676
7	-0.537	1.768	-0.468	-0.336	-0.393	-3.007	-2.810	-0.568	1.083	1.634	0.099	0.564
8	-2.245	0.811	-0.060	-0.293	2.856	-5.358	2.303	-0.010	-0.545	-1.430	0.348	-1.027
9	0.574	0.157	0.358	0.121	0.053	-3.536	-0.434	0.168	-0.622	-0.675	0.674	-0.399
10	1.967	0.421	0.548	-0.696	-0.740	-3.438	0.083	-0.399	-1.200	-0.998	1.453	-0.731
11	0.187	1.145	-0.171	-0.330	-0.210	-3.655	0.197	0.210	-1.407	-0.791	0.606	0.614
12	-0.642	-1.077	1.219	-0.274	-0.207	-4.002	0.415	-0.646	-0.762	-1.103	0.347	-0.546
13	-1.176	1.239	0.197	-0.670	0.638	-3.106	-0.310	-0.236	-1.633	-1.154	1.422	0.561
14	-0.316	-0.129	-0.175	-0.728	0.081	-3.422	0.109	-0.861	-0.675	-0.469	2.485	-1.115
15	-0.590	1.072	0.004	-0.518	0.224	-4.282	0.545	-0.116	1.408	1.768	0.486	-1.688
16	-0.604	0.169	-0.090	-0.586	-0.317	-4.159	0.224	-0.319	-1.775	-3.146	2.227	-0.684
17	-0.418	-0.749	0.179	-0.409	0.654	-3.853	1.762	-0.326	-4.783	-1.374	-0.251	-1.124
18	-0.826	0.210	0.082	-0.421	-0.168	-3.800	-0.396	0.457	-1.809	-1.639	1.449	-1.276
19	-0.845	0.996	0.785	-0.789	-0.028	-2.970	0.792	0.587	-0.797	-0.610	0.911	-0.772
20	0.166	0.278	0.399	-1.276	-0.299	-4.817	0.147	0.173	-0.705	0.699	0.802	-0.339
21	-1.453	1.581	0.054	-1.609	-0.441	-5.018	-0.022	0.419	-1.441	-1.071	2.154	-0.209
22	-1.050	0.852	-1.245	1.161	0.701	-4.917	0.159	-0.603	-1.480	-2.019	0.173	2.577
23	-0.315	1.137	0.060	-1.339	-0.289	-4.671	-0.101	-0.987	-1.518	-2.597	2.535	0.796
24	-0.143	0.677	1.599	-1.046	-0.147	-4.664	0.264	-0.758	-1.557	-1.755	1.954	-2.741
25	-1.542	-0.781	1.278	-0.818	1.155	-5.106	-0.003	0.274	-1.596	-2.711	2.536	-1.442
26	-0.305	1.260	0.158	-2.257	-0.823	-5.382	0.277	0.068	-1.635	-1.467	1.459	-2.145
27	-0.807	-0.015	3.825	3.455	0.589	-4.897	0.100	-0.167	-1.674	-1.896	1.229	-0.520
28	-0.770	1.068	-1.507	-1.641	0.019	-5.344	0.474	-0.282	-1.713	-1.945	1.129	0.072
29	-0.165	0.833	-1.380	-0.568	-0.262	-4.099	0.114	-0.236	-1.752	-2.173	-0.073	-1.608
30	-0.139	1.415	0.000	-0.930	0.172	-3.661	0.210	-0.244	-1.790	-2.040	3.947	-1.778

Appendix II

LIST OF LISTED COMPANIES THAT MADE MERGER & ACQUISITION ANNOUNCEMENTS AT THE NSE

	Company	Merged with	Current Name	Announcement Date
1	Access Kenya Group Ltd	Openview Business Systems	Access Kenya Group Ltd	27-Aug-07
2	CFC Bank Ltd	Stanbic Bank	CFC Stanbic Bank Ltd	25-Jan-07
3	East Africa Breweries Ltd	Castle Breweries Ltd	East Africa Breweries Ltd	13-May-02
4	Equity Bank Ltd	Uganda Microfinance Ltd	Equity Bank Ltd	18-Apr-08
5	Kenol Ltd	Kobil Petroleum Ltd	KenolKobil Ltd	19-Dec-07
6	Kenya Commercial Bank Ltd	Kenya Commercial Finance Co.	Kenya Commercial Bank Ltd	21-Mar-01
7	National Bank of Kenya Ltd	National Capital Corporation	National Bank of Kenya Ltd	25-May-05
8	Nation Media Group	Mwananchi Communications Ltd	Nation Media Group	12-Dec-02
9	Pan Africa Ins. Holdings Ltd	Apollo Insurance Ltd	Pan Africa Ins. Holdings Ltd	31-Mar-03
10	Safaricom Ltd	Packet Data Networks Ltd	Safaricom Ltd	13-Aug-09
11	Standard Group Ltd	Baraza Limited	Standard Group Ltd	18-May-07
12	Unga Group Ltd	Kenya National Mills Ltd	Unga Group Ltd	01-Jul-02