TESTING THE CAPITAL ASSET PRICING MODEL ON WEEKLY RETURNS AT NAIROBI SECURITIES EXCHANGE

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI.

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DECLARATION

Except for references specifically indicated in the text, and such help as I have acknowledged, this research project is wholly my own work and has not been submitted at any other University or College for degree purposes.

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D61/63677/2010

This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

To my family members for their prayers and words of encouragement, my twin daughters

Tam and Tat for their patience and to my late Cousin Eva for her unwavering support,

May the Almighty God rest her soul in eternal peace.

ABSTRACT

The capital Asset Pricing Model (CAPM) is the most widely used approach in asset valuation. The theory predicts that the expected return on an asset above the risk-free rate is proportional to non-diversifiable risk, which is measured by the covariance of asset return with a portfolio composed of all existing assets, called the market portfolio. Since its development, numerous researches have been carried out to test the model in different stock markets across the globe. Findings have been divided over its practicality in the finance literature. This research therefore tested the validity of CAPM on the Nairobi Securities Exchange.

The study used the Nairobi Securities Exchange weekly data from January 2005 to June 2012. The sample size included twenty companies that are also the constituent companies for the NSE 20-share index. The average weekly return of these companies was used as proxy for the market return. The companies were grouped into four portfolios of five companies each in order to diversify away most of the firm-specific part of returns thereby enhancing the precision of the estimates of beta.

The finding of the study was that the portfolio which had the highest beta also had the highest return and the portfolio which had the lowest beta also had the lowest return and from the findings it was concluded that higher risks are associated with higher returns, that is, the study is in support of the CAPM principle.

Investors and market regulators should therefore take into account risk-return trade off while making investment decisions.

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Security analysts have developed various models for equity valuation. The models include Capital Asset Pricing Model, Arbitrage Pricing Theory, Dividend Discount Model and many others. These models have given different results. One of the significant contributions to the theory of financial economics, according to Jarlee (2007) occurred during the 1960s, when a number of researchers used Markowitz's portfolio theory as a basis for developing a theory of price formation for financial assets; this was the Capital Asset Pricing Model (CAPM). This research tests the validity of Capital Asset Pricing Model on the Nairobi Securities Exchange.

1.1.1 Capital Assets Pricing Model

Capital market plays an important role in the development of an economy and is an integral part of financial system. In the capital market, the manner in which securities are priced is core issue and it has attracted the attention of researchers for long. The risk-return relationship performs a central role in pricing of securities and consequently helps in making the right investment decisions (Choudhary, 2010).

Levy H. et al (2005) pointed out that it is crucial for investors to know the risk return relationship in order to maximize their return and minimize risk. Various theories relating risk and return have been developed about 60 years ago. In 1952, Markowitz developed the portfolio theory showing investors how to create portfolios of individual investments to optimally trade off risk versus return.

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Tobin (1958) and Markowitz (1959) developed the one period mean-variance model. This was an expansion of Markowitz's (1952) portfolio theory. They introduced the concept of risk-free asset and found that the efficient set of combinations of risk-return is a line, thus simplifying the process of portfolio selection and demonstrating that the same portfolio of risky assets suits all investors.

According to Markowitz (1959), portfolio theory assumes that investors have a single holding period. An investor who purchases a risk free asset at the beginning of a holding period knows exactly what the value of the asset will be at the end of the holding period. There is no uncertainty about the terminal value of the risk free asset. The standard deviation of the risk free asset is therefore zero. The return from the risk free asset is risk free rate of return.

The Capital Assets Pricing Model (CAPM) of Sharpe (1964), Lintner (1965) and Mossin (1968) was a foundation of asset pricing in finance theory and practice. CAPM extended from Markowitz's portfolio theory of 1952 and Tobin's mean-variance model of 1958 to introduce the notion of systematic and unsystematic risk. It uses beta, the risk free rate, and the market return to estimate the expected return. In the development of asset pricing model it is assumed that: - all investors are single period risk-averse and prefer maximization of utility of terminal wealth; they can choose portfolios solely on the basis of mean and variance; there are no taxes or transaction costs; all investors have homogeneous views regarding the parameters of the joint probability distribution of all security returns; all investments are infinitely divisible; and all investors can borrow and lend at a given risk-free rate of return (Reilly and Brown, 2003).

CAPM starts with the idea that individual investments contain two types of risks, systematic and unsystematic risks. First, systematic risk is the risk of holding a market portfolio. These are market risks that cannot be diversified away. As the market moves, each individual asset is more or less affected. Interest rates, recessions and wars are examples of systematic risks. Second, unsystematic risk (specific risk) is the risk which is unique to an individual's asset. This risk can be diversified away as the investor increases the number of uncorrelated stocks in his or her portfolio. In more technical terms, it represents the component of an asset's return, which is uncorrelated with general market moves. (Sharpe W. et al 2001, Bhalla V.K. 2008, Levy H. et al 2005)

According to Markowitz Portfolio Theory (Markowitz, 1959), unsystematic risk can be diversified away through diversification of portfolio and thus the capital markets will not reward investors for bearing this type of risk. Instead, the capital markets will only reward investors for bearing systematic risk that cannot be eliminated through diversification. The trouble is that diversification does not solve the problem of systematic risk; even a portfolio of all the shares in the stock market cannot eliminate that risk. Therefore, when calculating expected return, systematic risk is what disturbs investors most. CAPM, therefore, evolved as a way to measure this systematic risk using beta.

1.1.2 Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is the principal securities exchange in Kenya. It was set up in 1954 as an overseas stock exchange while Kenya was still a British Colony with the permission of the London Stock Exchange. In the recent past, the stock exchange has undergone major changes and transformations and the level of activity has

tremendously increased. A lot of interest in the stock exchange was generated in the 1980s when the government embarked on privatization program targeting state corporations such as Kenya Commercial Bank and Kenya Airways.

In 2006, Nairobi Securities Exchange implemented live trading on the automated trading system (ATS) which was customized to uphold the spirit of the Open Outcry Trading Rules in an automated environment. In the same breadth, trading hours increased from two (10.00am – 12.00pm) to three hours (10.00am – 1.00pm).

In July 2007, Nairobi Securities Exchange reviewed the index and announced the companies that would constitute the NSE Share Index. A Wide Area Network (WAN) platform was also implemented in 2007 and this eradicated the need for brokers to send their staff (dealers) to the trading floor to conduct business. In 2008, the NSE All Share Index (NASI) was introduced as an alternative index. Its measure is an overall indicator of market performance. The index incorporates all the traded shares of the day. In July 2011, the Nairobi Stock Exchange Limited changed its name to the Nairobi Securities Exchange Limited. The change of name reflected the strategic plan of the Nairobi Securities Exchange to evolve into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments.

With the above rising trend in equity stock trading at the Nairobi Securities Exchange, spurred by local investors, technical investor educations on risk and return is therefore inevitable if the market has to sustain the ever increasing investment appetite by all class

of investors and thus the need to measure the relationship between risk and return using CAPM on the Nairobi Securities Exchange (www.nse.co.ke).

1.2 Research Problem

CAPM postulates that the expected return on an asset above the risk-free rate is linearly related to the non-diversifiable risk as measured by the asset's beta. Since the birth of the Capital Asset Pricing Model (CAPM), enormous efforts have been devoted to studies evaluating the validity of this model, a unique breakthrough and valuable contribution to the world of financial economics. Some empirical studies conducted, have appeared to be in harmony with the principles of CAPM while others contradict this model (Sauer and Murphy, 1992)

Otieno (2011) tested CAPM on the Nairobi Stock Exchange using monthly data for a period of thirteen years, that is, from January 1998 to December 2010 and concluded that the empirical findings did not support standard CAPM as a model to explain asset pricing. Choudhary (2010) tested CAPM on Indian Equity Market. The findings of this study were not substantiating the theory's basic result that higher risk (beta) is associated with higher levels of return. Wakyiku (2010) tested CAPM on the Ugandan Stock Exchange. The study concluded that there wasn't sufficient evidence for the Black, Jensen, and Scholes (1972) CAPM version, since the zero-beta rate was not statistically different from zero at the 10% level.

The Arbitrage Pricing Theory (APT) which was developed by Stephen Ross (1976) as an alternative model of asset pricing contradicts CAPM by relating the various types of risk associated with a security such as changes in interest rates, inflation and productivity with the expected return of the same security. These differences in previously conducted studies serve as a stimulating factor to this study, the validity of CAPM on the weekly stock returns at the Nairobi Securities Exchange.

Fama and French (2004) concurs with Markowitz that investing is a trade-off between risk and expected return and that given two portfolios that offer the same expected return, investors will prefer the less risky one. An investor therefore will take on increased risk only if compensated by higher expected returns. Conversely, an investor who wants higher expected returns must accept more risk.

Bailey et al (2001) classify risk as either unique or market risk. Unique risk is the risk associated with individual assets within a portfolio. This risk can be reduced through diversification. Market risk refers to the risk common to all securities on the market. It cannot be diversified away but can only be averaged. The measure of market risk is beta.

Beta is the measure of systematic or market risk of an asset or portfolio of assets. If the asset's returns tend to move up and down more dramatically than market returns, the asset is considered to be relatively more volatile hence higher beta. Fama and French (1992) however made a shocking confession that almost crippled beta as a measure of risk. The observed that beta is nearly worthless as an explanation of a stock's relative performance over time. They suggested that strategies based on investing in stocks with low price to

book ratios and small capitalisation firms produce better long term performance than strategies based on beta. They were supported by Mark Hulbert (1992) who made a formal announcement that "beta was dead".

Bhalla (2008) observed that the security market line is the linear relationship between expected return and beta or systematic risk on which both portfolios and individual securities lie .CAPM identifies security return net of the risk free rate as proportional to the expected net market return. As a consequence of this relationship, all securities in equilibrium plot along the security market line as indicated below.
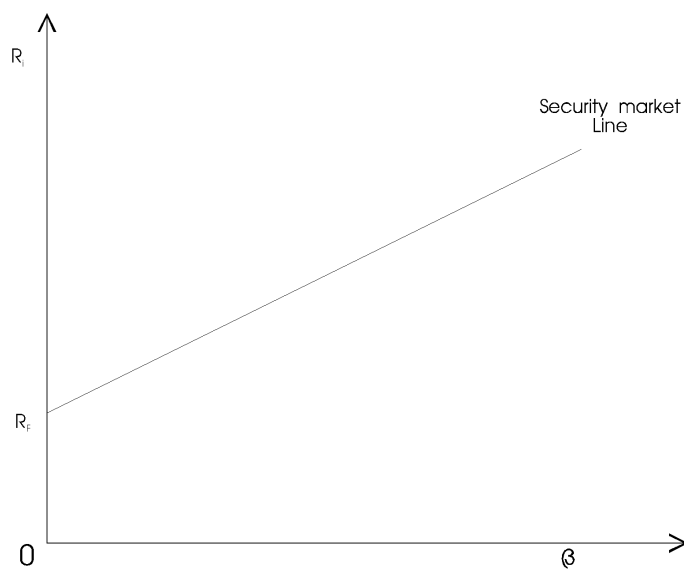
R_i = Expected return on the security

R_f = Risk free rate of return

β = Beta

Figure 1: Source (Bhalla, 2008)

Although the CAPM has been predominant in empirical work over the past 40 years and is the basis of modern portfolio theory, accumulating research has increasingly cast doubt on its ability to explain the actual movements of assets returns thus the problem statement can then go as; is higher risk (beta) associated with higher levels of return?

1.3 Research Objectives

The objective of this study is to test the validity of Capital Asset Pricing Model (CAPM) on weekly stock returns at Nairobi Securities Exchange.

1.4 Value of the Study

This study should be of use to investors, security analysts, financial analysts, stock brokers and other parties whose knowledge of the validity of CAPM is important input into investment analysis and portfolio construction. Investors and their financial advisors will be in a better position to devise trading strategies that minimize risk and maximize the returns on their investment.

Market regulators (Nairobi Securities Exchange and Capital Markets Authority) in establishing the Nairobi Securities Exchange performance against investors' perception of risks and returns and hence develop ways of building investors confidence. Capital Markets Authority in the recent years has had problems with offer prices of new listings. Most of the offer prices of new securities have been overvalued hence leading to huge losses by investors. Findings of this research will therefore help the capital market regulator in determining the offer prices of new securities.

This study is meant to act as a base for further studies and also as a point of reference for both academicians and researchers for it will provide further insight into the validity of CAPM principles. Studies of this nature are scanty in Kenya. This research will act as an impetus to generate further studies in this field.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter begins by introducing portfolio theory upon which CAPM was developed. The conceptual model of risk and return together with the components of CAPM equation are discussed. The empirical tests of the model in different markets are reviewed. The chapter also outlines the anomalies in the model.

2.2 Overview of CAPM

The Capital Asset Pricing Model (CAPM) builds on the model of portfolio choice developed by Harry Markowitz (1952). The model assumes that investors are risk averse and when choosing among portfolios, they care about the mean and variance of their one-period investment return (Fama E. and French K, 2004).

2.2.1 Portfolio theory

Harry Markowitz in 1952 developed the portfolio theory. It holds that investors will attempt to maximize portfolio expected return for a given amount of portfolio risk, or alternatively, minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. It is a mathematical formulation of the concept of diversification in investing, which aims at selecting a collection of investment assets that has collectively lower risk than any individual asset. This is done by considering the coefficient of correlation between various assets. An investor can reduce portfolio risk

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simply by holding combinations of instruments which are not perfectly positively correlated.

Reilly and brown (2003) observed that the Capital Asset Pricing Model (CAPM) is a model for pricing all risky assets and allows investors to determine the required rate of return for any risky asset. The CAPM provides that in well functioning capital markets, the risk premium varies in direct proportion to risk. The CAPM provides a measure of risk and a method of estimating the markets risk return line. The market (systematic) risk line is measured in terms of its sensitivity to the market movements. This sensitivity is referred to as the security's beta (ß). Beta reflects the systematic risk which cannot be reduced. Investors can eliminate their risks if they invest their wealth in well diverse market portfolios. A beta of 1.0 indicates average level of risk while a beta of more than 1.0 means that the security's return fluctuates more than that of the market portfolio. A zero beta means no risk. Thus the expected return on a security is given by the following equation.

$$E (R_j) = R_f + \beta_j \ x \ [R_m-R_f]$$

Where,

$E (R_j)$: - the required rate of return on asset j.

R_f:-   the risk free rate of return of a risk-free asset.

R_m: -   the rate of return on the market portfolio.

β_j: -   the systematic risk for the asset j.

The conceptual model of different types of risks is as illustrated below:-
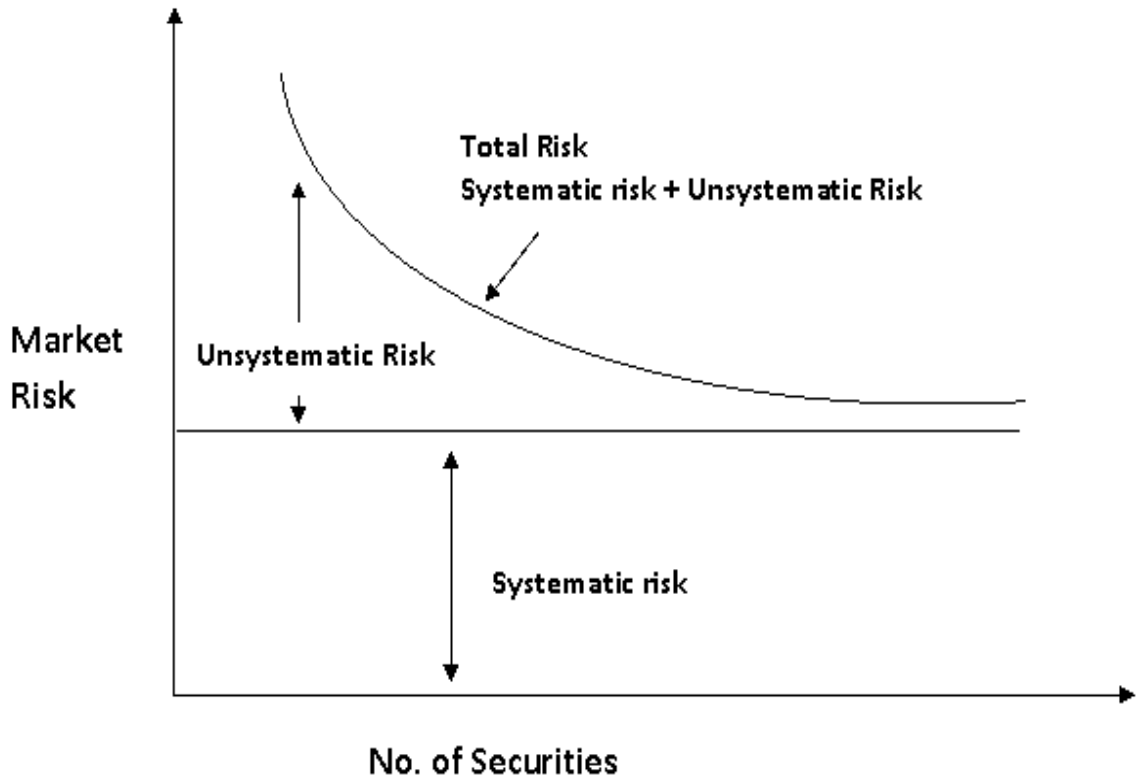
Figure 2: Source (Reilly and Brown, 2003)

It can be seen from the figure that as the number of securities are increased in a portfolio the systematic risk remains constant while the unsystematic risk reduces and then becomes stagnant. As a result the total risk also decreases initially and then it reaches a minimum point very close to the systematic risk.

One important point to note here is that investors are not rewarded for assuming unsystematic risk because it can be eliminated through diversification. Thus investors are rewarded for assuming only systematic risk.

2.2.2 Arbitrage Pricing Theory

The Capital Asset Pricing Model is an equilibrium model that asserts that securities have different expected returns because they have different betas. However there exists an alternative model of asset pricing that was developed by Stephen Ross (1976). It is known as Arbitrage Pricing Theory (APT). Arbitrage is the process of earning riskless profits by taking advantage of different pricing for the same physical asset or security. It entails the sale of a security at a relatively high price and the simultaneous purchase of the same security at a relatively low price.

APT was developed to counter the assumption of CAPM that each investor is assumed to choose his or her optimal portfolio using indifference curves based on portfolio expected returns and standard deviations. APT however makes the assumption that each investor, when given the opportunity to increase the expected return of his or her portfolio without increasing the risk will do so. The mechanism of doing so involves the use of arbitrage portfolios (Sharpe, Alexander and Bailey, 2001).

APT starts with the assumption that security returns are related to an unknown number of unknown factors.

$$r_i = a_i + b_i F_1 + b_i F_2 + e_i$$

where, r_i = rate of return on security i

$\qquad a_i$ = the zero factor

$\qquad b_i$ = the sensitivity of security i to the factor

$\qquad F_1$ = the value of factor 1

$\qquad F_2$ = the value of factor 2

e_i = random error term

APT states that the expected return of an asset can be modeled as a linear function of various macro-economic factors or theoretical market indices, where a factor's specific beta coefficient represents the sensitivity of changes in each factor. The model obtained rate of return will then be used to price the asset accurately, having the asset price equal to the expected end of period price discounted at the rate implied by the model. In such case, if the price diverges, arbitrage is expected to bring it back into line.

2.3 Early Empirical Tests of CAPM

CAPM was developed in the beginning of the 1960s by William Sharpe (1964), Jack Treynor (1962), John Lintner (1965) and Jan Mossin (1966) and is based on the idea that not all the risks influence the prices of the assets and that a risk can be diversified and reduced by introducing the asset in a portfolio. The model has offered a coherent framework for the understanding of risk and expected return.

Previous literature has shown that large numbers of studies have been conducted to test the applicability of the model in different markets and found different results. The empirical validity of this model was widely challenged in the late of Seventies, Eighties and Nineties by Roll (1977), Fama French (1992) and many others. At the same time however, there are number of studies which are in favour and have strongly supported the usage of CAPM in developing and emerging markets.

2.4 Capital Asset Pricing Model Anomalies

In their seminal study Fama and French (1992) found that beta does not seem to help explain the cross-section of average stock returns, i.e. the relation between beta and average return is flat, and that the combination of size and book-to-market equity seems to absorb the roles of leverage and earnings to price ratio in average stock returns. This was observed at least during the 1963-1990 sample period.

Fama and French (1993) proposed a multi-factor model, which included factors related to the firm's size and firm's book value. This model performed better than the classical CAPM and they argued that stock risks are multidimensional and therefore the addition of other factors improves the CAPM power to explain the average stock returns. On this basis, the following have been documented as anomalies of beta:

2.4.1 The size effect

Banz (1981) found out that firms with a low market capitalization seemed to earn positive abnormal average returns, while large capitalization firms earned negative abnormal returns. On the contrary, Post and Levy (2005) held that size effect generally is not very strong if only portfolios on size are sorted. They attributed this to the fact that size and beta are correlated very strongly.

2.4.2 Value Effect

Basu (1977) also noted that firms with low market value relative to firm fundamentals (low P/E and high M/B) earned abnormal high average returns. Firms with high market value relative to firm fundamentals (high P/E and low M/B) earned negative abnormal

returns. This observation was consistent with the findings of Jaffe et al (1989), Rosenberg et al (1985) and Fama and French (1992).

2.4.3   The Momentum Effect

This is the tendency for rising asset prices to rise further, and falling prices to keep falling. For instance, it was shown that stocks with strong past performance continue to outperform stocks with poor past performance in the next period with an average excess return of about 1% per month (Jegadeesh and Titman 1993). Momentum effects were also observed by Fama and French (1996).

2.5 Empirical Tests in the US, UK, Japanese and European Markets

Fama and McBeth (1973) performed the classical test and validated the CAPM on all stocks listed on New York Stock Exchange (NYSE) during 1935-1968. They observed that expected return is positively related to market beta and beta is the only measure of risk to explain the cross-section of expected returns. Tinic and West (1984) who used the same NYSE data found contrary evidence.

Black et al. (1972) tested CAPM by using time series regression analysis. They developed an equilibrium expected return-beta relationship in the case of restrictions on risk-free investments. Their empirical tests based on the idea of forming portfolios to estimate betas for second-pass regressions provided evidence in support of CAPM. Sauer and Murphy (1992) confirmed that CAPM was the best model for describing the German Stock Market data. Guy et al (1977) also supported the validity of CAPM on the German Stock Exchange. On the contrary, Green (1990) investigated the CAPM on UK private

sector data and showed that CAPM did not hold. In a more detailed study Hawawini (1993) could not confirm the validity of CAPM in equity markets in Belgium, Canada, France, Japan, Spain, UK and US.

Banz (1981) challenged the CAPM by demonstrating that firm size explains the variation in average returns on a particular collection of assets better than beta. That author concluded that, in fact, equities of small firms (with low values of equity) yielded higher average returns than those of large firms. Fundamental variables such as the earnings yield (Basu, 1977), the ratio of book value to market value (Rosenberg et al., 1985), macroeconomic variables and the price-earnings ratio (Basu, 1977) considerably explain cross-sectional variation in expected returns. Van Rensburg & Robertson (2003) stated that attempts to empirically verify the predictions of the CAPM had produced numerous inconsistencies with the theory.

2.6 Empirical Tests in Emerging Markets

Javid (2009) tested the mean-variance capital asset pricing model (CAPM) on individual stocks traded at Karachi Stock Exchange (KSE), the main equity market in Pakistan. The study covered the period 1993-2004 using daily and monthly data. The empirical findings did not support standard CAPM as a model to explain assets pricing in Pakistani equity market.

Trifan (2009) sought to find if the relationship between expected return and risk is linear, if beta is a complete measure of the risk and if a higher risk is compensated by a higher expected return. He used a sample of daily data for 24 companies listed on Bucharest

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Stock Exchange, from 2003 to 2009. The results confirmed that the intercept was statistically insignificant for both individual assets and portfolios. The tests did not provide any evidence against CAPM.

Yu (2002) tested the capital asset pricing model (CAPM) on the returns on Philippine common stocks from 1990 to 2000. The test used the two-step cross sectional regression (CSR) procedure to compute for the beta of each asset and the parameters of the Sharpe-Lintner version of the CAPM. The data used in the study consisted of average monthly returns of 50 representative common stocks drawn from a stratified random sampling process. Test results showed that there were sub-periods that supported the predictions of the CAPM, but other sub-periods yield results that ran counter to the CAPM predictions. Further tests also showed that, in the short run, factors other than risk explained the cross section of asset returns and that the relationship between return and risk may not be linear.

Davis (1994) and He and Ng (1994) both found considerable evidence to support Fama and French (1992) results which did not support CAPM while Kothari et al. (1995) found an economically and statistically significant role for beta, although there remains a statistically significant role for size in their cross-sectional regressions, with the slope coefficient estimated to be strongly negative. They observed that using betas estimated from annual rather than monthly returns produces a stronger positive relation between average return and beta.

Bark (1991) used the Fama and MacBeth methodology to test whether the CAPM is applicable to the Korean stock market. A positive trade-off between market risk and

return was rejected and other factors such as unique risk were shown to play an important role in pricing risky assets.

Choudhary and Choudhary (2010) examined the Capital Asset Pricing Model (CAPM) for the Indian stock market using monthly stock returns from 278 companies of BSE 500 Index listed on the Bombay stock exchange for the period of January 1996 to December 2009. The findings of this study were not substantiating the theory's basic result that higher risk (beta) is associated with higher levels of return. The model does explain, however, excess returns and thus lend support to the linear structure of the CAPM equation.

2.7 Conclusion of the Literature Review

The literature reviewed in this study suggests that more studies need to be conducted in an attempt to conclusively evaluate the validity of Capital Assets Pricing Model. The researcher has reviewed early empirical tests of CAPM, empirical tests in the US, UK, Japanese and European markets and empirical tests in emerging markets. Some of these findings provide evidence in support of the Capital Asset Pricing Model while others present evidence raising questions about the validity of the model.

In the review of the literature the researcher concludes that not much attempt has been made to examine the validity of CAPM on the stocks listed in the Nairobi Securities Exchange. In addition most of the studies that have been carried out have not taken into consideration the Capital Asset Pricing Model anomalies. These deficiencies provided the primary impetus for this current study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was adopted by this research. The research design and the population of interest are explained. The other areas covered in this chapter are the sample selection, data collection and analysis.

3.2 Research Design

This research used the empirical study design. It is a study which investigates the relationship between beta and the return on a portfolio or concisely, the validity of CAPM on the Nairobi Securities Exchange. Due to the historical nature of the data collected, a quantitative approach was used where stock exchange data on stock prices was collected and analyzed. As much as the data was collected and compiled by the Nairobi Securities Exchange for various purposes, it was analyzed to respond to the proposed research question. The dependent variable for this study was the excess stock return whereas the independent variable was the average risk premium.

3.3 Population

The study population comprised of all the fifty eight (58) companies quoted at the Nairobi Securities Exchange as at June 2012. The selection of the Nairobi Securities Exchange was because the required data for the companies was readily available.

3.4 Sample

The study covered a period of three hundred and ninety (390) weeks, from January 2005 to June 2012. This period was selected as it captured both times of improved growth and decline of growth in the Kenyan economy. The selected sample consisted of 20 stocks that are included in the formation of the NSE 20 Share Index. The NSE 20-Share Index (NSE 20) is the long-standing benchmark index used for equities traded in Kenya's Nairobi Securities Exchange and it represents the geometric mean of share prices of the Nairobi Securities Exchange's 20 top stocks. This sample size was arrived at after considering the best performing companies as captured by NSE 20 and also given that this market index is reviewed periodically to ensure that it reflects an accurate picture of market performance. This review was taken into consideration by adjusting the NSE 20-Share Index constituent companies accordingly during the period of study.

3.5 Data Collection

The average daily stock price data as well as traded volumes, for the period of three hundred and ninety (390) weeks, from January 2005 to June 2012, was obtained from the Nairobi Securities Exchange daily price lists which are maintained by the Nairobi Securities Exchange. The Nairobi Securities Exchange daily price lists are historical in nature and were used as secondary data source for this study.

In the studies conducted by Black et al (1972) and Otieno (2011), average monthly data are used while during this study, I used the average weekly price of stocks. This is because using high frequency data such as daily observations can result in the use of very

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noisy data and thus yield inefficient results. On the other hand, returns calculated using a longer time period such as yearly observations might result in changes of beta over the examined period introducing biases in beta estimates.

All the stocks' returns used for the purpose of this study were not adjusted for dividends. However, the results were not greatly affected by such unadjustments since earlier researchers; including Black et al (1972) applied similar measures.

3.6 Data Analysis

This research used the average weekly stock prices. The raw data was tabulated by means of a secondary data capture form, where by average weekly prices/ returns were calculated and tabulated using Microsoft Excel for all the sampled stocks, the average return for these 20 stocks was used as proxy for the market return and the Central Bank of Kenya Treasury bill rate was used as proxy for the risk free rate.

The individual stock return and the market return was calculated first in accordance with the following formula provided by Brealey et al (2005):-

$$R_t = \frac{(P_t - P_{t-1})}{P_{t-1}} \times 100$$

Where, Rt is the weekly stock return, Pt and is the average price of share in the current week (Ending Price) and Pt-1 is the average price of share in the previous week (Beginning Price).

The next step was to estimate a beta coefficient for each stock using the weekly returns during the period of January 2005 to June 2012. The beta was estimated by regressing excess stock returns (stock returns less risk free rate) against excess market returns (market returns less risk free rate) for all the companies under the study according to the following equation:-

$$R_{it} - R_{ft} = a_i + \beta_i \, (R_m - R_f) + e_{it}$$

Where R_{it} – individual stock return

R_{ft} – risk free rate of return

β_i – estimate of beta for each stock

R_m – Return on the market

e_i – Disturbance term of the equation

The intercept a_i is supposed to be the difference between estimated return produced by time series and the expected return predicted by CAPM. The intercept a_i of a stock is equivalent to zero if CAPM's description of expected return is accurate.

Upon the computation of beta, the stocks were grouped into four portfolios each composed of five companies. The first portfolio was composed of the stocks with the highest betas and the lowest betas for the last portfolio. Classification of individual stocks into portfolios according to Choudhary (2010) diversifies away most of the firm-specific

part of returns thereby enhancing the precision of the estimates of beta and the expected rate of return on the portfolios.

The portfolio betas were estimated by regressing the average excess return against the market return as shown in the equation below:

$$R_{pt} = a_p + \beta_p(r_m) + e_p$$

Where, $R_{pt} = $ average excess portfolio return

r_m = average risk premium

β_p = portfolio beta

The average excess portfolio return was calculated as the total excess return of the portfolio divided by the number of securities in the portfolio during a period. When the regression result was obtained, the data was used to investigate if high beta yields high returns and vice versa.

To evaluate the data and regression result, I conducted a statistical test referred to as significance testing to find out if the independent variable has any effect upon the dependent variable. The t-tests was used and in defining the data significant to conclude with 95% confidence, I selected a 5% level of significance and 18 degrees of freedom. T-statistic was considered significant if the p-value is less than 0.05.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The main objective of the study was to establish the validity of Capital Asset Pricing Model using weekly stock returns of companies listed at the Nairobi Securities Exchange. This chapter discusses how data was analyzed and the presentation of the findings. The weekly stock returns of sampled companies are given in Appendix II. All the twenty (20) sampled companies traded consistently throughout the period under study apart from CMC Ltd which traded up to mid September 2011. However, the results will not be significantly affected by this inconsistency.

4.2 Analysis of Data and Presentation of Findings

The average daily stock price data for the period of three hundred and ninety (390) weeks, from January 2005 to June 2012, was obtained from the Nairobi Securities Exchange daily price lists. This data was used to calculate weekly stock returns and the average market returns. The mean and the standard deviation were also calculated as shown in Table 1 below. Returns on the security and market were measured on a weekly basis and computed as;

Returns =   Share price in the Current week – Share price in the previous week

Share price in the previous week

After calculating the weekly stock return, the stocks were ranked in terms of their means and standard deviation.

Table 1:- Stock Returns' Mean and Standard Deviation

Variable	Mean	Median	TrMean	StDev	SE Mean	RankMean	Rank StDev
EABL	1.36	0.22	0.18	26.85	1.35	1	1
ATHI	0.777	0.478	0.595	4.92	0.248	2	13
DIAMTR	0.491	0.28	0.372	4.564	0.23	3	15
SASINI	0.47	-0.171	0.079	6.849	0.345	4	2
KCB	0.435	0.12	0.224	4.82	0.243	5	14
EACABLE	0.394	-0.326	0.025	6.571	0.331	6	3
CMC	0.383	0	0.133	5.582	0.298	7	9
CENTUM	0.377	0.047	0.085	6.014	0.303	8	4
NICBANK	0.347	-0.128	0.082	5.711	0.288	9	8
MUMIAS	0.307	-0.296	0.068	5.89	0.297	10	7
KAKUZI	0.298	0	0.108	5.327	0.269	11	10
REAV	0.284	-0.247	-0.016	5.944	0.3	12	5
KPL	0.26	-0.257	-0.037	5.245	0.265	13	11
NMG	0.256	0.152	0.144	4.561	0.23	14	16

BBK	0.224	0.239	0.098	4.003	0.202	15	17
BAMB	0.202	0	0.12	3.686	0.186	16	18
BAT	0.193	0.114	0.197	2.712	0.137	17	20
SCBANK	0.171	0.126	0.168	2.954	0.149	18	19
KENAIR	0.098	-0.298	-0.285	5.932	0.299	19	6
EXPRESS	-0.047	-0.208	-0.238	4.976	0.251	20	12
MartRet	0.341	0.214	0.198	3.174	0.16	MartRet	

From Table 1, it can be seen that not all companies which have got higher risks also have higher returns. In fact, as can be seen from the ranking, it is only East African Breweries Ltd which has got higher risk and higher returns. This result was analyzed further by looking at the significant levels.

4.3 Analysis of Risk and Return

Generally, investment is a trade-off between risk and return and since the objective of this study is to find out if higher risks are associated with higher returns, correlation analysis between the market returns and the returns of the individual companies was done. This correlation analysis generated the betas, the constant, the t-values and the p-values as shown in Table 2 below:-

Table 2:- Individual Stock Betas and Other Variables

Variable	Beta	Constant	R-Sq	T-Value	P-Value	Significance	Return	StDev	RankBeta
EABL	4.25	-0.09	25%	11.49	0.000	Significant	1.36	26.9	1
ATHI	0.83	0.494	28.7%	12.59	0.000	Significant	0.777	4.92	11
DIAMTR	0.83	0.209	32.9 %	13.89	0.000	Significant	0.491	4.56	11
SASINI	1.16	0.075	28.7 %	12.61	0.000	Significant	0.47	6.85	2
KCB	1.00	0.095	43.2 %	17.28	0.000	Significant	0.435	4.82	9
EACABLE	1.13	0.01	29.5 %	12.83	0.000	Significant	0.394	6.57	4
CMC	1.01	0.01	35.4%	13.91	0.000	Significant	0.383	5.58	8
CENTUM	1.16	0.017	37.1 %	15.25	0.000	Significant	0.377	6.01	2
NICBANK	1.05	-0.009	33.6 %	14.11	0.000	Significant	0.347	5.71	6
MUMIAS	1.07	-0.057	32.9 %	13.89	0.000	Significant	0.307	5.89	5
KAKUZI	0.65	0.075	15%	8.37	0.000	Significant	0.298	5.33	16
REAV	0.81	0.008	18.4 %	9.46	0.000	Significant	0.284	5.94	13
KPL	1.02	-0.087	37.8 %	15.47	0.000	Significant	0.26	5.25	7
NMG	0.69	0.0207	23 %	10.86	0.000	Significant	0.256	4.56	15
BBK	0.73	0.025	33.4 %	14.05	0.000	Significant	0.224	4	14
BAMB	0.15	0.151	1.4 %	2.55	0.011	Significant	0.202	3.69	20
BAT	0.24	0.111	7.9 %	5.88	0.000	Significant	0.193	2.71	19
SCBANK	0.48	0.009	25.8%	11.73	0.000	Significant	0.171	2.95	18
KENAIR	1.00	-0.244	28.7 %	12.61	0.000	Significant	0.098	5.93	9
EXPRESS	0.58	-0.245	13.4 %	7.85	0.000	Significant	-0.047	4.98	17

From Table 2, the data for all companies were considered to be statistically significant due to the fact that p-values were less than 0.05 as well as t-values also being greater than 2. The R-squared which is the percentage of variance explained is also 25% and above for the companies which have been ranked in the top 10 according to their betas. All the beta coefficients were found to be statistically significant since they had a value that was different from zero and therefore they have information content. The relationship between risk and return is explained further using Figure 3 below:-
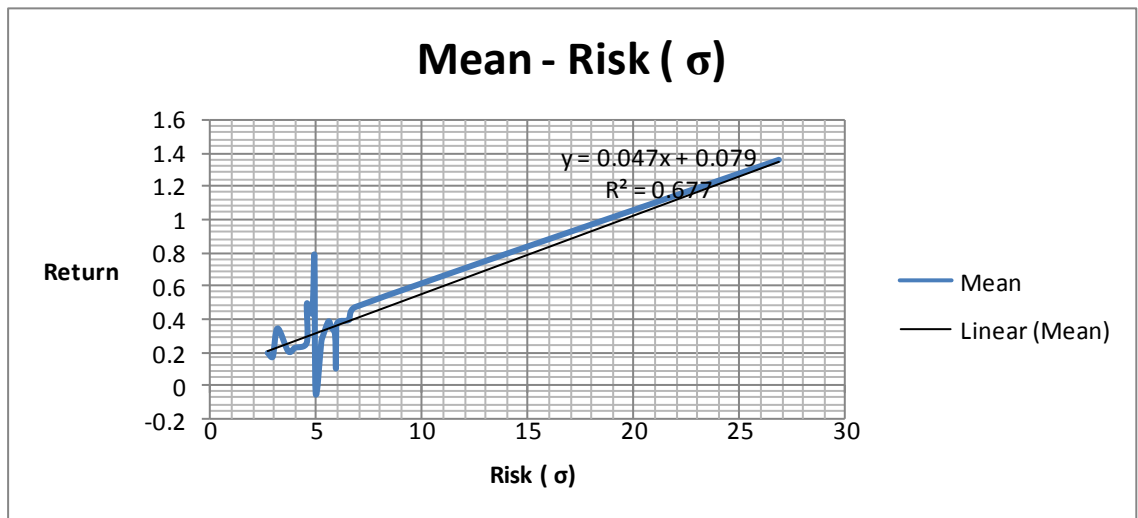
Figure 3:- Relationship Between Risk and Return

From Figure 3, we learnt that the relationship between risk and return of the twenty sampled companies is linear with the R-squared value of 67%.

4.4 Portfolio Formation

After the computation of beta, the stocks were grouped into four portfolios each composed of five companies. The first portfolio was composed of the stocks with the

highest betas and the lowest betas for the last portfolio as shown Table 3 below. This was done in order to diversify away most of the firm-specific part of returns thereby enhancing the precision of the estimates of beta and the expected rate of return on the portfolios.

Table 3:- Stock Portfolios

Name of Company	Beta	Return
1st Portfolio		
EABL	4.25	1.36
SASINI	1.16	0.47
CENTUM	1.16	0.377
EACABLE	1.13	0.394
MUMIAS	1.07	0.307
PORTFOLIO 1 BETA/ RETURN	**1.754**	**0.5816**
2nd Portfolio		
NICBANK	1.05	0.347
KPL	1.02	0.26
CMC	1.01	0.383
KENAIR	1.00	0.098
KCB	1.00	0.435
PORTFOLIO 2 BETA /RETURN	**1.016**	**0.305**
3rd Portfolio		
ATHI	0.83	0.777
DIAMTR	0.83	0.491

REAV	0.81	0.284
BBK	0.73	0.224
NMG	0.69	0.256
PORTFOLIO 3 BETA / RETURN	**0.778**	**0.406**
4th Portfolio		
KAKUZI	0.65	0.298
EXPRESS	0.58	-0.047
SCBANK	0.48	0.171
BAT	0.24	0.193
BAMB	0.15	0.202
PORTFOLIO 4 BETA / RETURN	**0.42**	**0.165**

4.5 Summary and Interpretation of Results

The results as presented in Table 3 show that portfolio one has got higher beta and higher returns where as portfolio four has the lowest beta and lowest return. From the analysis, it can be concluded that higher risk is associated with higher returns and that Capital Asset Pricing Model is valid in the Nairobi Securities Exchange for the period under study at 5% level of significance. Figure 4 below shows the relationship between Return and Market Risk as measured by Beta.
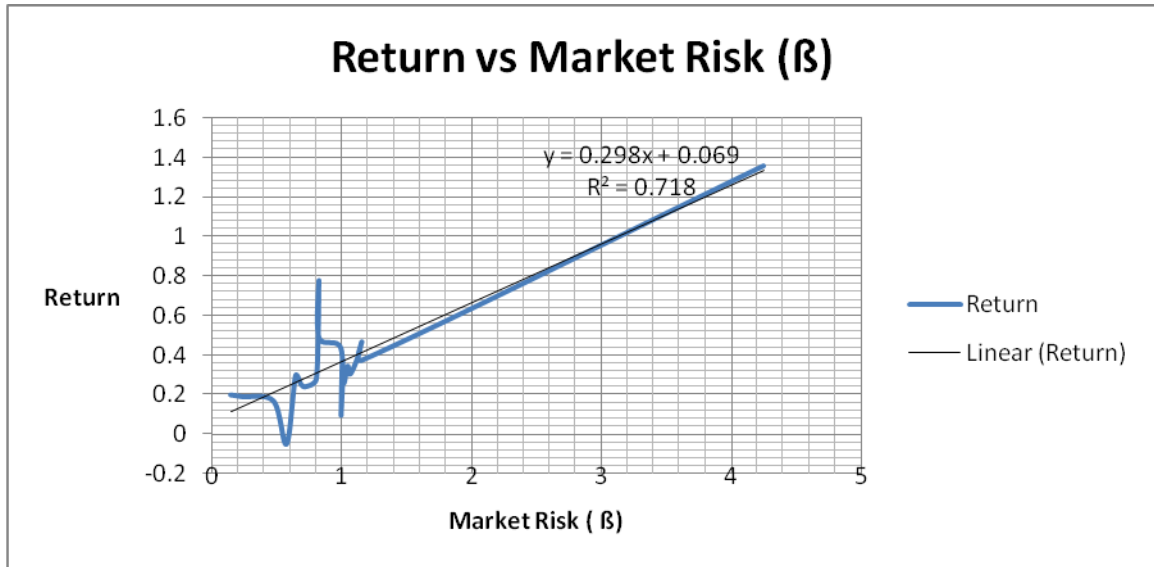
Figure 4:- Relationship between Return and Market Risk

The findings of this study compare with the earlier studies conducted by Sauer and Murphy (1992) and Guy et al (1977) whose findings supported the validity of CAPM on the German Stock exchange. Further tests by Black et al (1972) whose empirical tests based on the idea of forming portfolios to estimate beta also showed provided evidence in support of CAPM.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the entire research highlighting the conclusions, recommendations and suggestions for further research. The recommendations and suggestions are based on the findings in the previous chapter and the objective of the study.

5.2 Summary of findings and Conclusions

The objective of the study was to test the validity of the Capital Asset Pricing Model using weekly stock returns of the companies listed at the Nairobi Securities Exchange from January 2005 to June 2012. The sample size was twenty companies which were also the constituent companies for the NSE-20 share index during the period under study. From the result of the study it can be concluded that risk and return trade off is key in making ones investment decision since high risk is compensated by high returns.

In order to diversify away most of the firm specific part of the returns, thereby enhancing the precision of the beta estimates, the securities were combined into four portfolios each comprising five companies. The portfolio beta and return were calculated by getting the total beta and total return and dividing by the number of companies in each portfolio. The result showed that the portfolio which had higher beta also had higher returns and the portfolio which had the lowest beta had also the lowest return. The finding of this study is therefore in harmony with the CAPM principles.

5.3 Recommendations

It is important that surveys are conducted to establish if investors purely make investment decisions based on risk-return considerations since the study has established that if one accepts higher risks then the returns would also be higher.

From the research findings some recommendations can be made in order to improve one's investment decisions. Based on these findings, we realize that the beta coefficient can act as a good measure for determining an investment portfolio pegged on historical trends since one is able to analyze the stock volatility before deciding which counter to invest in. While choosing an ideal portfolio three factors are an important consideration; an investor's investment objectives, the risk tolerance, and the time horizon hence an investor can therefore be described as risk tolerant, risk neutral or risk averse.

5.4 Limitations of the study

Although most of the study was conducted smoothly, there were challenges that were met in the course of the study. Because using the 90-day Treasury bill rate as proxy for the risk free rate of return proved to be a challenge in analyzing a weekly stock returns, the researcher therefore changed to the market model which uses alpha instead of the risk free rate of return. This was assumed could generate the same result which might not have been the case.

As far as the study is based on historical data, it is always going to be difficult to make a conclusion from the findings which are usable in the future. The fact that data has been

fully used and archived means that policy makers and academicians will always use projections in making any decisions for the future.

It is also worth noting that not all the companies listed in the Nairobi Securities exchange were picked for the sample, only the companies that formed the NSE 20 share index for that particular period of time were considered. This was a challenge because the study could not give a very fine picture of the status for the entire Nairobi Securities Exchange.

There was another limitation in getting the actual market return. It was therefore assumed that the market return for the 20 companies was a good measure of the market index. This might not have been the case as the market index should be measured using all the stocks in the capital market.

5.5 Suggestions for Further Research

There is need for further study on how investors' behavior influences their investment decisions to invest in certain securities and how this affects the market price of the security. This is important because by affecting the market price of security, it also affects the returns of that security.

Although extensive research has been done in the area of CAPM, further research which takes into consideration the anomalies of CAPM need to be explored. This will reveal more information as regards the subject.

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Appendix I: Nairobi Securities Exchange Stocks – Sampled Securities

Agricultural

1. Rea Vipingo Ltd.

2. Sasini Tea & Coffee Ltd.

3. Kakuzi Ltd.

Automobiles & Accessories

4. CMC Holding Ltd.

Banking

5. Barclays Bank of Kenya

6. Diamond Trust Bank

7. Kenya Commercial Bank

8. Standard Chartered Bank

9. NIC Bank

10. Centum Investment Co.

Commercial and Services

11. Kenya Airways Ltd.

12. Nation Media Group Ltd.

13. Express Kenya Ltd.

Construction and Allied

14. Athi River Mining Ltd.

15. Bamburi Cement Ltd.

16. East Africa cables

Manufacturing and Allied

17. British American Tobacco Kenya Ltd.

18. East Africa Breweries Ltd.

19. Mumias Sugar Company Ltd.

Energy and Petroleum

20. Kenya Power & Lighting Co. Ltd

Appendix II: Weekly Stock Returns

APPENDIX II -WEEKLY STOCK RETURNS

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200501	0.378	1.074	0.814	1.002	0.225	-2.041	0.984	0.266	0.550	0.000	0.000	4.347	6.382	1.185	0.094	0.711	-0.301	-0.777	0.000	2.107	0.875
200502	5.199	0.501	7.038	6.372	0.932	-6.571	12.859	7.687	1.066	0.000	1.351	1.881	4.223	-7.001	0.910	-3.819	1.038	4.053	0.000	4.418	1.944
200503	4.506	0.112	2.115	1.949	-0.171	-3.360	-2.902	1.937	8.553	0.000	3.262	1.966	3.303	-0.227	1.251	-2.338	0.369	-1.039	3.069	-1.120	0.880
200504	2.339	0.198	0.586	-1.345	0.715	-1.889	-0.840	-3.595	6.975	7.405	2.064	-2.710	0.299	0.683	6.211	1.892	-0.908	56.210	8.635	-4.115	4.025
200505	0.786	-0.442	2.326	2.240	-1.117	-1.267	-3.191	1.945	-3.775	11.813	7.205	2.965	0.091	1.152	1.687	1.848	3.573	-7.270	3.330	4.748	1.466
200506	3.459	2.931	2.626	4.545	2.547	-0.859	0.858	1.182	6.751	0.000	2.424	0.777	0.470	6.456	-0.161	0.887	-1.036	-5.405	5.967	1.353	1.701
200507	2.991	2.888	2.249	0.968	1.506	-0.157	-3.106	-0.842	0.223	0.000	4.474	-0.532	2.951	-1.490	0.097	3.576	-1.569	-6.795	-0.568	1.626	0.289
200508	0.301	-1.504	0.484	-3.491	-1.498	-1.145	-0.430	-3.848	-2.951	0.000	1.026	-4.347	6.130	-4.084	2.156	-0.999	3.899	-7.911	-0.865	-5.502	-1.309
200509	0.714	-0.548	-0.750	-1.906	0.410	0.113	14.954	-0.524	0.634	0.000	-2.653	-4.142	-0.431	-0.376	-1.322	17.378	-3.031	-0.564	-11.422	-0.655	0.272
200510	-5.861	-0.276	0.464	-4.916	-0.462	-0.134	7.927	1.387	-0.599	0.000	-1.572	-0.660	5.398	0.402	-0.262	-3.033	-2.024	-0.397	5.465	-3.055	0.192
200511	-3.357	-2.120	2.645	-2.004	-2.883	1.315	-5.223	0.896	-9.042	0.000	-3.393	-2.532	3.155	-2.313	-0.050	2.295	0.212	-0.375	0.481	0.116	-0.991
200512	1.909	0.263	-11.931	0.475	-1.545	-1.228	-2.908	2.379	0.160	0.000	-5.132	2.417	1.706	0.631	-0.581	1.005	-0.195	1.032	0.535	-1.524	-0.760
200513	-3.306	-0.660	-2.550	0.539	0.563	-1.073	2.128	1.868	2.483	0.000	-6.196	-2.851	2.493	1.813	-0.342	-0.664	0.062	0.651	1.520	-0.109	-0.017
200514	0.232	-0.513	0.638	0.095	2.147	-3.076	2.566	0.395	13.021	0.000	4.513	-1.054	0.890	-0.207	-2.273	-0.621	-0.079	-6.731	2.784	0.126	0.664
200515	-0.175	-0.333	-1.529	0.203	1.082	-2.584	-1.359	0.083	4.304	0.000	4.303	1.732	0.958	-2.752	1.030	0.194	-1.655	-4.149	1.360	-1.590	-0.037
200516	0.077	-0.547	-2.707	3.275	1.350	3.466	0.692	1.195	2.790	-1.892	0.841	2.141	1.677	-2.821	1.743	3.910	-3.219	-0.996	1.050	3.060	0.790
200517	-0.395	0.470	0.137	1.015	0.272	1.178	0.080	2.323	6.340	-2.694	1.848	1.755	3.677	1.675	1.960	1.105	0.796	2.612	1.491	3.151	1.536
200518	-0.146	2.169	3.588	0.012	2.382	-1.936	3.645	-0.047	4.841	-1.053	0.737	0.102	1.718	-0.479	3.275	26.196	0.452	1.022	0.949	1.503	2.583
200519	0.024	0.887	4.247	1.198	-0.875	0.732	0.940	1.442	-0.707	-1.064	2.660	0.409	-0.431	-0.334	1.896	19.728	0.041	4.304	6.768	0.816	2.245
200520	0.331	1.107	-0.388	2.414	0.549	0.943	4.781	8.003	4.652	0.000	-0.328	2.704	-1.445	0.300	6.483	-30.581	-0.965	1.912	3.789	0.369	0.226
200521	6.989	2.572	0.264	4.949	0.080	0.497	-2.802	15.606	10.492	0.000	-2.320	4.156	14.955	3.609	12.164	3.152	-1.528	4.688	-1.654	2.458	3.755
200522	1.644	4.036	-0.395	0.748	-0.632	1.098	-7.031	-4.839	1.060	0.000	1.590	-2.031	30.808	3.841	15.353	3.927	-0.546	12.284	-9.616	-1.940	2.511
200523	1.197	2.481	-0.414	-0.078	-1.807	9.121	0.691	5.672	-2.590	19.132	9.231	0.408	4.929	1.693	3.029	-0.292	1.501	4.730	0.805	0.997	3.118
200524	19.836	3.813	-0.651	1.708	3.010	1.757	0.746	0.195	30.431	11.194	8.708	0.633	17.376	6.086	10.341	-0.507	1.784	0.610	-0.229	0.270	5.120
200525	9.484	5.813	-0.785	1.391	2.886	-1.472	4.849	1.864	8.390	23.035	-1.533	0.234	0.246	8.468	14.789	-0.841	4.371	9.135	-1.666	0.162	4.176

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200526	-0.771	-0.190	2.768	2.171	0.879	-2.617	-1.090	-0.095	20.782	4.952	3.639	0.747	15.535	10.310	3.928	0.029	5.116	25.296	5.069	0.100	5.123
200527	39.222	10.185	1.175	2.439	2.239	-1.365	1.799	7.358	-4.267	-5.331	20.152	10.798	29.357	-1.688	32.989	-1.309	1.902	10.718	8.786	1.588	6.712
200528	10.972	7.218	0.180	2.496	-0.441	2.534	-0.171	1.623	-2.450	-0.598	13.670	7.772	1.816	7.394	9.291	-0.305	2.222	9.297	17.671	3.172	4.336
200529	-24.280	-5.330	-0.898	-2.968	2.360	-3.897	-6.690	-8.231	-4.136	0.000	-11.634	-15.505	-12.483	-7.213	-16.138	0.102	-3.623	10.373	-6.286	1.611	-5.860
200530	-0.543	-0.741	-0.634	-2.118	-1.585	-0.989	-2.757	-0.268	-3.544	-9.953	-12.870	8.250	2.508	-2.297	2.577	-0.611	-1.880	-11.019	-6.460	0.432	-2.314
200531	0.096	-0.794	0.091	1.202	-0.293	-0.300	7.750	4.470	2.236	-10.757	-9.338	2.234	5.963	13.924	-2.513	1.230	1.341	-1.405	1.859	0.430	0.912
200532	5.909	0.950	-1.366	-1.346	-0.881	-0.802	-0.877	1.632	2.656	15.461	0.375	3.985	3.030	9.841	1.890	-0.607	0.189	8.391	-0.391	-0.143	2.210
200533	1.375	0.447	-2.955	-0.401	2.667	0.909	-3.186	-2.402	0.304	-5.400	0.000	1.854	-2.801	-1.879	7.757	-1.222	0.189	1.266	-1.832	0.143	-0.344
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200534	0.169	-0.148	-0.666	-1.128	0.433	-0.200	0.366	0.259	4.401	9.361	0.000	-1.092	1.729	0.589	-6.416	-2.784	0.000	-2.308	-5.333	-0.429	-0.177
200535	-0.338	-1.486	-0.287	-2.445	0.287	0.301	-0.364	-3.230	-0.727	-6.611	1.679	-1.840	0.283	-1.025	-0.669	-4.454	-1.507	1.870	-4.225	0.000	-1.287
200536	0.170	-4.525	0.192	-0.251	0.287	-2.200	-0.183	-3.738	-0.878	4.844	-5.138	-0.750	4.379	-1.775	-3.704	-0.222	-1.434	-0.725	-3.824	-2.726	-1.177
200537	-0.678	3.791	0.575	-1.340	-0.143	-1.840	2.747	1.664	0.148	-8.884	-4.739	0.378	-1.488	-1.807	5.769	0.334	-0.679	-0.730	-0.153	0.295	-0.321
200538	2.048	-0.152	0.381	0.849	-0.429	0.104	-0.891	1.637	0.885	9.438	-0.609	1.882	1.236	0.767	0.496	-0.222	-1.953	-1.324	1.072	-1.471	0.616
200539	7.860	3.354	0.190	1.010	0.431	-1.041	-3.058	-0.268	0.877	-1.426	-4.290	2.709	8.277	5.175	9.046	0.556	-3.586	1.093	-1.061	0.597	0.978
200540	-0.465	1.180	-0.379	0.250	0.000	0.631	2.783	-4.038	0.870	-1.085	-0.534	1.439	4.511	1.592	-4.827	0.000	1.446	2.457	-3.828	0.890	0.177
200541	8.061	-0.510	0.500	0.478	0.858	0.052	-1.173	-3.576	0.395	0.969	0.322	2.394	-0.030	11.111	2.021	0.000	5.015	1.918	-2.667	0.000	0.951
200542	8.829	1.282	0.355	3.102	0.709	0.261	-0.228	1.273	5.903	-0.452	1.604	9.235	1.949	4.167	0.971	1.105	0.848	1.176	3.476	2.941	2.088
200543	0.132	-0.181	0.000	0.301	0.141	1.979	0.320	-0.898	1.486	1.818	1.263	2.510	0.353	-3.015	-0.769	1.093	0.000	-0.930	0.711	-0.143	0.318
200544	-2.249	-0.145	0.000	-0.080	0.000	2.043	0.730	0.725	-0.399	0.000	3.015	0.206	-4.338	-11.929	0.000	0.757	-1.538	0.235	0.628	-1.717	-0.622
200545	0.406	0.581	0.755	-0.480	0.563	0.701	-1.268	-1.151	-0.802	0.000	-2.321	0.617	-6.250	5.620	-1.550	-0.215	-1.172	-1.874	2.028	1.747	-0.235
200546	1.752	11.544	-0.655	0.161	-0.839	-0.596	1.284	-16.827	-0.270	0.000	0.000	1.329	1.569	-14.154	-1.732	0.323	-4.051	-2.625	-1.529	-0.858	-1.470
200547	3.576	-9.832	-0.377	0.241	0.000	-0.300	0.362	21.106	0.811	0.000	0.413	1.110	3.346	17.124	4.327	0.429	3.811	-1.225	-0.776	0.722	2.173
200548	1.023	-0.287	-0.378	-0.401	0.141	0.301	3.791	-0.289	-1.743	0.000	-1.440	10.579	0.747	-2.307	-0.154	0.534	-0.397	3.226	0.156	-0.716	0.598
200549	0.380	0.719	-2.089	0.563	0.845	0.400	6.435	-0.435	-3.138	0.000	2.505	0.361	-1.236	-3.333	0.923	0.106	1.195	2.404	-0.312	-0.433	0.288
200550	-1.324	0.000	-0.946	0.300	-0.489	1.594	5.392	-1.201	-3.169	0.000	-1.986	-3.103	-2.222	-3.017	-1.296	0.212	-0.098	-1.702	-8.307	-0.181	-1.064
200551	-0.958	9.143	-0.024	0.977	1.193	1.176	-1.240	-17.274	-4.436	0.000	0.468	4.316	2.912	1.630	5.019	0.423	-0.690	-0.657	-3.932	0.907	-0.005

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200552	0.645	33.999	0.392	2.784	-0.139	4.651	1.452	-80.577	-17.428	-0.357	-0.207	-0.133	0.746	-1.603	11.029	0.105	1.687	-1.442	-3.470	0.540	-2.525
200601	1.122	-31.258	-0.244	3.842	0.000	-3.472	0.193	520.057	27.189	2.778	-0.130	1.114	2.160	2.222	0.000	0.263	-0.488	0.610	-2.304	-1.431	27.426
200602	16.767	0.320	0.147	6.938	0.417	1.679	11.506	-0.185	3.043	8.945	-1.842	1.850	3.202	1.014	8.874	2.152	0.980	1.091	-1.698	1.488	2.627
200603	-5.103	0.142	-0.195	-1.869	1.660	-1.132	10.249	0.000	11.533	3.393	-0.529	3.806	7.143	-1.435	-0.122	0.000	1.748	-0.480	17.083	1.144	2.744
200604	1.373	-0.849	0.196	-3.949	0.272	-0.191	9.925	-0.148	-0.252	-0.991	-3.294	-0.667	-0.874	-1.019	0.122	0.822	0.573	-1.446	-9.180	0.424	-0.554
200605	3.612	1.141	-0.195	0.954	1.628	-1.530	-9.257	-0.148	0.000	0.063	3.626	-3.188	1.103	-0.735	-1.217	0.714	1.139	0.000	6.498	0.000	0.031
200606	0.871	-0.423	-0.196	2.109	-0.134	-0.388	2.897	-1.337	0.506	-0.062	-1.591	1.040	1.200	-1.778	-3.941	-0.304	-0.375	-0.978	-0.847	-0.423	-0.265
200607	-2.160	-0.708	-0.882	0.427	0.668	-1.949	0.367	-3.012	5.786	-1.188	-1.724	-0.515	-0.431	-2.413	0.897	0.812	-0.565	-0.840	-0.171	-0.849	-0.331
200608	0.662	-0.428	-0.890	-2.908	0.133	-0.895	6.463	-0.311	-2.497	1.329	-9.430	-0.690	0.758	-2.009	6.099	1.309	-1.136	2.390	-3.253	-0.285	-0.329
200609	0.658	0.287	-0.499	-8.108	1.061	0.301	4.009	1.090	-3.049	3.123	-2.542	1.563	0.537	-1.104	-2.036	-0.994	0.000	-4.134	-1.239	-0.143	-0.625
200610	-4.684	0.000	-0.702	-0.238	-1.575	-0.800	-11.674	-0.462	-0.755	-3.998	-0.497	-4.274	-3.632	-0.957	-4.768	-1.908	-1.533	-5.479	-5.556	0.287	-2.554
200611	-3.657	-0.143	-0.505	0.239	0.267	0.403	-0.998	-0.774	-1.267	-5.868	-3.121	0.714	-0.443	-2.899	1.284	-3.582	-3.891	-1.503	0.000	-0.286	-1.178
200612	6.524	0.143	-0.203	0.636	0.665	-0.301	1.511	2.028	1.027	5.228	-10.567	4.965	-7.461	4.975	3.802	-8.068	1.822	15.313	1.708	0.287	0.922
200613	-0.557	-1.000	1.526	-1.343	0.793	2.518	4.342	1.835	6.861	4.841	12.392	0.169	26.594	6.003	5.617	15.127	1.789	-6.805	-1.119	0.000	4.218
200614	0.560	0.866	1.102	0.560	-0.131	1.768	2.378	-0.601	3.448	6.622	-4.103	-3.541	-3.232	0.298	-4.509	-1.003	-2.148	-1.268	-2.453	-0.286	-0.328
200615	-2.144	0.143	-1.388	-0.776	0.066	-1.786	-2.294	-1.624	0.431	0.427	-1.738	-2.098	0.196	-2.675	-0.424	-1.216	-1.447	-2.350	-1.112	-0.251	-1.048
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200616	26.458	8.571	0.251	4.413	21.639	21.867	17.533	-1.919	-6.152	5.957	-3.061	15.625	4.657	9.351	13.374	1.667	23.038	-1.381	2.934	5.925	7.594
200617	-15.321	-7.895	0.852	-4.015	-18.922	-13.871	-11.606	2.701	13.659	10.629	-2.596	-10.734	0.047	-7.714	2.520	-0.530	-18.601	-2.613	-4.228	-5.492	-4.127
200618	9.857	0.000	0.273	0.180	0.898	0.890	1.116	0.419	14.941	16.469	3.206	7.483	7.210	1.172	12.971	1.293	1.618	11.857	1.687	-0.108	4.399
200619	18.791	-0.571	0.124	-0.020	2.010	6.357	5.912	3.833	10.152	16.571	2.478	24.748	12.140	14.692	13.148	0.626	4.876	15.300	4.000	0.682	7.214
200620	5.375	7.759	-0.495	0.560	4.134	0.000	4.808	5.848	1.780	-6.952	9.946	7.484	-0.623	14.602	4.255	-0.796	31.689	0.212	12.383	1.712	5.174
200621	1.700	-0.533	-0.995	1.431	-0.372	-5.236	-5.097	-3.290	-1.915	8.046	-1.115	-6.242	-3.918	-8.077	-4.553	-0.100	1.297	1.695	-4.007	0.701	-1.699
200622	-2.926	0.034	-0.879	1.391	0.093	-0.552	-0.913	-0.026	4.520	-0.266	-0.376	-0.128	-1.101	-3.001	-3.063	0.276	-0.782	-13.333	0.652	-0.766	-0.959
200623	-1.918	-2.848	-9.151	1.720	2.146	8.519	-2.656	-1.000	2.254	-4.178	-0.252	-2.949	-8.124	1.180	-1.251	0.225	-2.796	-0.529	2.289	0.351	-0.897
200624	0.399	0.000	-10.826	0.684	3.289	4.949	5.791	0.289	3.892	-5.380	-3.405	4.756	3.591	1.765	4.811	-0.200	-0.590	0.048	-2.534	1.538	0.656
200625	5.405	0.276	6.633	0.604	5.307	7.317	5.263	0.000	2.523	-6.078	0.522	5.422	0.347	4.337	-1.148	0.501	2.671	-1.449	0.000	0.413	1.761

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200626	0.905	-0.138	7.160	0.750	6.271	5.758	0.900	-0.719	0.224	7.724	-3.506	-0.359	-1.209	0.238	1.161	0.498	1.590	-0.245	-2.946	1.509	1.298
200627	1.943	0.000	6.134	0.372	8.114	0.716	1.685	0.000	4.241	5.814	-5.787	0.120	1.399	-0.237	2.459	0.000	0.996	0.246	-1.071	2.432	1.454
200628	2.053	1.102	0.000	0.742	6.823	5.405	2.144	-0.290	15.418	-1.465	-3.571	-1.199	-1.724	-3.088	2.240	-0.099	1.549	-4.118	-0.181	1.319	1.106
200629	-0.287	1.771	-1.032	0.442	23.540	-1.754	0.191	-0.872	2.226	-3.699	1.778	-0.850	-1.930	-8.333	-2.660	-0.099	0.277	3.528	2.170	0.000	0.773
200630	0.000	0.402	-0.104	0.293	13.442	3.846	1.524	-1.320	0.121	-9.130	-0.728	2.203	-0.716	-0.802	-0.804	0.099	1.245	-1.333	2.655	0.260	0.587
200631	0.000	0.000	1.044	0.804	1.432	2.778	10.131	-0.594	5.136	0.467	0.733	3.353	0.901	3.100	-1.297	-0.099	-13.661	-0.200	1.552	0.000	0.820
200632	6.052	0.000	-0.930	3.118	-9.114	8.494	20.613	0.299	25.460	15.349	-0.873	3.592	3.929	0.392	-2.627	0.099	51.266	-2.708	0.000	0.909	6.172
200633	19.565	4.533	0.417	2.602	0.989	4.270	0.706	2.385	32.753	2.621	2.643	-1.230	-0.687	4.036	-8.769	0.000	-0.314	2.887	1.019	-0.129	2.670
200634	-10.909	7.653	0.104	2.810	8.531	-0.910	-5.891	1.601	-11.801	-0.982	0.858	-3.511	-0.865	23.279	8.318	0.298	-1.574	11.222	1.513	0.129	2.146
200635	10.332	3.199	-0.207	1.533	4.510	1.607	-2.534	3.868	16.119	-6.151	-1.560	3.286	-1.222	2.234	0.000	0.692	-4.158	1.577	2.318	0.772	1.362
200636	0.925	2.411	-1.663	-0.788	6.782	5.989	3.058	-2.759	41.341	-2.960	-0.865	1.250	0.177	0.894	1.706	-0.196	-0.222	1.552	13.269	0.128	3.637
200637	4.124	7.287	-2.114	4.236	27.945	18.977	8.309	-0.142	10.846	2.397	1.744	2.469	5.467	10.630	-5.872	2.559	9.365	1.965	29.571	2.423	7.266
200638	-1.980	1.463	1.944	4.762	14.892	14.158	7.808	0.994	-30.430	3.617	11.286	8.215	11.706	18.416	-2.496	2.879	0.102	10.493	10.695	6.974	5.130
200639	-3.816	-2.884	2.648	-1.333	2.907	-3.140	-4.447	2.110	17.620	-2.259	1.669	-3.036	-3.144	-2.780	-3.656	7.369	-1.629	-1.163	-6.773	-2.561	-0.236
200640	2.100	-6.363	1.032	1.474	23.435	-4.376	7.314	3.719	-8.147	-9.034	1.641	1.566	3.246	0.696	1.898	2.172	4.969	3.333	14.957	2.151	2.404
200641	-4.571	3.341	-1.302	2.073	4.592	0.000	-7.838	4.416	-3.255	7.968	-0.932	1.105	-2.507	-0.038	-1.769	0.340	0.099	-5.123	-0.325	2.485	0.175
200642	0.898	1.507	-0.647	3.188	20.103	-1.059	-4.370	-5.882	-2.588	3.209	-0.940	-0.127	-3.455	-2.399	2.133	-2.436	-3.448	-8.000	6.527	1.427	0.144
200643	0.772	2.456	0.729	24.023	11.409	2.441	0.668	-2.297	-5.882	3.005	1.519	-0.662	1.471	-4.110	1.531	1.455	-1.224	-0.217	21.663	5.091	3.319
200644	4.358	7.587	1.138	2.595	-8.484	10.535	7.402	-1.245	-8.871	9.658	6.608	10.758	-5.643	9.926	-3.656	22.603	4.339	11.983	50.935	14.454	7.506
200645	1.919	2.840	-0.613	14.499	-4.153	5.598	1.691	0.840	-5.664	6.239	0.585	-0.740	-3.156	0.448	-4.839	6.774	2.772	13.813	24.118	-3.555	3.026
200646	-8.527	3.714	-0.617	4.852	-7.456	14.900	-2.685	0.417	-9.006	1.727	-6.047	0.932	0.686	4.681	0.897	5.232	-2.119	11.624	-10.445	-3.007	-0.788
200647	0.847	-0.184	0.104	11.776	6.260	1.247	-4.468	-0.692	-3.711	-6.791	-2.847	-0.923	3.407	0.000	2.372	8.204	0.197	-0.387	8.919	4.300	1.410
200648	1.681	0.184	0.620	-1.200	-4.816	0.246	-1.725	-1.811	-5.353	-4.372	1.529	-0.652	0.000	-4.329	5.598	4.882	0.000	-2.136	-0.787	-0.192	-0.753
200649	-5.431	-7.530	-0.308	-10.061	-5.544	-2.703	-2.863	-3.121	0.905	-6.095	-0.251	-1.595	-3.789	-5.490	-1.097	-16.265	-5.894	-0.992	-2.222	-1.057	-3.998
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200650	-1.841	5.387	-1.289	-3.883	-0.356	-4.356	1.585	2.672	1.878	-0.101	0.472	3.551	-2.397	12.539	-3.420	3.172	1.905	-3.056	9.781	0.000	1.268
200651	0.604	-1.343	1.305	-10.016	-2.216	-0.066	-0.709	-0.891	-5.254	3.350	0.532	0.621	3.333	-5.214	-0.478	-1.426	-0.128	2.119	11.793	-1.748	-0.339

200652	3.034	0.923	1.375	5.353	-5.458	8.542	2.143	-1.679	8.595	0.196	3.155	4.758	1.302	-0.662	2.244	-0.429	3.932	3.239	-7.628	1.285	1.641
200701	1.687	-1.932	0.297	22.633	11.572	27.028	12.238	2.439	5.481	8.088	-1.006	14.192	0.140	3.889	-2.665	3.902	3.125	4.657	-0.119	2.927	6.152
200702	6.787	9.433	12.446	-4.068	14.207	20.623	6.916	4.571	0.887	6.304	9.756	1.568	-3.431	15.793	-2.995	7.350	10.622	-2.201	2.509	16.682	6.683
200703	-0.565	2.293	1.984	-6.007	-7.646	-19.857	-6.527	0.000	0.000	-2.560	-0.222	-0.301	-1.213	-4.433	-2.789	-4.517	3.806	-0.958	1.958	-1.462	-2.550
200704	-3.295	-3.966	5.924	-3.133	-16.820	-6.938	1.746	0.410	-2.613	-2.802	0.111	-4.683	-1.404	-3.286	0.000	-3.032	-2.667	-4.255	-2.195	-7.090	-2.984
200705	-5.875	-2.603	-4.090	2.070	-4.423	-4.473	-4.412	0.544	0.000	-7.027	-5.228	-7.528	-4.804	-5.796	-11.168	-4.378	-2.397	-4.848	-2.384	-3.815	-4.040
200706	-2.372	1.290	-0.087	-1.648	0.331	-5.797	-3.590	3.518	-5.676	0.194	-6.808	0.171	-0.748	-1.485	-5.536	-3.597	-4.035	-0.425	-4.598	-0.738	-2.066
200707	1.151	-0.637	3.746	1.546	-1.483	-1.775	0.931	1.307	3.501	6.576	7.935	10.009	3.955	0.503	-11.111	1.832	11.152	5.330	-12.048	0.651	1.680
200708	1.011	0.916	-6.885	-3.426	-3.010	-3.373	-1.449	-2.194	-0.634	-2.178	-1.867	-6.143	-3.261	1.286	-0.824	-0.067	-3.454	-2.632	11.370	-1.108	-1.523
200709	-9.637	-2.269	-12.173	-13.272	-10.345	0.873	-7.353	-5.409	-15.851	-4.824	-8.323	-7.042	-5.243	-16.291	-11.911	-5.733	-16.440	-9.356	3.782	-12.979	-8.429
200710	-2.909	-0.186	-2.361	0.758	1.154	-0.556	1.443	-1.116	-2.149	-3.314	1.946	0.535	-4.842	-8.762	-4.403	-3.253	-4.485	-4.037	-24.356	-0.644	-3.086
200711	0.856	-1.209	1.577	0.902	0.190	-2.983	-1.138	0.423	1.421	-0.605	2.799	-2.748	-6.854	-7.018	-5.428	-2.558	1.494	-1.338	2.938	4.104	-0.844
200712	-10.042	-9.040	-3.623	-5.812	-18.178	-16.912	-6.906	-5.056	-12.611	-5.071	-3.465	-9.936	-21.851	-8.937	-7.478	-14.704	-10.515	-16.521	-9.646	-6.950	-10.169
200713	3.302	-4.141	-2.793	5.063	-6.447	2.390	6.955	1.775	4.227	-6.197	-8.590	-0.101	17.404	-2.181	-1.316	-5.541	1.645	17.295	8.023	-4.682	1.199
200714	8.447	9.341	2.762	2.786	26.425	13.517	9.827	0.291	18.531	8.770	6.592	26.646	14.520	10.647	26.667	10.335	12.717	7.001	22.807	7.310	12.500
200715	0.702	-1.852	-2.554	-0.916	-3.676	-2.488	0.329	3.442	3.245	4.974	6.743	-0.500	-3.714	2.897	-2.068	0.422	0.897	-0.578	-0.298	1.226	0.291
200716	-2.021	-1.082	2.621	-1.664	-9.415	-6.395	-6.098	2.277	-7.543	-8.030	-4.838	-0.302	-6.336	2.130	-14.933	1.345	-6.175	-3.953	-8.107	-1.480	-4.104
200717	-0.996	1.221	-0.860	1.203	9.663	1.890	3.492	-0.685	1.854	-0.868	1.943	-2.621	1.529	3.547	1.444	1.244	-0.542	-4.552	0.000	-3.060	0.834
200718	1.293	0.251	2.359	2.340	-0.615	-1.391	0.202	-0.172	-1.244	0.109	-2.160	3.520	-0.782	-2.199	-7.696	-0.696	0.218	1.281	-0.403	2.029	-0.266
200719	-0.993	-0.050	-4.000	-2.287	-6.186	-6.618	-4.242	-0.104	-2.058	-1.858	-6.623	3.000	-2.131	-0.024	-4.193	0.948	-0.109	-3.018	-4.397	-0.773	-2.354
200720	1.289	-0.100	2.980	1.040	3.297	4.415	2.110	-0.415	3.890	0.223	2.782	-4.078	-0.239	0.758	6.640	0.163	5.658	4.132	0.328	2.004	1.873
200721	-0.424	-2.008	-0.322	0.147	5.532	0.593	1.653	-0.694	2.415	0.889	-1.353	-1.012	-4.785	-1.034	0.943	0.653	0.824	-2.579	-4.625	-0.546	-0.279
200722	0.675	-2.152	-1.882	-1.248	-1.714	1.862	-0.237	0.350	3.184	-1.982	-5.864	-4.397	-0.126	-1.472	-1.168	0.891	-1.941	0.242	1.398	-1.482	-0.934
200723	-1.517	3.665	-0.822	1.413	2.564	1.357	6.078	0.488	-0.686	-0.899	-5.574	-1.818	-4.528	1.108	-0.898	1.446	3.021	-2.171	4.866	-1.504	0.374
200724	3.152	0.808	-0.552	0.293	4.400	4.714	5.890	0.693	2.417	5.896	1.852	3.486	-1.186	-1.239	2.672	1.188	4.954	1.973	3.970	3.054	2.383
200725	0.278	-1.303	-0.333	1.316	8.429	3.411	9.432	1.515	4.157	0.000	8.030	2.737	2.667	1.351	-1.115	-2.582	7.129	0.764	-1.909	0.000	2.300
200726	3.601	-2.741	2.453	3.319	-1.237	-5.871	-11.381	2.849	-0.431	-5.567	14.025	-7.582	1.299	-0.762	1.316	-0.321	-5.755	-1.971	-2.315	0.988	-1.036

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200727	6.551	0.000	1.632	-0.838	-1.789	-2.593	7.855	0.396	2.275	1.134	-0.615	6.652	-3.333	1.919	7.050	0.725	4.008	5.670	-0.377	4.674	1.813
200728	12.673	0.104	1.285	1.690	1.457	-0.216	-0.578	-1.051	1.589	6.951	-4.950	-2.495	-1.326	1.507	8.319	0.560	-0.183	-2.293	-3.081	-1.973	0.280
200729	3.786	-1.043	-2.960	1.247	1.975	9.156	0.930	0.000	-0.834	0.629	-2.214	7.463	1.210	1.299	-3.040	2.387	-1.287	2.496	0.446	-1.271	0.873
200730	1.609	0.000	-3.050	2.462	-0.880	0.991	1.037	1.992	-0.210	-0.208	-0.799	6.151	-0.398	4.670	3.465	0.466	18.250	6.186	0.777	-0.966	2.102
200731	0.845	-0.421	-2.247	3.605	2.664	-0.589	8.894	-0.651	-1.897	-4.175	-4.161	5.607	-0.133	-0.612	1.595	0.464	19.370	3.440	5.014	1.300	1.951
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200732	-4.921	-0.106	-0.230	-4.253	-3.114	0.592	3.560	0.131	0.107	-0.218	1.401	-6.903	-1.202	0.264	-3.454	-0.308	3.298	0.000	2.833	-0.856	-0.445
200733	-0.661	0.106	-3.571	-1.346	1.786	0.000	-3.033	1.178	-1.180	3.493	4.972	1.331	-1.081	-3.600	0.650	-1.776	1.533	-5.100	-2.602	-1.402	-0.508
200734	4.545	2.646	-3.465	0.955	2.807	0.327	-0.104	0.388	-1.520	2.532	2.500	-1.126	-2.732	0.455	-0.646	-2.673	-0.629	-2.336	-3.772	1.532	-0.256
200735	0.000	3.196	-0.248	3.514	4.949	0.130	1.044	1.804	5.402	5.761	-6.675	0.949	-0.281	5.168	17.073	3.473	0.886	0.239	2.123	3.233	2.723
200736	-0.742	-0.100	-1.737	2.872	0.976	5.208	3.099	8.354	1.987	-6.031	-1.788	2.820	0.704	12.155	17.222	4.606	7.277	-0.955	0.160	0.209	3.002
200737	1.816	-0.400	-3.535	0.888	1.449	4.827	2.305	3.621	1.231	2.692	0.700	2.194	3.776	3.920	-1.422	6.940	9.240	2.410	-1.064	2.604	2.230
200738	-0.839	-0.100	-1.047	-0.377	-2.540	2.479	-0.098	0.225	-2.026	3.831	0.417	-0.358	-0.539	-4.586	4.567	-0.279	0.857	1.412	-0.484	-4.264	-0.153
200739	-1.693	0.302	-2.116	-1.263	-7.980	-5.300	-1.863	-2.250	-4.964	-9.126	0.277	-5.925	-2.304	-4.341	-9.540	0.350	-1.805	-7.100	-4.649	1.060	-3.607
200740	-5.597	-1.904	-2.297	-3.836	-4.779	-3.285	-0.300	-1.151	-5.550	3.632	-3.315	-4.198	-6.103	-10.940	0.254	-1.674	-3.568	-0.400	-6.973	-1.994	-3.073
200741	-5.217	0.358	-2.144	-5.253	-4.043	-9.513	-4.183	1.572	-8.842	-2.577	0.000	-4.880	-2.696	-5.482	-4.468	-1.418	-17.881	-5.717	-10.268	-1.231	-4.667
200742	2.256	-0.560	1.343	3.158	6.344	10.235	1.229	-17.593	2.622	-0.952	-4.571	8.901	3.226	5.897	12.106	2.230	8.259	7.819	4.992	0.596	2.909
200743	4.235	-2.968	-2.232	-0.408	1.093	-1.135	-5.579	-3.338	4.803	-1.709	0.299	-1.923	-1.618	1.000	-0.947	2.041	8.575	-0.691	5.239	1.940	0.129
200744	2.822	0.105	-1.854	-1.776	-7.748	-1.339	-5.799	4.604	-5.758	-0.435	-10.896	-0.392	-8.819	-3.150	3.226	-2.138	-4.181	-0.795	-0.061	-2.431	-2.612
200745	-0.329	0.105	-0.727	5.702	2.539	3.361	0.465	2.889	3.616	-0.218	5.025	4.331	5.082	0.651	-3.194	2.678	4.121	1.903	0.923	3.142	2.231
200746	1.322	2.211	0.732	-2.237	4.190	7.192	-1.965	0.267	-2.407	1.751	3.987	3.396	1.716	-0.739	-4.376	-0.549	-2.095	-1.966	0.731	1.576	0.601
200747	1.413	-1.133	-0.581	3.230	-2.194	-2.859	4.245	4.667	5.672	0.215	4.908	0.182	1.994	-0.837	2.851	2.277	-2.259	3.509	3.509	4.240	1.665
200748	0.000	0.938	-0.439	-0.652	-0.561	-3.544	3.507	1.783	-0.233	5.150	-4.678	-1.639	-0.752	0.094	5.835	1.552	9.611	0.000	2.279	2.183	1.075
200749	-1.608	-0.103	0.294	-0.919	2.068	3.051	0.765	3.004	9.006	-2.857	4.141	0.370	-1.212	0.375	3.170	2.857	2.775	0.969	0.914	-1.650	1.422
200750	1.307	0.336	-0.439	1.821	-0.092	4.758	0.461	4.040	-3.299	0.315	1.068	-0.830	-1.074	3.175	3.206	1.340	5.697	4.017	1.217	-0.790	1.312
200751	0.538	0.129	0.000	0.325	2.995	0.505	-1.484	-0.876	-4.993	-3.403	4.736	-1.628	-3.295	-0.905	-8.819	1.833	-2.107	4.035	-0.280	0.746	-0.657
200752	-0.535	0.771	2.206	2.431	6.488	5.595	3.562	-1.031	-1.898	6.233	0.870	7.801	1.804	-0.913	5.058	2.034	-2.153	-1.385	-1.823	1.728	1.967

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200801	-3.226	-1.658	-4.676	-6.646	-11.345	-8.764	-3.968	-2.679	0.198	-3.061	-1.724	-6.140	-4.462	-4.954	-8.615	-6.058	-4.400	-12.697	-2.786	-10.801	-5.539
200802	7.556	0.856	5.509	5.763	7.488	12.405	-0.275	1.284	5.149	-2.105	-7.509	8.411	0.220	8.024	6.913	4.098	1.925	11.197	-0.779	10.803	4.178
200803	1.111	-1.106	-1.288	-1.763	-3.219	-1.431	-4.972	-5.646	-4.944	-2.957	-4.590	-4.310	-6.456	-3.164	-6.725	-0.173	-5.993	-1.620	-7.509	0.933	-3.523
200804	-3.448	-0.858	0.870	-5.905	-3.235	-2.097	-2.326	-2.848	-4.666	-5.817	-8.549	-3.784	-11.121	-1.831	-2.651	-2.467	-9.432	-4.518	-8.535	-0.633	-4.232
200805	-5.185	-0.525	-2.299	-6.103	-6.591	-8.896	-6.667	-5.534	0.499	2.118	1.217	-6.742	-9.891	-6.043	-4.113	-5.992	-4.918	-4.978	-5.042	-1.273	-4.304
200806	-1.228	-1.371	2.206	-0.148	-0.806	-16.878	1.148	-0.418	-4.467	-3.687	-6.186	-1.406	0.329	-3.015	-3.733	0.754	2.333	1.452	5.678	0.595	-1.454
200807	5.537	-1.070	10.791	7.101	6.707	5.221	5.044	3.221	1.948	4.067	11.355	8.758	1.969	10.155	8.333	4.082	11.596	2.147	2.233	6.607	5.804
200808	1.606	-0.324	-3.247	-2.901	-1.714	-2.136	-0.840	-0.407	1.783	0.460	3.618	0.187	0.322	-1.976	-0.762	-0.588	-1.421	4.855	0.478	-0.555	-0.272
200809	-1.686	0.325	0.537	-0.711	1.550	2.465	1.211	2.044	-1.627	-1.602	0.317	3.178	1.283	0.384	-0.384	1.775	-0.541	-2.148	-0.340	0.000	0.406
200810	4.502	5.838	1.736	5.014	6.870	4.811	8.612	10.280	9.288	6.047	2.532	3.623	26.082	5.545	2.696	9.819	9.239	2.683	10.566	-0.093	6.905
200811	-5.744	-0.613	-0.919	-4.229	-6.786	-4.066	-2.863	-2.663	-6.752	-7.895	-2.932	-5.769	-6.365	-4.982	-8.102	-2.471	-3.483	-3.800	-6.905	-4.562	-4.535
200812	-3.337	-2.535	2.428	-4.084	-4.534	-3.623	-4.384	-3.814	-6.159	-3.810	-6.465	-2.907	-6.977	-2.765	-7.347	-1.387	-8.935	-6.420	-10.265	-2.278	-4.540
200813	1.088	-1.617	0.345	0.099	0.334	0.496	-2.530	0.216	0.310	2.723	0.623	-0.637	1.731	0.098	0.176	-1.346	-0.943	-4.855	4.354	-0.165	-0.031
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200814	3.786	0.322	3.351	0.890	0.600	1.059	3.528	1.806	1.592	0.241	2.027	2.308	-0.189	-2.351	1.847	-0.744	0.952	2.607	-1.202	0.500	1.008
200815	4.292	4.594	5.860	3.088	3.181	0.140	1.763	3.295	1.958	-1.442	9.272	4.511	3.030	0.100	4.491	-0.312	4.906	3.784	6.657	-0.299	3.083
200816	-1.646	-3.166	1.178	1.141	3.854	3.835	6.351	-0.982	4.609	6.098	8.636	2.698	1.287	2.004	6.116	0.188	4.676	1.875	1.208	0.000	2.716
200817	0.314	0.949	-4.773	0.846	1.484	1.746	1.194	3.965	2.326	-2.069	-1.395	10.683	-1.452	2.063	-0.466	1.751	10.481	0.665	4.708	-0.100	1.716
200818	1.799	-0.731	-1.895	1.748	6.033	14.274	4.077	2.056	5.562	-0.235	3.784	4.430	-2.624	2.262	2.893	4.026	-1.244	4.431	2.359	2.647	2.834
200819	-0.538	1.158	0.062	0.619	-5.345	6.339	0.309	2.774	1.756	-0.941	6.167	-4.697	-3.830	0.424	-4.183	7.592	-4.094	-1.033	0.974	1.606	0.298
200820	-0.515	-0.832	-0.498	-0.683	-4.007	-0.380	-1.028	0.795	-4.232	-3.088	-3.081	-4.293	-5.408	-3.187	-3.810	-4.723	-1.478	-2.899	-4.412	0.000	-2.486
200821	1.449	-0.420	0.000	-0.550	1.708	0.218	-1.661	1.466	-3.605	0.980	-9.272	1.495	-4.678	-0.581	0.248	-5.130	3.500	-1.872	-5.962	0.958	-1.219
200822	1.531	-0.290	-0.031	-1.971	0.047	2.353	0.317	1.528	-2.895	-0.182	-3.285	3.519	0.736	0.414	0.206	0.926	1.449	-4.654	-4.312	1.281	-0.255
200823	5.126	2.404	0.657	1.587	4.988	11.787	-0.211	13.269	7.205	3.830	12.151	0.711	9.553	9.673	9.076	2.212	0.635	8.722	5.361	2.014	5.559
200824	7.457	1.445	-0.249	0.556	1.066	3.661	0.633	-1.932	-1.970	-7.541	4.172	-0.157	0.988	-0.619	-2.334	1.767	-1.735	-2.289	1.623	0.643	-0.120
200825	0.712	0.305	1.372	-0.138	-2.812	-0.917	0.524	-1.970	-1.537	3.090	0.258	0.000	-0.196	-2.491	-1.157	1.157	-2.408	-0.407	-2.728	-0.730	-0.568
200826	-7.420	-1.014	1.107	-2.351	-3.074	-5.278	-0.313	0.000	-3.001	-3.636	2.964	-3.145	-2.549	-2.555	-1.716	-0.057	-2.303	-3.221	-3.625	-3.217	-1.947

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200827	1.145	-0.820	0.608	-1.275	-0.746	2.151	-0.941	-2.613	-0.371	-0.357	-0.125	-0.812	-0.704	-2.528	-2.063	-1.145	-0.673	4.015	0.000	-1.235	-0.507
200828	1.887	-0.413	-3.023	-2.009	-1.504	-1.914	0.211	1.445	-1.739	-1.433	-1.629	0.491	-1.317	-3.170	-4.619	-0.695	-1.695	-3.707	-5.962	-0.962	-1.771
200829	4.259	0.104	-0.623	0.146	-0.763	-1.707	0.000	-0.814	-1.391	1.142	-11.083	-0.326	-0.205	0.298	-0.170	-2.566	-0.172	-1.319	0.981	-1.845	-1.069
200830	-0.888	-0.622	-0.251	-0.877	-4.038	-1.042	-0.843	-1.128	-3.205	-0.308	1.289	-2.124	-2.366	-3.759	-3.064	-3.112	-2.591	0.107	-0.299	-0.791	-1.528
200831	-3.763	-0.730	-1.258	-2.507	-1.603	0.752	-1.488	-1.452	-2.252	-4.068	5.516	1.503	-1.475	-2.569	-6.673	-29.123	-2.128	0.267	-3.073	-1.097	-2.814
200832	-2.048	-2.101	-1.783	-4.085	-2.851	-4.032	-4.531	-3.474	-2.710	-5.099	1.609	-5.263	-1.711	-2.743	-1.411	6.667	-2.717	-0.639	-5.491	-3.931	-2.437
200833	-1.141	1.824	2.464	0.158	-4.193	-1.867	-0.791	0.545	-1.393	-1.980	-4.749	-1.215	-1.523	0.108	-2.290	-1.716	1.117	-2.626	-1.637	-0.839	-1.084
200834	8.077	2.529	-1.899	0.000	7.440	5.708	1.822	-0.542	5.367	2.135	-3.047	3.691	-0.221	2.275	1.758	2.868	6.446	2.532	4.908	1.376	2.376
200835	1.601	-1.439	1.161	-0.630	-4.684	-0.650	0.224	-0.900	-3.485	-3.333	-14.571	-7.966	2.879	-2.966	-4.031	-2.061	-4.325	-3.865	-5.075	-1.148	-2.993
200836	-3.152	-1.356	-0.383	-0.951	-4.274	-1.963	-3.906	0.798	-5.139	-0.526	-9.030	2.762	3.983	-3.384	-4.400	-5.074	-3.797	-1.396	-3.091	-0.845	-2.209
200837	-1.627	-4.334	0.256	-3.040	-8.036	-6.468	-4.297	-3.930	-3.660	4.465	4.779	-4.839	-1.242	-5.198	-5.858	-8.475	-8.271	-0.340	-9.828	-7.348	-3.982
200838	-7.537	-0.221	-3.065	-1.980	1.117	1.207	-0.728	-5.227	-1.672	-10.686	0.000	-0.942	-5.765	-5.721	-5.556	-5.271	-4.098	-3.693	-15.010	0.230	-3.531
200839	7.555	5.205	2.240	-0.168	-2.352	3.905	2.934	0.120	6.028	3.212	3.860	0.951	0.222	10.619	-2.118	9.474	9.081	0.826	-12.823	4.014	2.380
200840	-3.882	-1.053	1.643	-2.614	-3.638	-1.748	-2.019	-0.599	-2.332	-5.278	-0.338	-3.955	-4.689	-2.429	0.361	-4.190	-4.995	-1.112	2.097	-0.221	-1.953
200841	-5.889	0.133	-1.109	-9.848	-5.357	-7.570	-5.152	-6.175	-9.515	-4.992	-5.085	-6.373	-8.588	-7.174	-3.144	-1.254	-5.670	-0.962	0.790	-3.867	-4.785
200842	-2.937	-0.133	-3.526	-6.242	-5.795	-3.233	-12.460	-11.236	-7.629	-2.034	0.000	-6.545	-4.140	-6.782	-2.628	-3.448	-5.738	-1.643	-1.254	-2.730	-4.589
200843	-6.211	-0.106	-2.326	-3.099	-15.994	-10.141	-11.241	-9.584	-8.929	-5.813	-9.464	-11.619	-14.153	-7.547	-10.095	-6.165	-9.101	-3.174	-3.492	-2.393	-7.602
200844	-0.337	-1.491	0.272	-5.603	-8.651	-7.931	-7.401	-6.560	-3.725	-2.204	-17.160	-5.325	-13.777	-2.196	-2.401	-12.660	4.464	-4.391	1.053	0.484	-5.011
200845	11.909	-0.405	2.612	22.060	29.940	29.487	32.549	32.063	20.672	-2.047	0.000	31.896	6.149	25.187	19.211	28.670	20.421	11.138	19.466	6.024	17.637
200846	-3.899	-2.849	0.628	-2.936	-4.792	10.742	-1.642	-3.274	-7.173	-1.131	8.810	-4.569	-0.550	-13.901	-17.936	2.389	-7.833	-9.314	-8.447	-2.386	-4.613
200847	-3.770	-2.235	-0.920	-5.198	-12.357	-2.174	-5.041	-1.743	-4.000	0.931	-2.845	-1.277	-3.231	-2.917	-0.296	-0.836	-2.090	-4.297	-16.548	-1.979	-3.634
200848	-2.176	0.229	-5.040	-2.991	-4.333	-0.952	-2.260	-6.685	-2.841	-0.846	1.351	-6.466	-4.218	-3.147	-7.715	-2.247	-3.146	-7.483	-7.561	-3.800	-3.692
200849	-5.562	-3.421	-9.358	-0.822	-0.647	-8.013	-3.266	-5.263	-4.678	-2.171	0.000	-2.535	-10.275	-6.942	-5.949	-4.598	-6.729	1.029	-13.117	-5.309	-4.845
200850	6.154	-1.860	-1.387	3.109	5.825	1.829	-0.417	5.517	0.204	-3.724	0.000	4.905	4.550	2.183	-0.855	3.351	2.301	0.892	-5.195	-1.076	1.061
200851	0.416	-2.797	0.625	0.603	12.068	6.005	2.857	3.839	2.245	0.741	0.889	5.465	7.971	1.903	11.207	2.295	3.465	-7.160	12.600	2.273	3.531

200852	0.000	-0.990	0.673	-0.100	4.027	-1.011	0.741	0.704	1.131	-1.416	0.220	-0.285	0.845	-1.169	3.876	1.140	2.820	-1.191	10.649	1.372	1.160
200853	0.829	3.125	0.643	0.500	8.065	2.391	0.735	0.000	3.125	3.591	1.099	0.714	1.497	4.499	0.746	1.056	0.857	8.519	3.008	1.697	2.414
200901	0.959	-1.212	0.958	1.244	0.000	8.121	5.109	1.748	9.091	6.000	0.000	1.862	3.540	2.214	2.037	0.871	7.082	2.264	17.883	0.938	3.671
200902	-0.787	-1.595	0.645	2.801	-10.014	-6.451	3.611	-1.031	-0.877	0.302	0.870	-8.930	-1.538	-2.238	-4.755	-0.104	-2.116	0.620	-13.065	1.796	-2.214
200903	0.547	-0.499	2.413	-3.155	-5.066	-5.605	1.340	-3.056	-5.487	-4.665	3.448	-5.734	-1.910	-4.136	-7.317	-1.107	-5.297	-5.211	-6.410	-0.122	-3.030
200904	-0.544	-2.506	2.062	-2.567	-5.591	-2.468	-5.820	-1.862	-7.491	-5.209	-7.708	-1.460	-3.186	-5.855	-2.303	-2.378	-4.224	-6.241	-4.718	-0.609	-3.691
200905	-7.002	-2.828	-1.299	-4.357	-4.643	-7.045	-3.230	-2.482	-3.441	-5.745	0.677	-2.469	-4.022	-1.964	-19.865	-1.576	-7.151	0.951	-3.994	-2.206	-4.036
200906	-5.176	-8.333	0.000	-4.873	-7.904	-2.281	-3.774	-4.192	-11.195	-3.092	0.000	-2.228	-12.571	-3.172	-11.345	-7.569	-5.006	-20.801	-15.474	-6.140	-6.839
200907	-1.365	-2.597	-0.585	-7.461	-6.360	-10.166	0.603	-6.719	-6.138	0.273	-1.570	-5.334	0.000	-2.069	-4.739	-8.031	-6.892	-1.388	-0.197	-3.204	-3.820
200908	-3.145	-1.926	2.647	-6.017	-13.257	-9.053	-10.345	-5.193	-11.318	0.000	-9.795	-10.394	-9.107	-8.979	-6.716	-1.370	-1.306	0.704	-3.353	-2.483	-5.645
200909	-12.597	-12.085	-0.430	-6.786	-12.453	-8.387	-16.890	-11.396	-11.912	0.000	-4.040	-6.166	-7.191	-3.482	-5.600	-0.868	-2.647	0.299	-12.653	-0.990	-6.509
200910	-13.076	-4.983	0.432	-1.923	-5.172	-3.823	-7.243	-3.091	-2.254	0.000	4.474	-0.260	-9.039	2.505	-3.107	-1.051	-9.215	7.662	2.336	-7.857	-2.190
200911	7.179	-0.542	2.865	10.924	8.864	29.916	13.557	16.872	15.152	-10.000	4.534	9.915	-3.407	15.543	16.035	12.212	14.809	4.436	16.416	5.581	9.667
200912	1.914	5.091	3.343	-0.505	1.461	-0.886	6.781	-3.169	-3.604	-6.465	0.000	-1.009	0.823	-5.584	0.503	-1.420	-12.609	13.982	6.491	0.587	0.201
200913	1.095	2.422	-2.695	1.269	1.440	4.224	-1.073	3.273	9.436	4.752	2.410	13.669	11.195	-0.358	8.250	0.800	-1.824	1.553	-0.921	0.584	3.074
200914	3.560	-1.520	-3.878	4.010	-6.998	-2.962	5.425	-1.056	19.035	0.000	3.529	3.586	21.395	5.036	-0.231	0.952	4.392	2.370	-3.160	2.177	2.742
200915	4.634	-1.658	-1.297	1.205	1.236	-1.071	2.916	0.237	7.821	-7.045	0.000	-3.853	-6.048	-2.397	-3.549	1.939	1.133	-5.153	2.687	-1.513	-0.758
200916	4.714	-0.407	-0.146	0.000	5.889	0.920	-0.833	4.024	-13.380	-5.508	0.909	-0.124	2.069	-3.158	0.800	0.411	2.400	1.260	-0.935	-1.060	-0.362
200917	4.229	0.525	2.778	2.024	0.203	-0.724	3.025	2.389	3.415	3.521	1.351	5.461	4.054	3.261	0.238	1.536	2.188	4.821	5.849	0.000	2.417
200918	1.767	1.045	-0.249	1.371	1.142	-0.628	1.754	-0.625	3.479	6.151	3.333	0.490	-1.786	1.535	-2.316	-0.530	-1.758	1.076	2.718	-3.608	0.663
200919	-1.865	1.552	0.963	1.180	1.079	-1.978	5.010	-0.713	-3.590	1.469	1.075	-2.489	2.479	1.253	3.830	-0.989	2.257	0.330	1.692	2.079	0.868
200920	1.442	1.698	2.542	0.569	5.462	-1.830	1.985	0.169	0.473	0.000	0.851	-1.744	-2.796	0.171	3.747	-1.843	4.566	0.951	6.826	-1.185	1.085
200921	-0.517	0.000	2.755	1.697	17.137	1.441	2.545	-0.506	-1.176	4.211	1.899	0.940	-2.655	-0.511	3.612	-0.469	3.348	0.797	-1.118	1.499	1.865
200922	4.383	0.167	2.714	0.806	5.105	-3.091	-1.277	1.907	0.298	-9.091	0.414	-0.479	1.705	-0.257	-6.318	-0.157	-2.113	-1.689	-2.464	0.628	-0.694
200923	1.773	0.000	1.403	2.621	4.168	3.879	-0.185	4.948	5.875	0.000	6.804	-0.247	-7.575	5.236	12.093	0.787	4.029	-0.037	-0.621	-0.771	2.232
200924	4.890	5.333	1.931	5.914	3.818	-0.166	2.370	8.558	4.933	0.000	6.564	5.472	5.899	3.915	-0.830	2.344	2.628	-1.536	-1.833	0.148	2.919
200925	13.054	3.639	5.303	11.269	11.528	9.643	4.776	7.445	8.333	-0.222	5.254	10.672	12.329	14.286	21.548	7.786	8.625	-1.412	5.433	4.727	7.945

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200926	-5.258	6.718	2.758	1.642	1.458	-2.805	2.210	-0.136	-2.959	1.670	2.065	0.223	-2.439	-2.198	2.065	1.558	-1.985	1.507	-1.610	0.987	0.565
200927	2.938	4.292	-2.217	3.411	3.563	-2.418	0.541	2.449	-0.203	7.119	2.530	4.454	4.792	1.404	10.455	-3.347	1.899	-3.489	0.000	-1.676	1.766
200928	-3.383	-0.137	-1.432	-4.688	-3.923	-3.357	-2.823	-6.109	-2.444	-1.738	8.224	-2.345	-2.584	-3.740	-2.443	-4.473	-2.360	-3.538	-0.818	-1.420	-2.218
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200929	0.547	0.412	4.237	-3.643	-1.319	0.248	-1.936	2.687	1.044	1.977	0.304	-0.437	1.429	4.029	0.000	-0.906	-0.636	3.030	-0.495	-2.305	0.406
200930	-0.762	2.599	2.904	-1.512	-1.591	-0.413	1.834	1.653	0.413	-2.959	4.848	-1.096	3.018	-2.490	-4.225	0.610	-0.896	-2.632	2.819	1.917	0.253
200931	-0.987	0.000	1.129	-0.384	-0.776	-2.071	1.662	2.304	-3.086	0.000	1.156	-4.656	-3.125	-2.553	-2.778	-1.212	-5.039	-9.459	2.258	-0.434	-1.425
200932	0.775	-0.933	1.004	-1.541	-2.477	-1.607	-0.409	-1.987	-5.520	-3.575	-5.714	2.093	-0.806	-1.019	5.546	0.767	-0.408	0.439	9.621	9.012	0.131
200933	0.110	0.538	-0.773	-2.446	-5.882	-0.430	0.137	-0.270	-0.225	8.179	-3.030	-0.683	0.610	-4.412	9.873	0.152	-0.683	2.622	-0.288	-0.533	0.129
200934	-0.110	0.736	-2.422	-3.962	-3.409	-4.577	-0.786	-0.745	-0.056	-0.454	-1.172	-3.096	-5.051	-4.231	-0.725	-1.976	-7.840	-0.767	-7.287	-3.653	-2.709
200935	0.110	0.731	0.884	-3.394	-4.412	-0.995	-3.614	0.614	-0.620	-1.570	-0.079	-1.964	-2.553	-2.651	2.044	-3.411	-4.478	2.661	-1.012	-2.887	-1.406
200936	0.439	0.792	-0.452	3.676	3.538	2.559	0.286	-1.628	-0.227	-2.469	3.481	5.746	3.712	4.620	-0.286	-1.926	8.906	1.923	-0.943	1.003	1.701
200937	0.765	-1.440	-0.455	-3.858	-4.829	-2.050	-0.142	0.000	-7.273	-3.692	0.917	-5.023	-1.895	-2.839	-2.439	-1.309	-4.735	-1.148	-1.587	-0.567	-2.335
200938	-0.081	1.262	0.171	0.732	-3.884	-0.591	0.392	0.000	0.184	-0.739	0.000	-3.546	-2.092	-1.177	0.184	-1.949	-2.108	-6.535	-4.234	0.036	-1.258
200939	0.733	3.869	0.057	-1.911	-4.406	-4.989	0.604	-0.276	1.040	4.055	0.000	2.679	-8.384	0.041	1.138	0.127	-0.308	-1.887	1.558	0.535	-0.340
200940	2.155	1.641	-0.228	-0.659	-4.163	-2.023	-3.955	-4.149	-0.969	-0.954	-1.212	-1.699	-1.196	4.105	-2.612	0.000	-1.080	0.905	5.473	-0.284	-0.687
200941	-0.949	-1.366	0.114	-1.105	-4.787	0.492	2.353	-0.722	-3.863	-2.784	4.294	-3.062	2.663	-3.155	-1.043	0.676	-5.772	1.704	0.629	-0.284	-0.790
200942	2.636	0.756	-0.228	1.816	4.399	0.905	0.395	2.471	0.394	0.220	-0.735	0.739	4.658	1.384	3.163	1.091	-2.318	5.820	1.953	-0.499	1.389
200943	0.960	0.250	0.000	-0.576	-5.106	-1.673	-0.537	0.000	-0.798	0.989	-1.037	0.430	7.493	0.723	1.168	0.581	-1.864	-1.083	4.521	1.362	0.255
200944	0.514	0.998	1.714	-3.422	-0.470	-0.394	-0.719	0.993	-0.613	-1.415	-0.599	-0.554	1.677	13.557	0.000	0.330	-0.691	1.095	1.466	1.273	0.749
200945	-0.716	1.728	0.562	0.343	9.726	0.198	0.290	-0.983	-2.107	-1.545	-1.657	1.772	3.918	-1.124	-6.638	1.809	0.522	-4.000	1.879	2.235	0.365
200946	0.206	-2.184	-2.570	-0.228	8.520	1.976	-1.301	0.000	0.210	0.673	1.072	-0.398	8.929	-2.415	-1.546	0.162	-1.384	0.260	11.631	-0.273	1.112
200947	-2.569	-0.868	0.229	2.511	-6.899	-0.291	-0.732	-0.567	-1.991	-0.668	0.000	0.300	11.293	10.335	-2.983	-1.452	-1.754	-3.117	-1.398	0.548	0.131
200948	2.057	-0.188	-0.029	1.893	-0.767	9.694	-0.442	-0.678	5.559	-8.632	-1.894	0.224	11.088	-0.891	2.346	-0.573	3.571	0.536	-0.612	0.136	1.071
200949	0.155	-1.317	0.372	-4.918	-0.858	-3.167	-2.074	-1.329	-3.646	6.012	0.077	-0.422	1.805	-7.221	7.510	-1.235	-1.379	3.822	8.006	0.272	0.016
200950	2.167	0.762	-0.456	0.575	0.779	-6.862	2.874	2.329	1.471	-3.241	-2.778	-0.150	4.197	-2.869	-2.500	0.333	-0.699	2.654	-13.926	2.171	-0.807
200951	-0.707	-0.378	0.115	1.371	-0.515	2.849	2.941	1.422	1.088	-0.239	1.746	2.449	-3.750	0.443	1.207	-0.664	4.401	0.334	4.463	4.914	1.273

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
200952	2.747	-0.475	0.114	1.184	-1.986	2.197	2.143	1.157	2.651	-3.927	-0.936	0.610	1.732	6.066	1.900	-0.711	3.921	-4.613	0.467	1.899	0.705
200953	9.901	-0.795	1.714	0.279	-0.881	6.075	-2.098	0.520	1.061	0.468	0.000	-0.606	1.418	-2.946	0.183	-0.632	1.420	0.218	-4.319	0.000	0.057
201001	-3.604	1.282	-0.983	2.778	1.444	0.330	0.893	1.552	-1.420	0.155	0.197	-1.220	2.448	1.964	0.730	-0.212	1.600	2.283	2.604	-2.484	0.734
201002	-2.617	0.127	-0.936	5.946	5.148	-2.173	1.805	1.053	3.694	1.953	6.248	1.728	12.355	2.837	9.710	0.382	0.630	-0.106	0.981	0.892	2.751
201003	3.263	0.885	0.229	3.878	15.167	2.334	0.834	2.554	14.251	5.596	-4.734	9.223	26.245	0.954	20.079	3.553	11.111	-0.596	8.579	2.652	6.463
201004	5.204	0.251	0.914	-0.884	-2.171	2.544	-1.655	-0.262	-2.326	3.687	-1.863	0.000	-1.636	0.270	-0.660	0.654	-0.563	6.250	1.111	1.722	0.283
201005	-2.827	0.000	4.530	-3.865	-3.476	-3.251	-0.561	-1.577	1.082	-0.556	7.595	-2.222	-1.370	0.135	12.514	-1.786	-0.992	0.886	-2.808	2.418	0.352
201006	-2.909	0.875	-0.542	1.340	1.533	0.000	0.000	0.801	0.642	-0.447	4.559	-0.227	-0.298	0.806	2.953	3.140	0.572	1.997	-1.508	0.118	0.859
201007	-1.498	2.478	2.179	-0.102	-4.604	0.442	0.846	0.927	-1.702	-0.337	4.079	-4.100	-3.383	0.133	-5.449	-2.404	-0.711	-0.392	0.255	1.651	-0.536
201008	-1.521	1.088	1.173	2.749	-0.870	-1.144	0.280	-0.394	-1.732	0.901	3.919	0.000	1.648	-0.533	1.719	-0.164	1.433	9.906	2.417	1.276	1.246
201009	1.158	8.493	1.581	1.685	-0.239	-3.651	2.092	1.318	-1.101	-1.339	34.590	-3.088	-1.824	8.032	-2.386	1.645	2.119	7.582	11.677	3.780	3.735
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201010	0.382	3.087	-0.415	2.729	2.880	4.806	5.874	1.430	0.891	4.751	28.889	4.167	1.032	6.444	2.138	3.560	6.086	22.473	29.811	3.974	7.085
201011	2.662	5.134	-0.312	-4.269	6.921	5.115	4.032	2.308	0.221	23.434	34.483	1.882	23.391	6.054	2.692	9.688	-0.391	13.138	28.535	-0.849	8.484
201012	-2.778	1.119	4.075	0.694	-5.891	-0.923	-3.876	-2.130	-1.101	3.762	-10.033	-2.079	-0.166	-1.098	0.680	1.140	0.524	-17.370	-5.933	0.857	-1.987
201013	2.095	-3.924	1.606	0.591	11.669	1.863	1.677	3.585	-1.782	-3.288	-2.974	3.538	-0.166	-2.886	0.675	-2.676	-12.891	21.370	2.906	0.849	1.039
201014	1.368	-3.839	-6.785	5.023	2.537	2.244	-1.227	4.450	-4.006	-2.499	-7.833	4.024	-0.609	2.667	0.894	-0.627	-0.349	2.472	-1.745	-1.053	-0.329
201015	3.252	3.230	-0.247	6.211	1.710	1.463	0.214	1.183	-1.969	-6.468	5.173	1.825	-0.724	-1.039	0.728	0.049	1.550	-5.121	-2.220	-1.489	0.214
201016	2.139	-2.321	2.338	2.807	3.451	6.811	5.769	-0.117	2.892	-4.493	-0.659	-3.226	-2.189	-1.125	11.027	0.873	6.942	-3.199	0.502	1.944	1.475
201017	0.524	-0.108	1.661	0.171	15.459	6.077	2.667	-0.234	7.494	7.307	-0.531	1.778	-0.344	2.048	12.818	0.722	7.597	-1.423	3.281	3.602	3.686
201018	-0.174	1.081	0.000	-1.874	0.278	-5.941	0.472	-0.822	-5.664	-2.799	2.400	-1.092	-2.591	0.111	-0.752	2.006	-1.412	-2.114	3.315	1.329	-0.740
201019	1.565	1.711	0.613	1.736	3.989	4.812	0.588	0.592	-0.462	-3.359	1.823	-10.375	-1.418	5.457	1.137	-3.511	0.521	0.158	1.203	2.220	0.391
201020	6.164	3.996	0.102	2.901	1.652	0.789	-1.519	0.824	-0.928	-0.497	-2.046	2.956	-2.698	5.597	-0.825	0.437	-0.648	-3.156	-1.321	4.047	0.509
201021	5.161	0.910	2.535	-1.990	-1.625	-3.701	-1.305	2.100	-5.902	-3.892	-4.439	-1.675	1.479	-0.600	-3.401	0.725	-3.520	-5.323	-6.292	5.313	-1.611
201022	-2.607	-0.050	0.890	-0.169	0.093	-3.640	4.417	1.143	-1.755	-11.345	-2.152	-0.852	1.776	0.352	-0.333	1.079	-0.507	-7.272	-3.482	-2.477	-1.278
201023	-0.630	0.150	-0.098	0.169	7.678	1.093	-1.237	1.017	4.370	-1.259	3.037	0.859	-6.577	0.251	0.569	-0.214	1.460	0.418	7.382	-1.339	0.933
201024	5.864	-0.200	1.963	1.354	0.840	4.856	0.117	0.224	2.913	2.017	9.350	0.487	-4.885	-0.500	1.717	-0.999	1.874	4.621	-0.965	0.375	1.324

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201025	-0.599	0.100	1.059	0.501	0.000	-4.920	2.212	0.112	-3.349	0.581	-7.807	-8.475	-5.438	0.905	0.077	-1.009	1.445	2.415	-2.575	0.373	-1.252
201026	5.120	0.200	2.095	1.163	8.824	-2.511	1.253	0.669	-1.757	1.156	5.780	-2.011	-0.106	-0.100	-0.920	1.456	2.073	5.003	0.214	2.881	1.335
201027	0.860	0.000	0.933	3.777	-0.225	-0.078	-0.112	-0.997	0.348	0.457	-1.906	-1.188	-0.959	-0.499	-1.858	0.861	-0.127	-2.355	0.356	2.078	-0.079
201028	0.994	0.200	4.991	2.532	1.129	-0.859	0.225	0.783	0.248	-3.072	1.813	-2.350	1.292	-0.200	-0.868	0.996	-0.508	-0.112	-0.142	2.389	0.447
201029	-0.141	-0.798	2.817	6.636	-8.929	0.473	1.798	0.000	-1.037	0.352	-5.980	-0.392	-0.638	-1.606	0.080	0.563	-1.149	-3.537	-1.849	4.754	-0.444
201030	3.944	0.302	0.942	-6.368	-3.186	-3.765	2.980	0.000	-3.842	10.292	3.654	2.360	-2.139	-2.551	1.828	0.280	1.163	0.466	-1.159	3.630	0.257
201031	6.030	1.304	6.234	4.907	17.089	4.116	3.162	1.554	-1.142	2.731	5.255	3.869	9.699	6.152	12.022	0.035	6.801	4.143	4.655	9.076	5.351
201032	3.898	-0.792	3.872	-0.994	2.703	3.014	1.299	0.109	-0.840	3.948	-5.612	0.079	-1.469	2.885	-0.836	4.433	2.720	-1.641	0.385	4.307	0.925
201033	-1.907	0.050	-0.365	-1.414	-0.526	-3.780	13.333	-0.246	1.443	5.139	2.989	-1.465	-3.185	-1.726	-0.299	2.941	0.407	-2.220	-1.431	-11.302	-0.087
201034	0.940	-0.249	0.366	-0.830	-1.164	2.192	-1.176	-0.192	-0.587	-4.321	2.456	2.076	4.648	0.878	-1.956	1.429	6.667	6.204	-1.027	0.197	0.822
201035	1.553	0.125	0.211	-0.304	-1.231	0.367	-0.641	-2.001	-2.297	-3.628	2.273	-0.459	-5.065	-0.024	-10.945	0.672	0.815	-3.254	-4.149	-1.280	-1.622
201036	0.673	0.275	0.479	-3.053	-1.572	-2.291	1.567	-1.762	-3.398	0.179	-2.100	-0.119	-1.813	1.572	0.827	0.350	-0.809	0.830	-1.493	0.020	-0.648
201037	6.075	1.295	0.763	1.575	3.965	2.206	-0.544	6.378	1.780	0.409	6.095	-0.686	-1.499	12.190	-1.041	1.774	-3.152	-0.838	2.348	3.907	1.943
201038	-1.031	2.950	1.136	5.426	3.814	0.308	-2.007	4.283	0.929	-1.833	-3.634	3.137	1.957	3.990	-2.751	1.868	0.337	0.901	-0.814	4.451	1.287
201039	3.125	0.764	1.273	0.147	1.837	-0.077	1.862	-0.513	1.245	6.120	-0.730	2.938	-2.985	-2.857	-0.998	1.711	1.790	0.725	-0.299	0.000	0.629
201040	-1.684	-2.844	0.296	-0.294	0.401	0.385	3.656	-1.651	-0.802	-4.692	0.000	8.913	0.220	0.084	2.689	0.000	0.989	-0.055	-2.021	-1.837	0.181
201041	-2.511	-1.659	0.885	0.295	-1.198	0.613	4.056	1.574	-0.593	3.692	4.167	4.138	-1.316	-2.015	-4.010	-1.683	3.482	-2.772	4.813	-3.892	0.451
201042	2.752	2.307	0.512	0.587	-0.253	1.104	6.144	3.048	-0.556	-3.808	-2.941	0.166	-1.250	-0.814	-1.961	-0.214	4.495	0.627	1.950	1.830	0.578
201043	-1.880	-1.188	0.873	-1.898	-0.557	-1.168	7.146	5.564	-0.968	-2.931	2.909	-0.165	-2.785	-1.253	-4.087	1.194	-0.478	1.190	2.806	1.721	0.312
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201044	1.045	1.374	0.649	0.744	-2.648	-1.829	-0.149	-0.190	-0.441	1.907	3.769	-0.442	2.662	-2.275	-1.360	-0.605	-1.213	-3.303	0.695	0.376	-0.120
201045	-0.920	-1.258	3.367	-0.886	-3.138	-0.078	-3.731	1.142	-0.111	-2.807	4.200	-1.996	-1.804	-2.059	-6.618	1.949	-0.512	5.153	-4.006	1.798	-0.600
201046	1.508	-2.255	0.485	-4.918	1.080	1.088	1.860	3.763	0.332	-5.882	-6.754	-1.584	-3.100	-2.468	-4.134	-0.119	-0.617	-5.176	-1.151	-0.221	-1.567
201047	-0.914	-1.906	-1.517	-0.627	0.427	1.537	1.826	0.453	-3.422	1.477	-0.935	0.690	7.820	28.866	0.719	-2.033	-0.104	-4.297	-3.202	0.295	1.372
201048	-0.807	0.000	-2.241	-3.155	1.489	-6.964	-1.644	-3.610	-9.200	-3.247	-1.179	-2.511	0.989	-15.091	-1.937	-2.808	0.000	1.396	-4.060	-1.324	-2.900
201049	0.000	0.000	-0.287	-1.303	-5.031	-1.871	0.000	-3.652	0.000	-0.926	-3.222	2.108	0.762	-1.285	-0.520	0.251	0.725	-7.361	1.097	-4.098	-1.295
201050	0.000	0.204	0.335	-4.840	-3.974	2.819	-0.963	1.555	1.112	0.467	-1.767	1.300	-2.808	-2.748	1.707	-1.420	-0.549	5.297	1.938	-4.557	-0.363

201051	1.395	-3.367	-1.909	0.578	1.149	-0.323	-0.409	-0.096	-1.784	-4.419	2.301	-1.509	1.222	-2.082	-2.911	-0.085	-3.586	-3.129	-1.369	1.111	-1.085
201052	3.096	-2.006	-0.657	3.103	2.273	0.971	-0.154	-2.874	1.965	-3.528	-2.577	-0.920	1.098	2.278	0.952	1.272	-1.502	2.343	2.082	2.899	0.369
201053	1.780	0.754	-0.808	4.515	2.222	-1.843	4.167	-0.888	0.994	-1.639	2.645	0.928	-0.109	6.904	1.677	4.899	0.218	7.983	-1.435	0.939	1.691
201101	-1.639	3.209	2.148	4.480	2.391	2.367	3.852	7.264	0.923	-0.513	0.613	5.747	2.500	4.167	2.577	-0.599	4.348	3.954	4.215	2.713	2.966
201102	2.111	1.244	0.943	-0.306	1.062	1.356	2.140	-2.876	-2.317	5.670	0.732	2.826	-0.636	-3.200	1.608	3.735	1.667	-5.843	-5.000	2.491	0.279
201103	1.741	2.866	-1.437	-1.690	0.210	-4.013	2.514	0.382	0.062	3.902	-3.390	0.423	-1.814	-3.719	-1.978	-0.465	1.025	1.171	0.000	-0.295	-0.329
201104	0.856	1.294	0.802	-0.781	-0.210	-0.574	0.409	-3.330	0.250	-5.282	3.258	-0.421	0.000	-1.502	-1.312	0.000	2.130	-0.463	-2.090	0.148	-0.404
201105	0.106	-1.375	-1.446	-1.102	-0.840	-1.731	-2.035	-8.465	-0.996	-0.372	-3.034	-4.863	-2.391	2.397	-10.532	0.233	-0.298	-2.791	-2.213	-0.295	-2.218
201106	-2.542	-1.892	-0.880	-3.344	-2.542	-4.362	-0.693	2.151	14.896	-1.617	-0.501	0.222	-4.343	-0.638	-0.343	-0.698	-0.398	0.478	-2.829	0.148	-0.378
201107	-1.522	-0.305	-0.074	1.647	-0.435	-2.895	0.558	-0.211	9.354	-1.896	-0.252	2.217	-5.006	-3.640	-8.830	0.703	0.000	-1.190	1.165	-0.148	-0.486
201108	0.000	0.305	2.148	10.049	-2.183	-5.781	0.832	-4.536	-2.951	-1.418	-0.631	0.651	-3.186	-1.778	3.396	0.815	2.200	-0.602	-4.359	0.666	-0.335
201109	0.000	-0.406	2.828	0.147	-2.679	-7.191	-2.613	-0.221	-2.371	-2.614	-0.127	0.216	-0.253	-0.905	-2.555	-0.231	-1.761	-0.061	-6.965	1.690	-1.372
201110	-2.539	-3.772	-1.975	-1.618	-2.064	-0.103	-3.107	-5.648	0.739	-8.725	-6.607	-2.366	-8.376	-3.425	-5.119	0.116	-5.378	-0.728	-8.226	-5.491	-3.783
201111	-3.624	-5.614	-0.863	-6.428	-1.405	1.448	1.312	3.873	3.092	-12.500	-1.633	-1.101	2.355	1.655	1.447	1.734	2.000	0.916	-0.906	1.223	-0.494
201112	-9.166	-0.112	0.073	-8.147	-0.475	-0.510	-0.863	-2.147	-25.064	0.840	-0.692	1.336	-7.578	-2.326	-3.502	-1.250	-3.406	0.121	-4.268	-2.039	-3.158
201113	8.021	-3.146	-0.798	0.696	1.909	1.127	0.435	2.656	0.407	2.000	-1.532	3.077	-4.978	0.476	-3.898	-0.460	-1.175	-2.902	-1.380	0.848	-0.349
201114	1.078	1.856	-2.120	6.218	3.981	0.304	-0.867	7.987	0.608	-1.961	-3.678	7.036	-0.616	-0.237	9.790	3.121	2.270	-7.846	9.688	-2.141	1.758
201115	0.474	-4.670	-0.373	3.577	0.450	-0.202	5.102	5.521	1.209	-3.333	-4.699	3.785	5.426	0.000	-1.783	2.466	-6.977	-3.919	-0.785	-2.734	-0.102
201116	-0.796	-1.882	-0.487	-0.314	3.419	4.884	1.595	0.321	1.194	-1.509	0.732	-2.351	7.537	-0.238	1.492	1.477	3.693	0.035	0.890	0.201	1.089
201117	-2.080	1.218	-1.318	2.756	-0.271	4.222	-1.365	0.369	-1.885	2.188	4.589	0.246	-2.222	0.000	-1.278	-0.270	0.411	-1.845	-0.980	0.601	0.272
201118	-0.455	1.203	-0.191	1.149	0.815	-2.546	-0.173	3.309	-2.256	-0.857	-2.011	3.676	8.916	4.464	-1.618	0.405	0.136	-5.013	-2.970	0.299	0.355
201119	3.049	1.991	-0.038	-0.152	-0.593	0.713	2.322	-1.969	-0.855	-13.952	1.493	-3.735	1.573	1.425	1.053	-2.557	0.163	8.577	0.408	-0.695	-0.254
201120	4.142	2.098	-3.060	0.152	0.434	0.189	3.659	-1.065	-5.448	-9.036	-3.676	-1.768	1.138	-4.270	1.693	0.663	0.218	-0.903	3.354	0.320	-0.806
201121	2.159	-0.114	-0.474	3.636	-2.808	4.426	-16.078	0.098	-1.605	0.442	4.580	2.400	1.750	0.939	-0.512	1.098	-1.412	-1.472	19.666	-1.515	0.687
201122	1.919	-0.714	0.317	2.705	-0.278	10.798	-4.400	3.006	0.074	4.945	5.292	-0.391	2.426	-0.872	-3.958	-3.366	-2.808	-0.249	1.787	-0.911	0.705
201123	-0.246	2.331	1.344	-2.178	4.513	6.043	-0.611	0.593	1.704	1.361	-3.778	0.196	-1.529	-0.293	1.575	-3.820	0.397	2.389	-1.837	-1.042	0.387
201124	-0.438	-0.900	1.794	-3.551	-1.066	-15.272	0.164	-6.698	-3.277	0.207	3.890	-2.348	-7.308	0.941	-1.187	-4.673	-1.467	4.109	-7.730	-0.743	-2.375

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YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201125	2.088	-0.681	-0.077	4.888	-0.431	-2.446	-1.473	-4.146	-0.904	-5.979	-2.497	-3.006	3.417	0.466	-1.736	-1.103	-1.718	0.000	0.980	-1.498	-0.944
201126	-2.045	1.714	0.000	-0.518	-0.866	0.650	0.166	1.371	-0.684	-1.316	-2.276	-1.860	-3.050	0.232	-2.989	1.735	1.632	-2.274	0.088	-0.760	-0.474
201127	-1.209	-0.225	-0.690	-2.603	1.528	-2.675	-2.653	1.249	-5.968	6.222	1.892	-1.895	-6.291	-4.167	-0.280	0.609	-0.573	-1.369	-0.617	0.085	-0.969
201128	-0.222	-1.351	1.004	-2.435	-6.022	-0.758	-2.896	-2.775	-0.732	-7.322	0.143	-1.502	-5.874	-0.725	-3.371	-1.695	-1.615	-2.221	-3.815	-2.381	-2.439
201129	-4.013	0.571	-1.300	-2.191	-1.831	1.910	-3.684	-1.057	7.869	4.966	-1.712	-0.871	2.526	-1.460	4.070	-4.803	-7.386	2.555	-5.904	-2.265	-0.526
201130	1.278	-1.135	-0.852	-2.862	-10.629	0.843	-1.093	-2.030	0.152	0.430	-1.161	1.319	-4.783	-2.123	-0.559	-4.140	-0.633	2.353	1.569	-0.624	-1.366
201131	0.573	0.230	1.250	-1.281	-1.513	2.509	-0.921	0.218	-6.677	-3.212	1.909	-0.868	0.304	-3.380	-1.966	1.889	-4.586	-3.989	-0.193	0.897	-1.020
201132	-2.395	-2.176	-2.469	-9.409	-9.958	0.091	-5.762	-3.482	-1.626	-9.735	-2.017	-9.190	-7.436	-5.953	-7.020	-0.530	-10.280	-2.183	-3.965	-5.867	-5.209
201133	-0.935	-2.225	-6.171	-3.797	6.824	1.902	-1.183	-1.466	-5.537	-1.961	-0.147	-0.241	2.131	7.218	-4.160	0.000	-2.827	-0.432	3.726	-1.605	-0.524
201134	-3.656	-3.593	2.108	-1.489	-0.496	3.467	-0.299	-1.259	-0.612	-1.250	3.535	-3.140	3.050	1.191	-2.733	-0.666	0.459	-3.326	6.505	-0.288	0.061
201135	-0.857	0.621	-2.560	-2.494	-6.682	3.737	-2.277	0.811	-0.418	2.532	-0.782	-1.309	-3.427	-2.124	3.099	-5.328	-2.058	-0.804	-2.005	-3.272	-1.302
201136	-1.481	-0.123	-1.271	-6.899	-7.428	1.698	-1.050	0.805	-1.171	-3.210	-3.656	-1.706	-2.419	-3.477	-2.044	-2.301	-1.012	6.315	-2.512	-0.796	-1.698
201137	3.133	-2.472	2.146	-0.416	6.919	8.713	1.656	5.131	1.699	1.276	-1.190	-0.823	1.818	1.083	2.782	0.725	1.415	3.546	10.973	-2.407	2.241
201138	-3.888	1.394	0.252	-0.418	-1.258		0.102	-0.759	0.704	-1.259	2.711	-6.895	-6.331	2.090	3.344	0.719	1.240	-1.438	14.961	0.411	0.532
201139	-3.666	-4.250	-2.347	-6.885	-6.614		-0.610	-7.869	-2.707	3.316	-1.613	-6.347	-6.066	-6.352	0.308	-0.143	-4.594	-3.127	-5.684	-3.582	-3.620
201140	-0.394	1.567	1.116	-3.246	-1.105		-0.307	-3.915	-0.898	2.716	0.894	-4.935	-7.011	-4.596	-1.690	0.858	-4.334	2.511	-1.745	-6.476	-1.700
201141	0.395	-1.542	-1.528	1.212	-0.788		-2.259	-3.827	-0.815	-3.846	5.318	-3.690	6.548	-0.411	-2.969	-0.851	-7.215	18.824	1.856	0.795	0.267
201142	1.706	1.338	-0.754	9.346	-1.325		-0.867	-3.081	-0.342	0.000	-3.401	-4.302	-10.847	0.516	-1.771	-0.215	-3.933	8.289	2.120	-2.168	-0.633
201143	2.839	-1.836	0.239	8.295	-1.007		0.132	0.530	2.268	-3.000	3.956	7.142	-4.543	1.071	6.230	-1.792	7.294	3.984	6.227	1.986	2.065
201144	7.277	3.346	1.928	8.865	7.458		0.794	2.108	2.487	12.758	7.542	13.046	-0.438	8.522	1.659	4.927	8.553	4.799	1.077	3.273	5.150
201145	-3.392	0.825	-0.276	-1.571	1.009		-0.052	0.774	2.557	-6.971	3.636	0.000	-3.077	1.565	-14.383	2.122	-1.737	-1.485	-1.355	-1.093	-1.084
201146	-6.659	-2.771	-0.597	-1.451	-3.186		-1.681	6.274	-4.348	-1.229	-5.013	-3.978	-9.388	-4.636	-1.950	-2.180	-3.618	-3.546	0.806	-0.552	-2.391
201147	-1.946	0.000	-0.772	-5.302	-8.452		-3.419	0.843	-2.050	-3.483	-5.541	-4.784	1.251	-2.652	-1.085	0.696	-6.485	0.210	-2.035	-1.667	-2.485
201148	0.265	-6.088	-0.864	-7.465	-6.836		-0.885	-3.704	-2.184	2.062	-2.793	-7.904	-1.087	-4.370	-10.055	-4.288	-4.745	-1.415	-3.858	-8.362	-4.158
201149	-0.923	-4.276	-2.354	-4.790	-9.002		-3.571	1.117	-0.651	-6.061	-1.868	1.198	-6.597	-2.730	-1.829	1.012	-9.195	-8.878	-1.620	-1.356	-3.414
201150	0.533	-0.576	2.902	2.824	-0.561		0.984	3.374	-1.100	3.831	-4.832	2.564	4.601	-0.778	6.884	0.680	-0.844	-5.922	-2.059	2.188	0.787

YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201151	-3.532	0.000	4.845	5.436	3.379		2.197	1.088	-5.168	1.834	2.821	2.137	1.961	-0.897	0.404	-0.296	2.128	-12.868	1.301	-2.550	0.431
201152	7.780	-5.072	1.276	5.834	7.042		0.794	0.685	7.196	-0.847	1.185	4.027	2.843	6.722	-0.402	0.297	0.521	-2.580	2.372	0.107	1.778
201201	0.478	-4.580	2.962	1.058	6.043		-0.834	2.041	0.931	2.564	1.294	0.830	0.305	0.291	0.726	-0.355	3.109	7.945	-0.193	0.940	1.393
201202	-0.983	4.480	2.540	-4.320	8.638		-0.140	1.600	8.143	-4.500	-0.438	-0.553	-1.763	-4.058	-3.077	-1.747	6.533	1.117	-1.896	0.124	0.593
201203	-1.921	1.531	0.310	0.398	-6.426		-0.225	-2.475	-3.584	2.356	0.293	1.504	-1.832	-3.142	-0.595	-0.290	-0.566	4.418	-0.473	-0.620	-0.523
201204	1.567	-0.302	-0.154	-1.743	0.070		-0.563	-5.075	-0.088	-4.859	7.018	5.809	1.614	-2.371	-0.200	0.437	-0.190	8.333	-2.377	-2.372	0.166
201205	-1.414	-0.151	-1.005	-0.323	-1.541		0.906	1.823	1.417	6.720	-3.005	7.171	-4.268	0.000	0.000	1.884	-0.951	-0.533	-0.081	0.639	0.484
201206	0.000	-1.970	1.093	-0.647	-3.556		-0.224	3.819	-2.707	-3.275	6.197	0.784	-3.577	0.703	-0.400	0.142	-2.111	-2.617	-12.185	0.127	-1.134
YearWeek	ATHI	BAMB	BAT	BBK	CENTUM	CMC	DIAMTR	EABL	EACABLE	EXPRESS	KAKUZI	KCB	KENAIR	KPL	MUMIAS	NMG	NICBANK	REAV	SASINI	SCBANK	MartRet
201207	-0.391	-1.546	-0.232	2.199	0.147		0.337	1.494	-1.167	-3.906	-0.531	1.089	-1.720	-0.254	-8.434	-0.284	-1.765	-0.855	0.093	0.761	-0.810
201208	0.262	1.570	3.638	4.622	2.430		3.027	2.378	-1.090	7.859	6.133	1.796	-4.486	3.117	5.263	0.997	3.792	-1.540	3.327	1.889	2.485
201209	1.567	13.292	18.745	3.503	3.738		0.544	4.204	1.377	6.030	1.005	3.327	-0.687	-6.292	0.417	4.090	10.385	0.188	7.603	4.574	4.225
201210	3.470	6.548	-4.340	1.177	-3.465		1.299	5.202	5.525	-1.185	-7.960	5.610	2.710	-5.596	1.245	5.285	0.174	0.062	-6.401	4.137	0.557
201211	-0.994	-2.305	0.657	0.582	-5.384		-3.312	0.908	-0.751	-2.878	2.162	-4.619	-9.938	1.325	-1.025	3.990	-4.696	-1.873	-4.707	-1.816	-1.871
201212	-0.251	1.573	0.588	-2.892	-1.290		0.552	-2.100	-4.432	1.235	-1.587	3.390	-12.095	-1.789	-1.863	-1.485	-4.380	0.954	-3.914	-2.659	-1.789
201213	1.006	-1.806	-7.987	-9.308	0.231		2.198	2.758	-1.719	-0.488	3.226	4.918	-1.631	0.140	-1.477	2.136	1.336	0.882	6.984	1.544	0.108
201214	4.452	-1.445	1.182	-2.196	2.761		-0.403	0.149	-0.668	5.392	4.655	2.121	0.667	2.519	-0.428	1.784	-4.426	-2.795	3.581	1.608	0.781
201215	-0.447	-0.167	2.703	-0.420	5.504		-0.405	0.496	-0.579	-5.523	1.089	3.005	0.895	3.669	0.269	0.000	2.463	0.241	1.313	2.878	0.968
201216	1.437	-0.501	4.041	6.048	5.959		1.680	2.025	-0.326	-1.538	-0.185	0.584	0.941	0.346	13.887	-0.665	5.962	0.449	-1.080	-5.343	1.794
201217	5.549	0.134	3.916	2.305	4.940		1.599	3.582	6.455	-0.750	-0.123	-1.477	3.868	0.722	4.520	1.095	6.715	-1.659	0.262	-0.946	1.953
201218	3.607	-2.480	1.680	-0.350	-1.559		2.702	-0.701	-2.570	-0.819	0.000	-0.696	0.288	0.407	-1.126	0.933	1.403	1.720	-1.024	-0.955	-0.175
201219	4.939	-0.206	1.745	1.053	-3.457		1.865	0.706	-2.593	-4.000	0.494	1.779	-1.975	-0.341	2.415	1.580	2.138	-2.073	-1.078	1.566	-0.021
201220	3.601	-0.138	1.275	2.392	-0.335		-0.100	0.841	2.222	0.000	-0.369	2.754	6.198	-1.172	-1.779	-0.117	15.435	3.257	1.957	2.017	1.908
201221	-1.887	-0.138	0.959	-0.603	0.000		1.004	0.741	-1.449	-4.497	0.123	-8.041	3.956	-2.042	3.261	-2.115	0.000	2.461	5.148	3.721	0.138
201222	-0.936	1.865	1.544	-1.914	-1.024		-0.472	0.046	-1.080	5.263	-1.478	2.298	-6.815	-1.395	-1.096	-0.510	-5.405	2.140	3.008	-0.364	-0.300
201223	1.047	0.746	1.930	-0.754	-0.933		0.175	0.322	-3.275	2.368	0.000	0.822	-1.054	-3.905	2.173	-2.262	4.812	-2.396	4.169	-0.197	0.152
201224	1.213	2.961	1.033	-0.545	0.753		1.695	0.367	0.288	1.799	-5.125	0.217	-6.631	2.555	5.729	2.963	-0.143	-0.247	-0.619	1.466	0.473

201225	0.699	5.098	2.726	2.428	-6.322		0.392	2.009	2.874	-6.313	-1.186	1.518	-4.275	1.315	5.255	2.998	3.305	-0.433	-5.914	7.000	0.693
201226	-0.694	0.124	2.377	1.758	-3.120		0.977	0.895	-1.583	4.852	0.000	-1.709	-2.422	2.527	-3.120	1.979	0.278	-0.187	-2.895	3.946	0.260

APPENDIX III:- GRAPHS

ATHI

$y = 0.8324x + 0.4935$

Return Per Share

Return on the Market

ATHI

Linear (ATHI)

Bamburi

$y = 0.1486x + 0.1511$

$R^2 = 0.0164$

Return Per Share

Market Return

BAMB

Linear (BAMB)

APPENDIX III:- GRAPHS

BAT

Return Per Share

Market Return

$y = 0.2435x + 0.1105$
$R^2 = 0.0812$

♦ BAT
—— Linear (BAT)

BBK

Return Per Share

Market Return

$y = 0.7306x - 0.0246$
$R^2 = 0.3354$

♦ BBK
—— Linear (BBK)

APPENDIX III:- GRAPHS

CENTUM

$y = 1.1574x - 0.0172$
$R^2 = 0.373$

Return Per Share

Market Return

- ◆ CENTUM
- —— Linear (CENTUM)

Diamond Trust

$y = 0.8266x + 0.2094$
$R^2 = 0.3303$

Return Per Share

Market Return

- ◆ DIAMTR
- —— Linear (DIAMTR)

APPENDIX III:- GRAPHS

East African Breweries Ltd

Return Per Share (y-axis, values: 600.000, 500.000, 400.000, 300.000, 200.000, 100.000, 0.000, -100.000, -200.000)

Market Return (x-axis, values: -20.00, -10.00, 0.00, 10.00, 20.00, 30.00)

$y = 4.251x - 0.0895$

$R^2 = 0.2524$

◆ EABL

—— Linear (EABL)

East African Cables

Return Per Share (y-axis, values: 50.000, 40.000, 30.000, 20.000, 10.000, 0.000, -10.000, -20.000, -30.000, -40.000)

Market Return (x-axis, values: -20.00, -10.00, 0.00, 10.00, 20.00, 30.00)

$y = 1.1272x + 0.0103$

$R^2 = 0.2964$

◆ EACABLE

—— Linear (EACABLE)

APPENDIX III:- GRAPHS

Express Ltd.

y = 0.5788x - 0.2446
$R^2 = 0.1363$

Return Per Share

Market Return

EXPRESS
Linear (EXPRESS)

Kakuzi Ltd.

y = 0.654x + 0.0747
$R^2 = 0.1518$

Return Per Share

Market Return

KAKUZI
Linear (KAKUZI)

APPENDIX III:- GRAPHS

Kenya Commercial Bank Ltd.

$y = 0.9995x + 0.0948$
$R^2 = 0.4331$

Return Per Share

Market Return

KCB
Linear (KCB)

Kenya Airways Ltd.

$y = 1.0048x - 0.2442$
$R^2 = 0.289$

Return Per Share

Market Return

KENAIR
Linear (KENAIR)

65

APPENDIX III:- GRAPHS

Kenya Power Ltd.

$y = 1.0185x - 0.0866$

$R^2 = 0.3797$

Return Per Share

Market Return

- KPL
— Linear (KPL)

Mumias Sugar Company Ltd.

$y = 1.0669x - 0.0568$

$R^2 = 0.3305$

Return Per Share

Market Return

- MUMIAS
— Linear (MUMIAS)

APPENDIX III:- GRAPHS

Nation Media Group Ltd.

$y = 0.6919x + 0.0207$
$R^2 = 0.2317$

Return Per Share

Market Return

- NMG
—— Linear (NMG)

National Industrial and Credit Bank Ltd.

$y = 1.0454x - 0.0089$
$R^2 = 0.3374$

Return Per Share

Market Return

- NICBANK
—— Linear (NICBANK)

APPENDIX III:- GRAPHS

Rea Vipingo Ltd.

$y = 0.8085x + 0.0083$
$R^2 = 0.1863$

Standard Chartered Bank Ltd.

$y = 0.4749x + 0.0088$
$R^2 = 0.2603$

APPENDIX III:- GRAPHS

Sasini Ltd.

$y = 1.1604x + 0.0752$
$R^2 = 0.2891$

Return Per Share

Market Return

◆ SASINI
— Linear (SASINI)

CMC Ltd.

$y = 1.0119x + 0.0096$
$R^2 = 0.3561$

Return Per Share

Market Return

◆ CMC
— Linear (CMC)

APPENDIX III:- GRAPHS