THE EFFECT OF EARNINGS CHANGE ON STOCK RETURNS OF COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

CHRISTOPHER KITALI MASILA

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DECLARATION

This research project is my original work and has not been presented for award of any degree in any other University.

Signed…………………………………… Date……………………………………

CHRISTOPHER KITALI MASILA
D63/73063/2014

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

Signed………………………………………Date……………………………………

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DEDICATION

I dedicate this work to the Almighty God and to my Mum Mrs. Philomena Masila and my late dad Mr George Masila for planting the seed of education.

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LIST OF ABBREVIATIONS

EMH	Efficient Market Hypothesis
EPS	Earnings per share
GAAP	Generally Accepted Accounting Principles
IAS	International accounting standards
IASB	International accounting standards board
NSE	Nairobi securities exchange
NYSE	New York stock exchange
ROE	Return on equity
ROI	Return on investment
RWH	Random walk hypothesis

ABSTRACT

Use of accounting information for valuation of equity is an area which has drawn the interest of different categories of individuals including investors who monitor companies accounting earnings and earnings changes patterns of the companies of their interest so as to make informed decisions in their investments. In the recent past this field made seminal contribution with the publication of Ball and Brown (1968) and also the works of Easton and Harris (1991) both explaining on the relevance of accounting information in explaining stock returns. Company's earnings is a critical variable affecting the market value of equity share and once a company's earnings increases, its equity value or equity return increases. Specifically, the study establishes the effect of earnings change on stock returns (capital gains) of companies listed at the Nairobi Securities Exchange as at December 2014.The study borrows many concepts from the works of Easton and Harris (1991).The study used a descriptive research design. The population of study was all 61 companies listed at the Nairobi Securities Exchange as at December 2014.The census approach was applied and only 51 companies whose complete secondary data was found were considered. The secondary data collected covered 2010 to 2014 period (5 years).The secondary data was obtained from the financial statement of the companies, from Nairobi Securities Handbook from 2009 to 2013 and monthly average stock prices were obtained from the Nairobi Securities Exchange and annualized to get annual average stock prices. A multivariate regression model was used to link the independent variables to the dependent variable. The study concludes that earnings change has an insignificant effect on stock returns (capital gains) of all companies listed at the NSE. The study also concludes that stock liquidity and firm size have a negative relationship with stock returns for all companies listed at the NSE. The study recommends that companies should concentrate on increasing its earnings but not its earnings changes because from this study, it is evident that it is earnings not earnings changes that play a role in prediction and explaining stock returns and this is in line with findings of Easton and Harris (1991) that earnings changes do not play any role in predicting and explaining stock returns. To the investors, potential investors, financial analysts and researchers, the study recommends that other factors other than earnings, stock liquidity and firm size should be considered and their effect on stock returns measured because the results of this study show that   the above mentioned variables explain only a small percentage of the stock returns (capital gains).

CHAPTER ONE: INTRODUCTION

1.1Background of Study

The relationship between accounting earnings and stock returns has been a key subject of research for many years. Ball and Brown (1968) first documented the accounting earnings and stock returns relationship. An extensive number of accounting literatures has been published, all trying to best accommodate incentives of returns-earnings associations as well as the ability to forecast future earnings from stock movements (Domintropoulos and Asteriou, 2009).

The interest of this study is more intense since accounting information is disclosed and published so as to enable investors in making investment decisions. Beaver (1989) mentioned that earnings per share are the only figure in the financial statements that receives the greatest attention by the investors. Domintropoulos and Asterious (2009) in their study to determine the relationship between earnings and stock returns stated that earnings numbers are supposed to facilitate analysts and investors to forecast future cash flows and deal with relative investment risk..Seetharaman (1995) stated that earnings per share reflected the good or bad position of the company and its change reflected good or bad position of the company and its change is reflected not only in the market price in the stock exchange but also in the price-earnings ratio, dividend cover, dividend yield and earnings yield.

Capital market studies evaluate the return-earning relations and the joint presence of earnings changes and earnings levels as explanatory variables in a return-earnings model (Bong and yang,2013).Ali and Zarowin (1992) imply that the relative

importance of earnings levels and earnings changes in explaining stock returns depends upon earnings permanence. Easton and Harris (1991) suggest earnings level is the most important variable in explaining stock returns and that value relevance of earnings levels does not depend upon the earnings permanence.

Equity valuation is a central question which researchers and academicians in the field of capital markets and practitioners in the field of stock trading are trying to address from different dimensions. Use of accounting information for equity valuation and/or estimation of stock returns is a field which has drawn interest of many researchers.

1.1.1 Earnings Changes

As per IAS 33, earnings per share are the amount of earnings for a period that is attributable to each ordinary share. Enterprises whose ordinary shares or potential ordinary shares are publicly traded and those enterprises that are in the process of issuing ordinary shares or potential ordinary shares in public securities market are required to calculate and disclose earnings per share. Earnings per share is computed by dividing earnings after interest, the depreciation and tax by total number of outstanding shares. Dividend may be distributed out of these earnings; whether it is distributed as dividend to shareholders or not, it belongs to the shareholders. Hence earning per share is a measure which the stock brokers and investors will watch carefully and consider it while deciding the market value of the equity share. There are two types of EPS as per IAS 33 that is the basic earnings per share and diluted earnings per share which the financial reports should measure and report separately because they have different meanings and outcomes to investors. Earnings per share is

a very important variable which help investors in estimating returns on their investments.(Seetharaman and Raj ,2011)

Hai,Diem and Binh (2015) employing the framework of the Easton and Harris (1991) defined earnings levels and changes as follows: Earnings level is the percentage of each currency showing the percentage of each currency of each unit invested in the stock that was earned by the company, calculated by earnings divided by price at the beginning of the return period and Earnings change is calculated by change in earnings per share divided by the beginning of period price.

1.1.2 Stock Returns

Stock returns is the ratio which measures the percentage of income on invested capital. The formula for the stock returns is the appreciation in the price plus any dividends paid, divided by price at the beginning of the return period (Hai,Diem and Binh, 2015). Berk, Demarzo and Harford (2013) define capital gain as the difference between the expected sales price and original purchase price of an asset, capital gain rate as the amount by which the selling price of an asset exceeds its initial purchase and dividend yield is expected annual dividend divided by its current price.

Glen Arnold (2013) in his published book defined dividends as the cash in form of earnings that flow from a company and that an investor who holds shares is expects two types of earnings; income from dividends and capital gain resulting from the appreciation of the share and its sale to another investor. He further notes that a stock return is a function of dividend yield and capital gain rate.

1.1.3 Earnings Change and Stock Returns

Miller and Modigliani (1966) in their study showed that earnings variables are most crucial in explaining the valuation models. In other words, accounting information is closely paralleled with investors' decisions. Ball and Brown (1968) in their study "An empirical evaluation of accounting income" assessed the usefulness of accounting information disclosed in the global market. Beaver (1968) also suggested that accounting earnings are associated with security price. The study suggested emphasizes that earnings per share is the indicator that investors are keen on. Peasnell et .al (1987) conducted a study on London capital market and this study indicated that accounting information has a small but significant impact on stock returns in the days leading up to announcement.Collins*et .al* (1997) proved the relative association between stock price and information reported in financial statements. Andreas Charitou*et .al* (2000) proposed that Japanese stockholders primarily used earnings and cash flows for evaluating security prices, meaning that disclosed information has a great influence on stock returns. Dimitrios I. Maditinos*et al* (2007) carried out a study on the Greek stock market from 1992 to 2001, and concluded that stock returns has a relation with EPS, but not ROI and ROE.

Bhatt and Sumangala (2012) studied on the impact of earnings per share on market share of an equity state that earning is an important variable affecting the market value of equity share and that a company producing and selling goods and services useful to citizens in a society and earning revenue covering its cost of production adds to its reserve and build up the same. They stated that once a successful company starts building up reserves it will also look for expanding its scale of operations and thus

increase its earnings. When the company earnings are high, the company's share become more and more attractive and demand of these share goes high.

Ball and Brown (1968) in the study to evaluate the importance of earnings in firm valuation suggest that unexpected earnings explain stock returns. As a natural proxy for unexpected earnings, earnings changes play an important valuation role in prediction of stock returns (Bong and Yang, 2013).From the available literature, most of the early accounting studies that analyze the return and earnings relationships have mainly focused on earnings changes. In this study, earnings levels will be incorporated in the model as a surrogate for earnings changes when earnings performance is low (Ball and Brown 1968).From the above studies, it is evident that earnings are key in determination of stock returns and the researcher will therefore seek to examine the relationship between earnings change and earnings level and stock returns in the context of Kenyan economy.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange formerly Nairobi Stock Exchange was constituted as a voluntary association of stock brokers under the Society Act (1954) as a voluntary association of stock brokers charged with the responsibility of developing the securities market and regulating trading activities. Over the past decade, the securities exchange has witnessed numerous changes, automating its trading in September in 2006 and in 2007 making it possible for stockbrokers to trade remotely from their offices, doing away with the need for dealers to be physically present on the trading floor.

It should be noted that the stock market in Kenya plays a very critical role in that it forms a platform for raising capital for the Kenya's economic development. The stock market also gives guidelines on investments as stated under the Capital Markets Authority in Kenya and ensures that the investors are guided accordingly in making their decisions on what to invest in. The role of stock market is highly emphasized not only in Kenya but also in the rest of world countries. In Kenya the stock market growth has been rapid, growing at a very high rate and thus the usefulness of corporate financial reporting whereby relevant accounting information is required to help investors make sound decisions based on the financial statements prepared(Ngugi,2005).

Nyamolo (2010) examined the information content for annual earnings announcement for firms listed at the NSE. This study concluded that the earnings announcement for the sampled firms had no information content .Wameya (2012) investigated whether post earnings announcement drift exists at the NSE. The findings of his study are that the stock returns for firms that report bad news tend to move downwards for a period of at least sixty days from earnings announcement clearly showing that post earnings announcements exist at the NSE. Francis (2013) found evidence that an increase in dividend payments tends to be related to increase in stock prices at the NSE.

To the researcher's knowledge there is no much documented evidence explaining the earnings changes and how they affect stock returns at the NSE. However, few studies stated above show that increase or decrease in announced earnings by companies listed at the NSE leads to either increase or decrease in stock prices and stock returns.

Thus the above scenario calls for thorough study to establish the case at the NSE concerning the earnings levels, earnings changes and stock returns.

1.2 Research Problem

Several studies have been conducted to explain the relationship between accounting earnings and stock returns. Lundhlom and Myers (2008) in the study to investigate the effect of disclosure quality on the returns-earnings relation concluded that companies with more information disclosure from future, current stock returns reflects more future news. Miller and Modigliani (1966) in their study showed that earnings variables that is earnings changes and levels are the most critical explanatory ones in valuation models; that is financial reports or accounting information is closely related to investors' decisions. The study concluded that earnings variables such as earnings changes are very critical and that investors ought to pay much attention to the earnings reported in financial statements because they will determine the returns of their investments in the preferred companies.

Ball and Brown (1968) in their empirical evaluation of accounting income numbers assessed the usefulness of accounting information disclosed in the global market. In the same period, Beaver (1968) also concluded that accounting earnings are associated with security prices and the study emphasizes that EPS is the indicator that investors mostly care about. A study done by Peasnell (1987) indicates that accounting information has a small but significant impact on stock returns in the days leading up to announcement. Collins et al (1997) proved the relative association between stock prices and financial reports. Charitou et al (2000) proposed that Japanese stockholders primarily used earnings and cash flows for evaluating security

prices, meaning that disclosed information has a great influence on stock returns. Dimitrios et al (2007) carried out a study on the Greek stock market from 1992 to 2001, and concluded that stock returns have a relation with EPS, but not ROI and ROE. Nguyen (2009) investigated the relationship between the accounting information and stock prices in domestic Vietnam Stock market between 2003 and 2007. Kothari (2000) points to the rising stock return volatility around the globe and wonders whether transparency of financial reporting is related to the said trends in stock return volatility. Most of the empirical studies have been focusing mostly on the relationship between stock prices and accounting information. Numerous studies have established strong evidence for the existence of a relationship between accounting fundamentals and stock returns. Such fundamentals include the price to earnings ratio (Basu,1977), firm size (Banz ,1981), the book-to-market ratio (Fama & French,1992), cash flow yield (Chan, Hamao&Lakonishok,1991) and the debt-to-equity percentages (Mukherji, Dhatt& Yong ,1997).

Previous studies that employed both indirect and direct methods have analyzed the influence of these characteristics on the return generated by the strategy; the evidence is inconclusive. This proposed study will focus mostly on the stock returns whereby the capital gains and dividends as returns from investment in shares will be highly magnified. Pope and Wang (2005) used analytical methods to show that the value of the firm (returns) can be explained by a weighted of core earnings levels and earning changes when earnings are predominantly transitory. Eason and Harris (1991) adopted Ohlson and Shroff's (1992) early fundamental valuation concept and conclude that it is earnings not earnings change that explain stock returns. In contrast Easton and Harris (1991) adopted the Ohlson and Shroff's (1992) theoretically show

that the earnings levels variable can be the best explanatory variable for returns even though the time series of earnings follows a random walk and that the time series behavior of earnings serves no apparent useful purpose. Ohlson and Shroff (1992) show analytically that the earnings level variable will help explain returns and this helps forecast earnings. However they do not provide any empirical evidence when the earnings level variable will be most important. The studies also do not show that there are other significant variables such as earnings changes, firm size and liquidity that influence stock returns.

In the Kenya's NSE there is no is known study that focused on the effect of earnings and changes on stock returns of firms listed at the Kenya's Nairobi Securities Exchange. Also there is little or no local literature to be reviewed. However, there are several local studies that have been carried out addressing the case of earnings announcements and stock returns or stock prices. .Wameya (2012) investigated whether post earnings announcement drift exists at the NSE. The findings of his study are that the stock returns for firms that report bad news tend to move downwards for a period of at least sixty days from earnings announcement clearly showing that post earnings announcements exist at the NSE. Francis (2013) found evidence that an increase in dividend payments tends to be related to increase in stock prices at the NSE. Maina (2009) investigated stock returns and trading activity reactions around annual earnings announcements for listed companies at the NSE so as to verify whether earnings announcements possess informational value. The study verified that earnings announcements at the NSE possess informational value and that investors can make informed decisions based on the available information. Mohamed (2009) undertook a study to establish whether earnings announcements affect stock prices of

all companies listed at the NSE. The study also aimed at determining whether earnings announcements generate abnormal returns and duration of abnormal returns of firms listed at the NSE. The findings are that significant movements in returns were observed periodically; pre-post earnings announcements. Most of the shares posted negative abnormal around the earnings announcements dates which shows how stock prices have reacted to the earnings announcement event. These studies generally address increase or decrease in earnings and how they affect stock returns and stock prices.

This study therefore seeks to fill this research gap by investigating the effect of earnings change on stock returns of companies listed at the Nairobi securities exchange. The research question to address will be: What is the effect of earnings changes on the stock returns for all companies listed at the NSE?

1.3 Research Objectives

To determine the effect of earnings change on stock returns of companies quoted on the Nairobi Securities Exchange.

1.4 Value of the Study

This research project will help investors and users of financial statements to be aware of the importance of earnings per share as a component of income statements and that it is important to consider the earnings level and earnings changes of a firm in making investment decisions.

The study will shed more light on the relationship between financial reporting and stock returns in Kenya and will sensitize investors on the need to analyze annual financial reports released by companies keenly for a wise decision making before undertaking any investment. The research project will also form a strong basis for future research and will provide relevant literatures to academicians who have interest in this field. The proposed study will contribute to literature on the relationship between earnings and returns by illustrating a context in which the earnings level and changes variable are analyzed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter contains a review of the theories guiding the study, reviews of the empirical studies related to the area of study, a review of general literature on determinants of stock returns and concludes with a summary of the literature review.

2.2 Theoretical Review

A number of theories have been advanced relating to earnings level and earnings changes to stock returns This section reviews the following theories; efficient market hypotheses, random walk hypothesis, agency theory and earnings theory.

2.2.1 Efficient Market Hypothesis

The simple definition of the Efficient Market Hypothesis (EMH) is that securities reflect all available information. Jensen (1978) states that the EMH has become an accepted fact within the financial literature. The major contribution of the hypothesis can be described as follows: The definition of the information set is the reason for different versions of the EMH: weak, semi-strong and strong. They were first mentioned by Roberts (1967) and have been tested and reviewed widely by various academics since (Jensen ,1978, Dimson and Mussavian ,1998, Fama 1998, Sewell 2011). The typology is defined as follows (Fama ,1970, LeRoy (1989), Spremann, 2008): Market efficiency purports that stock prices display a random walk pattern which implies that current or past share prices are of no help in predicting future prices, so the fact that a share's price has risen (or fallen) does not mean that its next movement is likely to be up (or down). The efficient market hypothesis (EMH) states

that investors cannot make profit by trading on news reports and other public information, because the share prices adjust to information as soon as it is known.

In an efficient market information gathering and information based trading is not profitable as all the available information is already known by the market. This may leave investors with no incentive as to the gathering and analyzing of information, for they begin to realize that market prices are an unbiased estimate of the shares basic worth (Mabhunu, 2004).In efficient markets, prices are random, so no investment pattern can be discerned (Fama, 1991).A planned approach to investment therefore cannot be successful.

Even though there is considerable evidence regarding the existence of efficient markets (Grossman and Stiglitz, 1980), one has to bear in mind that there are no universally accepted definitions of crucial terms such as abnormal returns, economic value and even the null hypothesis of market efficiency. Critics of EMH (La Porta, Lakonishok, Shliefer and Vishny, 1997) argue that the predictability of stock returns reflects the psychological factors, social movements, noise trading and fashions or "fads" of irrational investors in a speculative market. Various anomalies and inconsistent results call for refinement of the existing paradigm.

Studies in behavioral finance which look into the effects of investor psychology on stock prices also reveal that there are some predictable patterns in the stock market (Hirshleifer and Shumway, 2001). Investors tend to buy undervalued stock and sell overvalued stock and in a market of many participants, the result can be anything but efficient (Fama, 1970).

2.2.2 Random Walk Hypothesis (RWH)

The RWH finds its origin in the early works of Bachelier (1900).Extended and translated into English by Cootner (1964) this theory submits that stocks at the end of a certain time period largely show future prices(Predictive value). These seem to be generated by a random process and show independent (Gaussian or normal standard) distributions.

Brealey et al (1995) points out that the idea of stock market following random walk was first suggested by a British statistician Maurice Kendall in 1953 in a conference held in Royal Statistical Society in London. His paper entitled; the economic time series part one with subject of discussion being the behavior of stock and common prices. This study could not find regular price cycles in stock.

Fama (1970) argued that in an active market that includes many well informed and intelligent investors securities will be appropriately priced and reflect all available information. If a market is efficient no information or analysis can be expected to result in out-performance of an appropriate benchmark. The theory states that stock price fluctuations are independent of each other and have the same probability distribution, but that over a period of time, prices maintain an upward trend (Anyumba, 2010).

2.2.3 Agency Theory

Agency theory models the relationship between the principal and the agent. Jensen and Meckling (1976) defined an agency relationship as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some

service on their behalf which involves delegating some decision making authority to the agent". In the context of the firm, the agent (manager) acts on behalf of the principal (shareholder) (Eisenhardt, 1989; Fox, 1984; Jensen and Meckling, 1976; Ross, 1973).

In the above context of the firm, a major issue is the information asymmetry between managers and shareholders. In this agency relationship, insiders (managers) have an information advantage. Owners therefore face moral dilemmas because they cannot accurately evaluate and determine the value of decisions made. The agent therefore takes advantage of the lack of observability of his actions to engage in activities to enhance his personal goals. Formal contracts are thus negotiated and written as a way of addressing agent–shareholder conflicts. In this research, voluntary disclosure presents an excellent opportunity to apply agency theory, in the sense that managers who have better access to a firms' private information can make credible and reliable communication to the market to optimize the value of the firm. These disclosures include investment opportunities and the financing policies of the firm. Conversely, managers may, because of their own interests, fail to make proper disclosure or non-disclosure of important information to the market. Such practices may not be in the interests of shareholders. This may result in a higher cost of capital and, consequently, shareholders may suffer a lower value for their investments.

2.2.4 Earnings Theories

In traditional earning theories, the market price of a share depends on the company's profits. Dividends have no effect on the share price. Shareholders are presumed to be so traditional that, when the company keeps the profits and does not pay dividends,

they expect the firm to invest capital so that it gives at least their rate of return. Dividend policy then does not affect the market price of the share.

According to the theory of financial economics, the value of the company can be regarded as the present value of its cash flows. Earnings theoreticians include, for instance, Miller– Modigliani (1961, 1966)12, Baumol (1963), Friend–Puckett (1964), Watts (1973), Fama (1974), Black–Scholes (1974), Black (1976), Rubinstein (1976), Ross (1977), Miller–Scholes (1982) and Copeland–Weston (1988)13. The classic work of Miller–Modigliani's demonstrated that the firm's investment decisions and dividend decisions do not depend on one another. They found that a firm's taxes, growth and capital structure do not affect dividends. Thus dividend policy "does not matter".

2.3 Determinants of Stock Returns

The variables studied are the earnings changes in relation to stock returns. However, there are other micro-economic variables/factors that also affect stock returns as discussed below

2.3.1 Liquidity

If investors value securities according to their returns net of transaction costs, then they should require a high expected return, a higher stock's bid-ask spread, in order to compensate them for the higher cost of trading. The higher a stock's spread, the higher its observed returns should be. (Amihud and Mendelson, 1986).

Amihud and Mendelson (1986) did the first study to study the implications of liquidity on stock returns. To them, liquidity meant the cost of its immediate

execution. The study indicated that the bid-ask spread contains a premium of immediate purchase or sale. The study used stock data obtained from NYSE over the 1961-1980 periods. It indicates that a spread which is the measure of firm's liquidity has a significant effect on stock returns. The study further stated the monthly excess return of stock with a 1.5 per cent spread is 0.45 per cent greater than that of a stock with 0.5 per cent spread, but the monthly excess return of a stock with 5 per cent spread is only 0.09 per cent greater than that of a stock with 4 per cent spread. The study also stated that the returns on a high-spread stock are higher, but less sensitive than the returns on low-spread stock and that the exact relationship between spread and return is complicated and depends on the investors' holding period. The study proves that a longer-holding period reduces the amortized transaction cost per unit of time hence low-spread will tend to be held in equilibrium by short-term investors.

Ahimud (2002) did a further study based on the work of Fama and MacBeth (1973) and the study concludes that there is a strong positive and significant relationship between illiquidity measure and stock returns and that transaction volume is negatively correlated to return.

Chekili and Abaoub (2013) studied the impact of liquidity on stock returns at Tunisian Stock Exchange. The paper aimed at identifying the presence of a liquidity premium paid by Tunisian stock on a sample of 20 listed securities. The sample period was 24 months running from January 2003 to December 2004.The study used Martinez Nieto, Rubio and Tapia model (2005) to study the relationship between liquidity premium and stocks returns and it concluded that bid-ask spread is a measure of liquidity degree in the Tunisian market while rotating ratio is a measure of

liquidity. Marshall and Young (2003) did a study to establish the nature of relationship between return and liquidity and concluded that there is a negative and significant relationship between stock returns and the spread.

Aduda, Masila and Onsongo (2012) did a study to investigate the determinants of development in the Nairobi Securities Exchange market. Secondary data for the period 2005-2009 was used to model the factors influencing the development of the NSE. The regression model results found out that factors such as stock market liquidity, income per capita, domestic savings and bank development are important determinants of stock market development in the Nairobi Securities exchange Market. The regression results show that no relationship between the stock market development and macro-economic stability, inflation and private capital flows. The above studies prove that liquidity is a significant variable that explains stock returns and should be controlled.

2.3.2 Firm size

Fama and French (1992) showed that other variables including firm size and the ratio of book value to market value explain stock variables better than systematic risk index. Fama and French (1993) did a study on the to establish the relationship between firm size and average stock returns. The study also found there to be good explanatory power when the size and price to book value were used concurrently. The study found the evidence of correlation between the size of a firm and its return and that the results showed that smaller firms are perhaps more liquid and garner great return than larger ones.

Kazemikhasrag (2007) in the study to establish the correlation between firm size and stock returns of the companies in the index of 50 most active firms listed on the Tehran stock exchange for the period between 2001 to 2011 and using the regression model found that there is a positive and significant (weak) relation between firm size and stock returns when the fluctuations in the index are not considered. The study also stated that when the return on the index is inserted in the model, this relation remains positive and significant and that the return on the index of 50 most active companies has no effect on the firm size and stock fluctuations in stock returns.

2.4 Empirical Studies

Different scholars have studied earnings and stock returns and how they relate in different countries .Below are some of the studies which were carried out both internationally and locally.

2.4.1 Global Studies

Ali and Zarowin (1992) did a study to investigate the role of earnings levels in annual earnings-return studies. The analysis was based on a linear relationship between abnormal returns and unexpected earnings in the spirit of the studies of earnings response coefficients by Kormendi and Lipe (1987).The study used secondary data for earnings obtained from annual Compustat file. Price and return data are obtained from the USA CRSP daily returns and master files for 17 years 1969 to 1985 period in the . Cross-sectional regression analysis was ran for each group and t-statistics was computed by dividing the mean of the yearly coefficients for each group by the standard error of mean (Fama and MacBeth (1973) methodology).The study found out

that including the earnings level variable as a regressor increases the explanatory power of stock returns.

Dimitropoulos and Asterious (2009) did a study to investigate the relationship between earnings and stock returns in the context of Greek Stock market. The study applied four models proposed by Kothari and Zimmerman (1995), on individual Greek stocks as well as portfolios between 1994-2004.The studies demonstrated a significant value relevancy of accounting earnings prepared under the Greek GAAP. The study used cross-sectional and time series data analysis methods that increased the explanatory power of earnings for returns yielding more significant earnings response coefficients. This study focuses only on relevance of accounting earnings but it does not examine the levels and changes of earnings from one year to the other and how they affect the stock returns.

Seetharam and Raj (2011) investigated and evaluated the impact of earnings per share on stock prices of Public Bank Berhad whether there is any correlation between Public Bank Bernads earnings per share and its stock price for a relatively long time period of 19 years.The data was analysed using the Statistical Package for Social Sciences(SPSS) software to evaluate if there is a significant level of impact on the Bank's EPS on its stock prices during the quarterly earnings announcements since year 2000.The study concluded that there is a very strong positive correlation between Public Bank Berhad's stock prices.

Cheng, Lee and Yang (2012) did a study to compare the value relevance of earnings levels with that of earnings changes in return-earnings relations. The sample covers

57,600 firm-year observations for firms listed on the New York Stock Exchange, AMEX and NASDAQ stock exchanges for the period 1979 to 2009.For empirical estimation of returns-earnings relation, the study used the price at beginning of the period as a deflated for all explanatory variables and compounded returns as a dependent variable. Each firm was required to have at least 16 years to estimate time-series parameters. The findings show that the proxy ability of earnings for unexpected earnings is sensitive to a firm's time-series earnings permanence property and unstable and noisy when earnings contain predominantly transitory components but that of earnings levels is not. The results support earnings levels are a stable and better value relevant proxy in the returns-earnings relations.

Shubita (2013) did a study to investigate the relationship between earnings and stock returns. The stated that customary accounting performance like that of return on assets, returns on equity and earnings per share is frequently being used as the foundation when it comes to appraising a company's operating performance. The study used a sample of 67 companies listed under the Amman Stock Exchange in Jordan for the period 2004 to 2011.The number of observations for the sample was 460 company-year measures. The regression model results indicate that earnings and stock prices are positively and significantly related.

Hai,Diem,Binh (2015) did a study to investigate the relationship between accounting information reported in financial statements and stock returns. The study was based on the Easton and Harris model(1991).The study used secondary data collected from a sample of 108 firms listed on the Ho Chi Minh Stock Market, the most developmental zone in Vietnam during the period of four year, from 2010 to 2013.The study used

quantity approach and data estimation techniques of pooled regression model, fixed effects model and random effects model to examine the relationship .The study then utilized the Hausman Test to choose an appropriate model between the random effects model and fixed effects model. The study concluded that there is an association between accounting information and stock returns in Vietnam, but this association is weak. It implies that the accounting information is less useful in making decisions in making investment decisions in Vietnamese Stock Market. The study is does not focus specifically on earnings and does too talk of earnings levels and earnings changes and also the study does not explain Kenyan context.

Oluglenga and Atanda (2014) examined the relationship between financial accounting information and market values of quoted firms in the Nigerian Stock Exchange and Nigerian Stock Market. The study used secondary data collected from a sample of 57 firms combining both financial and non-financial firms for the period 1991 to 2010.The study used the generalized least squares regression method on the panel model for the analysis. The findings show that there is a significant relationship between accounting information and share prices of companies listed on the Nigerian Stock Exchange. Information on earnings, dividends, book value and cash flows can be used to predict the share prices of quoted firms. The study focused mostly on the stock prices but not stock returns. It did not also give a limelight on how earnings level and earnings changes move with stock returns. The study examined accounting information only as the independent variable but it did not examine other variables that also have a significant effect on stock returns that need to be controlled. The study may only be applicable in the Nigerian environment.

2.4.2 Local Studies

Oluoch (2002) did a study to determine whether there was any systematic relationship between the timing or earnings announcements and the kind of earnings news(good or bad) and further evaluated the effects of reporting lag on stock returns of companies listed at the NSE. The study covered the period 1997 to 2001 .Secondary data was obtained from the NSE. The previous year's earnings and moving average model were used to estimate earnings announcement dates every year to classify the companies as late reporting or early reporting. Market model was used to test if a lag in reporting had a negative effect on stock returns. This study concluded that there is no systematic relationship between reporting time and earnings news and stock returns. The study is relevant in this context of proposed study but it fails to mention how the change in earnings and earnings levels move with stock returns.

Nganga (2009) carried out a study to establish the quality of earnings in financial statements of the 48 companies listed at the NSE 2000 to 2004 period. The study was a cross-sectional census survey of all the 48 firms quoted at the NSE from 2000 to 2004.The monthly stock returns were computed using the closing prices of stocks. Earnings per share were adjusted for annual bonuses. The monthly return on stocks for each listed company was averaged over a 12-month period to obtain a representative stock return for each year. Time series auto correlation of earnings per share and return on stock was conducted to check for consistency and data reliability. The autocorrelations for stock returns were consistently positive for all the 16 lags while the autocorrelations for earnings per share (EPS) were both positive and negative. The consistency of the autocorrelation coefficients for stock returns (SR) depicts data reliability while the inconsistency of the autocorrelations for earnings per

share depicts low earnings quality. The paired sample t-statistics revealed a substantial difference between earnings per share and stock returns, a pointer to the fact that the earnings per share might have been over specified in most of the firms to blindfold investors. The study concluded that quality of earnings in financial statements are compromised and therefore cannot be relied on by investors, lenders, government authorities, customers, suppliers, and employees of these listed organizations in their decisions for investment, taxes and trading. The study gives a detailed explanation on the quality of earnings and their predictive value on stock returns. It concludes that earnings may be managed by managers and this leads to low earnings quality and thus misleading investors. The study doesn't tell us how the earnings changes and earnings levels move with stock returns.

Kalui (2011) conducted a study to establish the determinants of stock prices volatility in Kenya. The study used a sample of 16 companies in NSE for 1998 to 2002 period. The empirical estimation was based on a cross-sectional multiple regression analysis of the relationship between stock price volatility as the dependent variable and earning volatility, payout ratio, long-term debt, size and growth in assets as the independent variable. The methodology adopted dictated the use of secondary data. Daily stock prices and annual financial reports were used in the study and analyzed using descriptive statistics and SPSS computer package. The results showed that all the five factors have influence on stock price volatility. Specifically, Stock price volatility was inversely related to payout ratio, earning volatility and growth in assets whereas it was positively related to long-term debt and size. Regression results confirmed that stock price volatility does exist at NSE and that it is not only a function of factors considered but also many more factors. The study therefore

concluded that the level of stock price volatility at NSE is high and that earning volatility, payout ratio, long-term debt size and growth in assets are not the only determinant of stock price volatility.

Nyakundi (2013) carried out a study to examine the relationship between share prices and dividends, earnings and book values for companies listed at the NSE in Kenya for 2005-2010 periods. The study used panel data and found that there is a positive and significant relationship between stock prices and dividends, earnings and book values for the firms listed at the NSE, and that dividends have more explanatory power compared to earnings and book values. The study does not talk of the impact of earnings levels and changes on stock returns. It talks of stock prices but not stock returns.

2.5. Summary of the Literature Review

Researchers and academicians have conducted several studies which mainly focus on the relationship between accounting information or accounting numbers and stock prices. Domintropoulos and Asteriuo (2009) in the study to investigate the relationship between earnings and stock returns focused mostly on earnings levels and excluded dividends in their regression model. The study does not address the reality in Kenya's Nairobi stock exchange and Kenya's capital market. Collins, Maydew and Weisis (1997) concluded that the declined value relevance of earnings was due to the shift in value relevance to book value from earnings to increasing average size of the firm. This study does not also address the situation in Kenya and does not mention the role played by earnings changes and other determinants of stock returns such as liquidity and firm size.

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To the researchers knowledge there is little or no literature addressing the situation in the Kenya's NSE with regard to earnings, earnings levels and earnings changes. Thus study sought to answer the question: What is the relationship between earnings levels and earnings changes?

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the procedures followed in conducting the study. These procedures basically include the research design, population, sample design, data collection and data analysis.

3.2 Research design

Research design in other words is the structure of the research. According to Newing (2011), research design is a general plan or strategy for conducting a research study to examine specific testable research questions of interest. Rajendra (2008) defines research design as the linkage and organization of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with the economy in the procedure. He argued that research design focuses on the structure of an enquiry, which leads to the minimization of the chance of drawing the wrong casual inferences from the data.

A descriptive research design was employed in this study. Descriptive research is the investigation in which quantitative data is collected and analysed in order to describe the specific phenomenon in its current events and linkages between different factors at the current time (Mwaura 2014), Descriptive research design has been adopted because it will enable the researcher to generalize the findings to a larger population.

3.3 Population

Mugenda and Mugenda (2003) define population as an entire group individuals, events or objects having a common observable characteristic. The population of this study was all the 61 companies listed at the NSE as at December 2014.A census approach was used for the study.

3.4 Data Collection

The study used secondary data extracted from the financial statements of the firms under study and from the Nairobi Securities Exchange and NSE handbook for 2009 to 2013 period. The selected period was between the year 2009 to the year 2014(5years).Earnings levels, earnings changes and liquidity of firms was calculated from the data.

3.5 Data Analysis

Researcher used Statistical Package for Social Sciences (SPSS) version 20.0 to generate the descriptive statistics and inferential results.

Regression analysis was used to demonstrate the relationship between earnings changes for all firms listed under NSE. Mugenda and Mugenda (2003) stated that the regression technique is used to analyze the degree of relationship between to variables; the results were presented using tables to give clear picture of the research findings of the study.

3.5.1 Analytical Model

The multivariate regression model was used to link the independent variables to the dependent variable. The model was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where;

Y = Actual stock returns (capital gains).

X_1 = Earnings change

X_2 = Liquidity

X_3 = Firm size (log of annual market capitalizations)

ε = Error term/ constant term

Stock returns are the dependent variable while earnings change, liquidity, firm size and dividend yield are the independent variables that help explain the stock returns.

$\beta_i i = 1 \ldots \ldots 4$ were used to measure sensitivity of the dependent variable(Y) to unit change in the predictor variables: X1, X2 and X3.

ε was the error term which will capture the unexplained variations in the model.

3.5.2 Explanation and Measurement of Variables

Stock return is the ratio which measures the percentage of income on invested capital. The formula for the stock returns is the appreciation in the price plus any dividends paid, divided by price at the beginning of the return period (Hai,Diem and Binh, 2015).Berk, Demarzo and Harford(2013) define capital gain as the difference between the expected sales price and original purchase price of an asset, capital gain rate as the amount by which the selling price of an asset exceeds its initial purchase. Glen

Arnold (2013) defines dividends as the cash in form of earnings that flow from a company to the investors at the end of a certain period

Actual stock returns (capital gains) was calculated and measured as follows:

$\{(stock\ price\ in\ year_t\text{- }stock\ price\ year_{t-1})\ \}/stock\ price\ in\ year_{t-1}$

. Earnings Change as defined by Easton and Harrison (1991) in their model is the change in earnings per share of a company over the time period t-1 to t. Therefore, the earnings change will be measured as follows:

Earnings change=$(EPS_t\text{-}EPS_{t-1})/P_{t-1}$ where EPS_t was the earnings per share in the current year,$EPS_{t-1}$was the earnings per share in previous year and P_{t-1} will be the market price per share in the previous year. The earnings per share for all companies are normally obtained directly from the financial statements. The historical monthly average share price data for all companies will be collected from the NSE and then annualized.

Liquidity was examined as a key explanatory variable. Dalgaard (2009) in the study to determine the relationship between liquidity and stock returns in the Denmark stock Exchange defined liquidity as the ease by which an asset can be sold immediately after purchase without lowering the price and without incurring transaction costs and that whenever an investor considers a potential investment in an asset, he considers a very thoroughly the ability to sell it again. The study considered two measures of illiquidity:

Relative Bid-ask Spread

Amihud and Mendelson (1986) expressed the relative bid-ask spread as the absolute spread divided by the average of the bid and ask prices.

Liquidity measure at time t= {(PBid$_t$-PAsk$_t$)/0.5(PBid$_t$+PAsk$_t$)}

Turnover Rate

Datar et.al (1998) defines the turnover rate as the average number of shares traded over a certain period divided by the number of shares outstanding at the end of the period. Datar,Nalk and Radcliffe (1998) used the turnover rate of stock as a proxy for its liquidity. According to them turnover rate is calculated as follows:

$$TR_{it} = \frac{1}{3}\sum_{j=1}^{3} \frac{volume\ traded_{it-j}}{shares\ oustanding_{it}}$$

Where;

TR is the turnover rate, Volume traded it-j is the volume of shares type i of company j traded at period t.

Lo and Wang (2000) calculated the aggregate turnover by dividing total number of stocks traded by the number of shares issued at any given time. Where:

ATit=$\frac{Vit}{Ii}$,where, Vit is the traded stock volume of stock i at time t and Ii is the total number of issued stocks of stock i. Higher value of the indicator, the higher the liquidity is.

The aggregate turnover is the simplest measure of liquidity and was adopted in this research paper

Firm size is also another key variable which will be measured. To measure the variable size, the criteria such as the logarithm of total assets or sales are applied. However due to the inflation conditions and irrelevance of assets value during the

course of time, the market value of shares at the end of the fiscal period has been used as basis to determine the value of the company and finally its logarithm is used to delete measurement scale as variable firm size (Namazi and Khajavi, 2004).So, in this case firm size was measured through calculation of logarithm of the market value of shares at time t.

Firm size=log (market capitalization at t).

3.5.3Test of Significance

In study, the level of significance was 5% which means that all statistical tests were carried out and compared against the 5% level of significance. Multiple regressions was to assess the existence of confounding. Multiple linear regression analysis allows the research to estimate the association among the given independent variables and their outcome holding all other variables constant. It also provides a way of adjusting for potentially confounding variables that have been included in the model.

The study tested goodness of fit (coefficient of determination test) and explanatory power of R^2,. The R^2 was used to showthe amounts of variance of the dependent variable that is explained by the independent variables. The one-way analysis of variance (ANOVA) isused to determine whether there is any significant difference between the three or more independent or unrelated variables. The overall model significance will be tested by applying the ANOVA/F-test. The F-test will check whether the independent variables are good joint predictors and it is also designed to test if two populations' variances are equal by comparing the ratio of two variances. So, if the variances are equal, the ratio of the variances will be 1.

Multicollinearity was also tested in the study. Multicollinearity is simply the existence of interrelation between two or more variables in a model. Statistics used to measure multicollinearity include tolerance and Variance Inflation Factor. Tolerance of a respective independent variable is calculated from $1 - R^2$. A tolerance with a value close to 1 means there is little multicollinearity; whereas a value close to 0 suggests that multicollinearity may be present .The reciprocal of the tolerance is known as Variance Inflation Factor (VIF). A VIF of around or greater than 5 implies that there is multicollinearity problem associated with that variable.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1Introduction

This chapter presents the empirical findings and the results of the study. The objective of the study was establish the effect of earnings change on the stock returns of all companies listed at the NSE as at 31st December 2014.The data analysis is in harmony with the objective of the study where patterns were investigated through descriptive analysis and inferences drawn on them. The data was cleaned, coded and analysed based on each independent variable using Statistical Package for Social Sciences (SPSS) version 20.0.First, the analysis and characteristics of the census are presented. Consequently explorative analysis, characteristics and discussion of the variables in the conceptual framework are presented.

4.2Response Rate

The response rate is the extent to which the final data set includes all sample subjects and it is arrived at as the number of the people with whom interviews are completed, divided by the total number of people in the entire sample, including those who refused to participate and those who were unavailable, multiplied by 100. In this case, the response rate is reported in terms of the number of the companies which were considered because had provided enough data for the five years out of the total number of companies supposed to be used for the study. A total of 51 companies out of 61 companies had complete data and therefore were used giving a response rate of 83.6% .A response rate of above 50% is adequate for analysis (Babie2002) thus a response rate of 83.6 % in this study was considered adequate.

4.3 Descriptive Statistics

This study mainly sought to find out the effect of earnings change on the stock return of all companies listed at the NSE. This means that our main independent variable of study was earnings change. However, in order to get a broad investigation of the effect, some other independent variables namely the firm size and   stock market liquidity were considered.

4.3.1Descriptive Analysis on Stock Return

Table 4.1: Descriptive Statistics for Stock Return

Minimum	Maximum	Mean	Std. Deviation	Variance
-.3233	.4718	.105710	.1907900	.036

From the above table 4.1, it is clear that the mean stock return is approximately 0.106. This is an implication that the central point of the stock return is 0.106. The minimum stock return is -0.3233 which is a negative value and the maximum stock return value is 0.4718. This implies that of all the companies considered, a company that registered the least stock return had approximately negative 0.3233 and the one that had most return had 0.4718. The variance of 0.036 is relatively small, an implication that stock returns for most companies cluster about the mean. This is further proved by a small standard deviation of approximately 0.19.

4.3.2 Descriptive Analysis on Earnings Change

Table 4.2: Descriptive statistics for earnings change

Minimum	Maximum	Mean	Std. Deviation	Variance
-.8073	.5032	-.010415	.1408129	.020

From the above table, it is clear that the average earnings change is approximately -0.0108. This is an implication that the central point of the earnings change is negative 0.0108. The minimum earnings change is -0.8073 which is a negative value and the maximum earnings change value is 0.5032. This implies that of all the companies considered, a company that registered the least earnings change had approximately negative 0.8073 and the one that had the most change in earnings had 0.5032. The variance of 0.02 is relatively small, an implication that earnings change for most companies cluster about the mean. This is further proved by a small standard deviation of approximately 0.14.

4.3.3 Descriptive Analysis on Firm Size

Table 4.3: Descriptive statistics for firm size

Minimum	Maximum	Mean	Std. Deviation	Variance
8.2400	11.3000	9.761569	.8047220	.648

From the above table, it is clear that the average firm size is approximately 10.This is an implication that the central point of firm size is 10. The minimum firm size is approximately 9(approximately nine billion) and the maximum firm size is approximately 12.This implies that of all the companies considered, a company that had the least firm size had approximately ksh.9 billion and the one with the largest firm size had approximately ksh.12 billion. The variance of 0.648 is small, an implication that the firm size of most companies cluster about 10(ksh.10 billion). This is further proved by a small standard deviation of approximately 0.805.

4.3.4 Descriptive Analysis on Stock Market Liquidity

Table 4.4: Descriptive statistics for market liquidity

Minimum	Maximum	Mean	Std. Deviation	Variance
.0023	.4425	.065588	.0833635	.007

From the above table, it is clear that on average the market liquidity is approximately 0.066. This is an implication that the central value of market liquidity is approximately 0.066. The minimum market liquidity value is 0.0023 and the maximum market liquidity value is 0.4425. This implies that of all the companies considered, a company that had the least market liquidity had approximately 0.0023 and the one that had biggest market liquidity had 0.4425. The variance of 0.007 is very small, an implication that the market liquidity for most companies cluster about the mean of approximately 0.066.

4.4.Multicollinearity Test

Multicollinearity is the undesirable situation where the correlations among the independent variables are strong. For multiple regression to be suitable there should be no strong relationships among variables. Statistics used to measure multicollinearity include tolerance and Variance Inflation Factor. Tolerance of a respective independent variable is calculated from $1 - R^2$. A tolerance with a value close to 1 means there is little multicollinearity; whereas a value close to 0 suggests that multicollinearity may be present .The reciprocal of the tolerance is known as Variance Inflation Factor (VIF). A VIF of around or greater than 5 implies that there is multicollinearity problem associated with that variable. Table 4.5 shows the values of the statistics, obtained from the data.

Table 4.5 indicates the test results for multicollinearity, using both the VIF and tolerance. With Tolerance values being close to 1 and VIF values being less than 5, it was thus concluded that there was no presence of multicollinearity problem in this study.

Table 4. 5: Table of Multicollinearity Statistics

	Tolerance	VIF
EARNINGS CHANGE	.889	1.124
FIRM SIZE	.872	1.147
MARKET LIQUIDITY	.844	1.185

4.5 Inferential Analysis

The subtopic will discuss the correlations between the dependent variable and the independent variables.

4.5.1 Correlations of the Study Variables

Correlation among the independent variables is illustrated by the correlations matrix in table 4.5.1.1.Correlation is often used to explore the relationship among a group of variables, in turn helping in testing for multicollinearity. That if the correlation values are not close to 1 or -1 is an indication that the factors are sufficiently different measures of separate variables. It is also an indication that the variables are not multicollinear. Absence of multicollinearity allows the study to utilize all the independent variables.

Table 4. 6: Correlations among Independent Variables

		EARNINGS CHANGE	FIRM SIZE	MARKET LIQUIDITY
EARNINGS CHANGE	Pearson Correlation	1	-.159	-.238
	Sig. (2-tailed)		.267	.093
FIRM SIZE	Pearson Correlation	-.159	1	-.274
	Sig. (2-tailed)	.267		.052
MARKET LIQUIDITY	Pearson Correlation	-.238	-.274	1
	Sig. (2-tailed)	.093	.052	

From the table 4.5.1.1 above, the correlation coefficients for the independent variables are an evident of the absence of multicollinearity as earlier explained. The correlation coefficients attest that the independent variables are weakly correlated among themselves. At 0.05significance level, it is evident that the relationship between the independent variables is not significant since none of the p-values is less than 0.05.

4.5.2 Correlation Between Stock Returns and the Independent Variables

Table 4.7: correlation of stock returns and the independent variable

		EARNINGS CHANGE	FIRM SIZE	MARKET LIQUIDITY
STOCK RETURN	Pearson Correlation	-.074	.029	-.139
	Sig. (2-tailed)	.607	.839	.329

Correlation was used to analyze the degree of relationship between stock return and the other variables in the study. Table 4.7 shows the degree and significance of the relationship between the variables, as measured by Pearson Correlation statistic and p-value, respectively.

From the table, there is a weak negative correlation (-0.074) between stock return and the earnings change. However, this correlation is insignificant since the p-value 0.607 is greater than 0.05 which is the significance level used for the study. The implication of this is that there exist some relationship between the stock return and the earnings change and that as the earnings change increase, there is a decrease in the stock returns.

From the same table, it can be seen that there is a weak positive relationship (0.029) between stock return and the firm size. However, this relationship is not significant since the p-value of 0.839 is greater than 0.05. Assuming that this relationship is significant, it would then mean that 2.9% of the variation in the stocks return can be attributed to the firm size while the rest (97.1%) is attributed to other factors. Thus as the firm size increases, it is expected that the stock returns also increase under the same assumption.

There is a weak negative relationship (Correlation= -0.139) between the stock return and the market liquidity. This relationship is also considered not significant since the corresponding p-value of 0.329 is greater than 0.05. If this relationship is assumed significant then it can be concluded that as the market liquidity increases, there is an decrease in the stock return.

4.6 Regression Analysis

Regression analysis was used to evaluate the contribution of each independent variable in explaining the dependent variable, when the other variables are controlled; the R Square value was obtained for each variable.

4.6.1 Regression analysis between Stock Returns and Earnings Change

Regression analysis was used to find out if there is a relationship between earnings change and the dependent variable by evaluating the contribution of the independent variable in explaining the dependent variable, when the other variables are controlled; the R Square value was obtained in this case.

Table 4.8: Regression analysis between stock return and earnings change

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.074[a]	.005	-.015	.1922034

a. Predictors: (Constant), EARNINGS CHANGE
b. Dependent Variable: STOCK RETURN

Table 4.9: Coefficients for regression analysis between stock return and earnings change

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.105	.027		3.878	.000
	EARNINGS CHANGE	-.100	.193	-.074	-.517	.607

a. Dependent Variable: STOCK RETURN

From the results in table4.8, earnings change was found to have an R Square value of 0.005 or to contribute to 0.5% stock return. The R square value is an important indicator of the predictive accuracy of the equation. The remaining 99.5% can be explained by other factors. The implication of these finding is that earnings change does not play a role in predicting or enhancing the stock returns. These findings show that there is a negative relationship between earnings change and stock return. The implication of this is that change in earnings will have negative impact on stock

return. It suggests that an increase in earnings change, leads to a decrease in stock return while a decrease in earnings change, will lead to an increase on stock return.

Further tests as shown on table 4.9 gave a P- value of 0.607 which is greater than the level of significance of 0.05 and which show an insignificant linear relationship between the stock return and the earnings change. The results are in line with the study done by Easton and Harris (1991) which concludes that it is earnings not earnings change that explain stock returns.

When the regression model was fitted to find out whether the independent variable of earnings change predicts the dependent variable stock returns, it was found to lack goodness of fit and therefore the model is insignificant as shown by table 4.6.1.2.From this table B_0 is 0.105 units, this can be interpreted as meaning that when there is no earnings change, the model predicts that stock return will have 0.105 units. From these data, earnings had a negative *B*-value (-0.100) indicating negative relationship and therefore, as earnings change increases, stock returns declines.

Additionally, the *b*-value also tells to what degree each predictor affects the outcome if the relationship was significant. The value β_1 =-0.100, indicates that as earnings change increases by one unit, stock returns declines by 0.100 units. The model can be generally stated as follows:

Stock returns = $0.105+ -0.100$(earnings change)$_+$ e

$Y_S = \beta_0 + \beta_1 X_{1+} e$

Ys = Stock returns

$\beta_{0=} 0.105;$ *constant* (coefficient of intercept)

$\beta_1 = -0.100$

X_1 = earnings change

e = error

4.6.2 Regression analysis between Stock Return and Firm Size

Regression analysis was used to find out if there is a relationship between firm size and the dependent variable by evaluating the contribution of the independent variable in explaining the dependent variable, when the other variables are controlled; the R Square value was obtained in this case.

Table 4. 10: Regression analysis between stock return and firm size

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.029[a]	.001	-.020	.1926446

a. Predictors: (Constant), FIRM SIZE
b. Dependent Variable: STOCK RETURN

Table 4.11: Coefficients for regression analysis between stock return and firm size

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.038	.332		.115	.909
	FIRM SIZE	.007	.034	.029	.205	.839

a. Dependent Variable: STOCK RETURN

From the results in table4.10, firm size was found to have an R Square value of 0.001 or to contribute to 0.1% stock return. The remaining 99.9% can be explained by other factors. These findings show that there is a positive relationship between firm size and stock change. The implication of this is that change in firm size will have positive impact on stock returns (capital gains). It suggests that an increase in firm size, leads

to a decrease in stock change while a decrease in earnings change, will lead to decrease on stock returns.

Further tests as shown on table 4.11 gave a P- value of 0.909 and 0.839 which are greater than the level of significance of 0.05 and which show an insignificant linear relationship between firm size and the stock returns. In this case the constant is also insignificant and therefore it is not easy to report the model.

4.6.3 Regression analysis between stock return and market liquidity

Regression analysis was used to find out if there is a relationship between market liquidity and the dependent variable by evaluating the contribution of the independent variable in explaining the dependent variable, when the other variables are controlled; the R Square value was obtained in this case.

Table 4.12: Regression analysis between stock return and market liquidity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.139[a]	.019	-.001	.1908435

a. Predictors: (Constant), MARKET LIQUIDITY
b. Dependent Variable: STOCK RETURN

Table 4.13: Coefficients for Regression Analysis between Stock Return and Market liquidity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.127	.034		3.710	.001
	MARKET LIQUIDITY	-.319	.324	-.139	-.986	.329

a. Dependent Variable: STOCK RETURN

From the results in table 4.12, market liquidity was found to have an R Square value of 0.019 or to contribute to 1.9% stock return. The remaining 98.1% can be explained by other factors. The implication of these finding is that market liquidity plays a very small role in enhancing the stock returns change -although is insignificant. These findings show that there is a negative relationship between market liquidity and stock returns. The implication of this is that change in market liquidity will have negative impact on stock return. It suggests that an increase in market liquidity leads to a decrease in stock return while a decrease in market liquidity, will lead to an increase on stock return.

Further tests as shown on table 4.13 gave a P- value of 0.329 which is greater than the level of significance of 0.05 and which show an insignificant linear relationship between the stock return and the market liquidity.

When the regression model was fitted to find out whether the independent variable of market liquidity predicts the dependent variable stock returns, it was found to lack goodness of fit and therefore the model is insignificant as shown by table 5.1. From this table B_0 is 0.127 units, this can be interpreted as meaning that when there is no market liquidity, the model predicts that stock returns will have 0.127 units. From

these data, market liquidity had a negative *B*-value (-0.319) indicating negative relationship and therefore, as market liquidity increases, stock returns declines. Additionally, the *b*-value also tells to what degree each predictor affects the outcome if the relationship was significant. The value $\beta_1 = -0.319$, indicates that as market liquidity increases by one unit, stock returns declines by 0.319 units. The model can be generally stated as follows:

Stock returns $= 0.127 + -0.319(\text{market liquidity})_+ e$

$Y_S = \beta_0 + \beta_1 X_{1 +} e$

Ys = Stock returns

$\beta_{0 =} 0.127;$ *constant* (coefficient of intercept)

$\beta_1 = -0.319$

X_1 = market liquidity

e = error

4.6.4 Overall Regression model

Regression analysis was used to find out if there is a relationship between stock returns and the independent variables: earnings change, firm size and market liquidity, by evaluating the combined contribution of the independent variables in explaining the dependent variable.

Table 4. 14: Regression analysis between stock return and market liquidity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.181[a]	.033	-.029	.1935205

a. Predictors: (Constant), MARKET LIQUIDITY, EARNINGS CHANGE, FIRM SIZE
b. Dependent Variable: STOCK RETURN

Table 4. 15: Coefficients for regression analysis between stock return and market liquidity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.222	.364		.610	.545
	EARNINGS CHANGE	-.166	.206	-.123	-.806	.424
	FIRM SIZE	-.009	.036	-.039	-.256	.799
	MARKET LIQUIDITY	-.411	.357	-.179	-1.149	.256

a. Dependent Variable: STOCK RETURN

From the results in table 4.14, the independent variables were found to have an R Square value of 0.033 or to contribute to 3.3% stock return. The remaining 96.7% can be explained by other factors. The implication of these finding is that all together, the independent variables plays asmall role in enhancing the stock returns -although is insignificant. These findings show that there is a negative relationship between the independent variables and stock returns (since their coefficients are all negative). The implication of this is that change in the independent variables will have negative impact on stock return. It suggests that an increase in any of the independent variable leads to a decrease in stock return while a decrease in any of the independent variable, will lead to an increase on stock return.

Further tests as shown on table 4.15 gave a P- values which are greater than the level of significance of 0.05 and which show an insignificant linear relationship between the stock return and the market liquidity. Marshall and Young(2003) in the study to establish the relationship between stock returns and liquidity concluded that there was a negative relationship between the stock returns and liquidity and the model in this study concurs with this conclusion.

Under the assumption that the model is significant, the coefficient of the constant, $B_0=0.222$ can be interpreted to mean that when there is no any independent variable, the model predicts that stock returns will have 0.222 units. From these data, earnings change had a negative *B*-value (-0.166) indicating negative relationship and therefore, as earnings change increase, stock returns declines. This also implies that when earning change increases by one unit, then the stock returns decrease by 0.166 units holding all the other variables constant.

Similarly, the firm size had a negative *B*-value (-0.009) indicating negative relationship and therefore, as firm size increases, stock returns declines. This also implies that when firm size increases by one unit, then the stock returns decrease by 0.009 units holding all the other variables constant. Market liquidity had a negative *B*-value (-0.411) indicating negative relationship and therefore, as market liquidity increases, stock returns declines. This also implies that when market liquidity increases by one unit, then the stock returns decrease by 0.411 units holding all the other variables constant. The model can be generally stated as follows: Stock returns $= 0.222+ -0.166$(earnings change) $_+ -0.009$(firm size) $+ -0.411$(market liquidity) $+e$

$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + 3_1 X_3 + e$

where
$Y =$ Stock returns
$\beta_{0 =} 0.222$ *;*constant (coefficient of intercept)
$\beta_1 = -0.166$
$X_1 =$ earnings change
$B_2 = -0.009$
$X_2 =$ firm size
$B_3 = -0.411$
$X_2 =$ market liquidity
$e =$ error term

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter deals with the summary of the findings, the conclusion and recommendations. This was done in line with the objective of the study. Areas of research were suggested and limitations of the study were taken into account.

5.2 Summary of Findings

The study findings indicate that an earnings change does not play a role in explaining stock returns (capital gains) which is in agreement with Easton and Harris (1991) findings that it is earnings not earnings change that predict stock returns.

The study indicates that an increase in earnings change, stock liquidity and firm size will lead to a decrease in stock returns. The study further finds out that there is insignificant effect of earnings change, liquidity and firm size on the stock returns of all companies listed at the NSE. This is in conflict with research findings by Aduda,Masila and Onsongo (2012) where the research concluded that liquidity is a significant variable that explains stock returns. The study however, is in agreement with the research findings by Fama and French (1992) which concludes that smaller firms are perhaps more liquid garnering great returns than larger ones.

5.3 Conclusions

It can be concluded that it is earnings not earnings change that help explain stock returns (Easton and Harris 1992) and that earnings change does not play any role in explaining and predicting stock returns. It can also be concluded that increase in firm

size leads to a decrease in stock returns levels which may be in conflict with prior researches on firm size and stock returns.

The study further concludes that companies should focus mostly in increasing their earnings in terms of their profitability for their stock returns to increase. The study also concludes that earnings change, liquidity and firm size explains a very small percentage of stock returns and that greater percentage is explained by other factors not described in the model.

5.4 Recommendations

From the findings discussed above, the study recommends that companies should not waste resources in analyzing earnings changes since it has insignificant effect on stock returns and that it does not play a role in predicting and explaining stock returns. Companies should focus more on other factors not explained in this model for example the macro-economic factors such as foreign exchange exposure, interest rates fluctuations among others. The study further recommends that micro-economic variables such as earnings, liquidity and firm size explains only a small percentage of stock returns and that other factors not captured by the model could have a higher influence and more explanatory power on the stock returns of companies listed at the NSE.

5.5 Limitations of Study

The study was limited to earnings change liquidity and firm size which are all macro-economic variables affecting stock returns. Given that stock returns of companies could be attributable to other factors that were not covered in this study, then the

findings of the study would not be generalisable to the entire population of all companies listed at the NSE and all the companies not listed in Kenya.

Secondly, the study was constrained by the lack of data from the NSE and from some of the companies which are listed. In other cases the data was available but not complete and a result this might have introduced some element of biasness in the study findings thus the representativeness of the findings may not represent an accurate picture of the relationship between earnings change and stock returns of all companies listed at the NSE.

5.6 Suggestions for Further Research

The study recommends that further research be done using monthly average stock prices, monthly earnings changes, monthly market capitalizations and monthly stock liquidities for all companies listed at the NSE. This is because this study used annualized data to establish the effect of earnings change on stock returns for all companies listed at the NSE. The study can also be replicated to non-listed firms in Kenya.

The study further recommends further research focusing on the macro-economic variables such as foreign exchange exposure, interest rate exposure, and inflation among others and showing how they affect stock returns for all companies listed at the NSE.

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APPENDICES

APPENDIX I: COMPANIES LISTED AT THE NSE AS AT DECEMBER 2014

1. Nation Media Group

2. TPS Eastern Africa (Serena) Ltd

3. Scangroup Ltd

4. Uchumi Supermarket Ltd

5. Sameer Africa Ltd

6. Barclays Bank Ltd

7. CFC Stanbic Holdings Ltd

8. Kenya Commercial Bank Ltd

9. Standard Chartered Bank Ltd

10. Equity Bank Ltd

11. Jubilee Holdings Ltd

12. Kenya Re-Insurance Corporation Ltd

13. British-American Investments Company (Kenya) Ltd

14. Olympia Capital Holdings ltd

15. Centum Investment Co Ltd

16. Trans-Century Ltd

17. British American Tobacco Kenya Ltd

18. East African Breweries Ltd

19. Bamburi Cement Ltd

20. Crown Paints Ltd

21. E.A.Cables Ltd

22. E.A.Portland Cement Ltd

23. KenolKobil Ltd

24. Total Kenya Ltd

25. Kakuzi

26. Diamond Trust Bank Kenya Ltd

27. Eaagads Ltd

28. Kapchorua Tea Co. Ltd

29. Limuru Tea Co. Ltd

30. Rea Vipingo Plantations Ltd

31. Sasini Ltd

32. Williamson Tea Kenya Ltd

33. Express Ltd

34. Kenya Airways Ltd

35. Standard Group Ltd

36. Hutchings Biemer Ltd

37. Longhorn Kenya Ltd

38. AccessKenya Group Ltd

39. Safaricom Ltd

40. Car and General (K) Ltd

41. Home Afrika ltd

42. Marshalls (E.A.) Ltd

43. Housing Finance Co Ltd

44. National Bank of Kenya Ltd

45. NIC Bank Ltd

46. The Co-operative Bank of Kenya Ltd

47. I & M Holdings

48. Pan Africa Insurance Holdings Ltd

49. CFC Insurance Holdings

50. CIC Insurance Group Ltd

51. City Trust Ltd ----BEGIN WITH THIS

52. B.O.C Kenya Ltd

53. Carbacid Investments Ltd

54. Mumias Sugar Co. Ltd

55. Unga Group Ltd

56. Eveready East Africa Ltd

57. Kenya Orchards Ltd

58. A.Baumann Co. Ltd

59. Athi River Mining

60. KenGen Ltd

61. Kenya Power & Lighting Co Ltd

Appendix II: Annualized average stock prices in ksh. for 51 companies studied

SERIAL	COMPANY NAME	2010	2011	2012	2013	2014
1	Eaagads Ltd	50	33.5	25	23.63	41.75
2	Kakuzi Ltd	81.5	69.5	72	95	180
3	Kapchorua Tea Company Ltd	100	115	121	125	137
4	Limuru Tea Co.Ltd	300	335	430	500	771
5	Rea Vipingo Plantations Ltd	17.45	14.75	19	27.6	27.5
6	Sasini Tea And Coffee ltd	13.3	12.05	11.7	14.65	12.85
7	Williamson Tea K.ltd	185	185	230	250	248
8	. Car And General k.Ltd	47.25	22.83	24	30	54
9	CMC Holdings Ltd	12.25	13.5	13.5	13.5	13.5
10	Marshalls (EA) Ltd	14.1	14.15	14.2	12	9.8
11	Barclays Bank Of K.Ltd	62.5	13.07	15.87	17.67	16.7
12	CFC Stanbic Bank	75.5	40	42	87.58	124
13	Co-operative Bank Of Kenya	19	12.25	12.25	17.65	20
14	Diamond Trust Bank k.Ltd	135	90.5	115	192	235
15	Equity Bank Limited	26.75	16.4	23.75	30.75	50.44
16	Housing Finance Co.Ltd	26.5	12.4	15.45	31.6	45.75
17	Kenya Commercial Bank Ltd	21.75	16.85	29.76	47.23	55.58
18	National Bank Of Kenya Ltd	38.75	20.25	17.25	28.93	24.75
19	NIC Bank Ltd	46	24	38.25	59.68	57.7
20	Standard Chartered Bank K.Ltd	258	160	235	297.96	335
21	Express Kenya Ltd	7.8	3.9	3.5	3.9	6
22	Kenya Airways Ltd	60	20.75	11.4	13.05	8.7
23	Nation Media Group ltd	167	140	222	314	263
24	Scangroup Ltd	61.5	41.5	68.5	48.19	41.78
25	Standard Group Ltd	45.5	25	21.8	26.25	34.75
26	TPS E. A.Ltd(Serena Hotels)	68.5	55	40	45.5	37.23
27	Uchumi Supermarket Ltd	14.5	7.7	19.1	19.55	10.05
28	ARM Cement Limited	183	158	44.5	90	86
29	Bamburi Cement Company Ltd	187	125	185	210	139
30	Crown Paints K.ltd	36	20.5	42.5	75	111
31	East African Cables Limited	16.25	10.55	11.7	16.76	16.2
32	East African Portland Cement Co.	80	56	39	69	58
33	Kenol Kobil Limited	10	9.95	13.55	9.87	8.98
34	KENGEN	17.1	8.45	8.8	13.55	10.7
35	The Kenya Power & Lighting Co. Ltd	24	17.55	17.1	14.15	14.45
36	Total Kenya Limited	29	14.75	13.85	25	25.75
37	CIC Insurance ltd	4.6	6.55	3.55	5.9	9.6
38	Jubilee Holdings ltd	184	155	173	282	450
39	Kenya Reinsurance Corp.ltd	11.05	7.3	10.7	15.8	17.05
40	Pan Africa Insurance C.ltd	65.5	21	40.25	90	119.4
41	Centum Investment C. (ICDCI) ltd	23	21.5	31.05	32.86	61
42	Transcentury ltd	25	27	23.5	28.75	19.5
43	Boc Kenya ltd	132	100	99.5	125.5	125
44	BAT K ltd	270	246	493	600	908
45	Carbacid Investments ltd	140	91.5	125	51.5	21.75
46	East African Breweries Ltd	181	193	227	291.72	308
47	Eveready East Africa ltd	3.04	1.74	2.06	2.73	3.74
48	Mumias Sugar C.ltd	9.7	5.3	4.85	3.25	1.95
49	Unga Group Ltd	11	10	12.6	18	39.75
50	Accesskenya Group	13.5	5.15	4.41	9.59	9.59
51	Safaricom ltd	4.7	2.95	5.05	10.88	14.05

Appendix III: Annual Earnings Per Share 51 for listed companies

SERIAL	COMPANY NAME	2010	2011	2012	2013	2014
1	Eaagads Ltd	4.2	8.93	1.36	-1.3	-1.84
2	Kakuzi Ltd	15.99	28.06	19.4	8.42	8.17
3	Kapchorua Tea Company Ltd	1.64	2.1	1.65	19.7	12.2
4	Limuru Tea Co.Ltd	62.37	33.74	84.9	23.8	-0.28
5	Rea Vipingo Plantations Ltd	1.12	7.79	6.34	5.85	7.41
6	Sasini Tea And Coffee ltd	4.36	1.97	0	0.54	0.1
7	Williamson Tea K.ltd	100.05	-46.7	97.6	94.4	81.36
8	. Car And General k.Ltd	10.7	7.78	7.48	7.35	6.57
9	CMC Holdings Ltd	0.7	-0.31	0.18	0.18	0.19
10	Marshalls (EA) Ltd	-23.95	12.61	-12	-11	2
11	Barclays Bank Of K.Ltd	7.8	1.49	1.61	1.4	1.54
12	CFC Stanbic Bank	5.14	5.99	9.9	13	14.38
13	Co-operative Bank Of Kenya	1.31	1.53	1.84	2.14	1.71
14	Diamond Trust Bank k.Ltd	11.31	13.15	17.4	17.9	17.9
15	Equity Bank Limited	1.93	2.79	3.26	4.55	3.41
16	Housing Finance Co.Ltd	2.7	1.65	1.02	3.76	3.5
17	Kenya Commercial Bank Ltd	2.76	3.72	4.11	4.18	5.3
18	National Bank Of Kenya Ltd	7.22	5.52	2.61	2.32	3.11
19	NIC Bank Ltd	4.6	5.54	6.03	6.24	6.9
20	Standard Chartered Bank K.Ltd	18.58	19.28	26.6	29.3	33.11
21	Express Kenya Ltd	-0.79	-6.47	0.37	0.01	-2.18
22	Kenya Airways Ltd	4.41	7.66	3.6	6.35	2.25
23	Nation Media Group ltd	9.79	7.66	16	13.4	13.1
24	Scangroup Ltd	2.14	2.55	2.21	2.6	1.5
25	Standard Group Ltd	3.78	1.99	2.24	2.41	2.57
26	TPS E. A.Ltd(Serena Hotels)	3.48	4.16	3.33	2.28	1.35
27	Uchumi Supermarket Ltd	4.81	1.47	1.03	1.35	1.45
28	ARM Cement Limited	10.86	11.61	2.52	2.24	3.01
29	Bamburi Cement Company Ltd	14.02	14.45	12.2	9.55	9.8
30	Crown Paints K.ltd	3.85	7.58	6.01	9.01	0.83
31	East African Cables Limited	0.91	1.24	2.06	1.37	1.16
32	East African Portland Cement	-3.16	-0.02	-9	19.4	-3.93
33	Kenol Kobil Limited	1.3	2.22	-4.3	0.38	0.74
34	KENGEN	1.49	0.95	1.28	2.38	1.29
35	The Kenya Power & Lighting C	3	2.16	2.36	1.76	3.31
36	Total Kenya Limited	5.3	-0.41	-1.2	2.08	2.26
37	CIC Insurance ltd	16.75	5.48	0.64	0.6	0.43
38	Jubilee Holdings ltd	37.15	35.09	38.1	38.2	48
39	Kenya Reinsurance Corp.ltd	2.57	3.19	4	3.99	4.48
40	Pan Africa Insurance C.ltd	6.14	4.62	7.27	8.34	4.07
41	Centum Investment C. (ICDCI)	1.99	3.79	1.79	3.77	4.54
42	Transcentury ltd	1.29	1.32	1.66	1.06	-8.53
43	Boc Kenya ltd	4.06	7.71	10.1	5.2	4.39
44	BAT K ltd	17.67	30.98	32.7	37.2	17.93
45	Carbacid Investments ltd	9.05	8.89	11.5	11.8	10.4
46	East African Breweries Ltd	9.08	9.31	13.5	8.55	8.22
47	Eveready East Africa ltd	0.04	-0.59	0.33	0.21	-0.85
48	Mumias Sugar C.ltd	1.03	1.26	1.32	-1.1	-1.77
49	Unga Group Ltd	1.81	3.57	2.81	2.59	3.65
50	Accesskenya Group	-0.04	0.5	0.69	0.51	0
51	Safaricom ltd	0.38	0.33	0.32	0.44	0.57