THE DETERMINANTS OF RETAINED EARNINGS IN COMPANIES LISTED AT NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I declare that this research project is my original work and has not been presented for award of any degree in any university.

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

I dedicate this research project to my dear wife Angeline, my son Sebastian, my mother Victorina and my brothers and sisters for their prayers and encouragement.

ABSTRACT

The firms are always faced with a problem of making the financing decision that will maximize the firm's value. The decision about allocation of net income between dividends and retained earnings can have a critical influence on the value of the company. The change in retained earnings is influenced by certain factors. However, these factors are still not very clear. The purpose of this study was to examine the determinants of retained earnings in companies listed at NSE. The factors which were tested are; firm size, dividend payout, growth opportunities, profitability, tangibility of assets, and leverage. Both the longitudinal and cross-sectional research designs were employed to enhance the study of companies listed under different segments during the period between 2009 and 2012. Only 41 non-financial companies listed at NSE were studied while financial companies were excluded from the study to remove any anomalies associated with this sector which is highly regulated by the central bank prudential on issues of liquidity, asset and capital holding, and provision for bad debts among other factors. Secondary data from published reports and financial statements at NSE was used in this study. Data was collected by use of data collection sheet. The study employed a multiple regression data analysis technique where tools of SPSS were used. The research findings indicated that there was a weak positive relationship between profitability and retained earnings. The study also revealed that both the firm size and growth opportunities had a weak negative relationship with the retained earnings. Dividend payout ratio was found to have little or no relationship with the retained earnings. The study results showed a strong negative relationship between leverage and the retained earnings. This supported both the pecking order theory and trade-off theory which predict a negative relationship between leverage and retained earnings. Last but not least, assets tangibility was found to have a significant positive relationship with retained earnings. Therefore, it is evident that the change in retained earnings is mainly influenced by the leverage and tangibility of assets and some factors other than those ones tested in this study.

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ABBREVIATIONS AND ACRONYMS

ANOVA – Analysis of Variance

CEO - Chief Executive Officer

CMA - Capital Markets Authority

COB - Chairperson of the Board

EBIT - Earnings Before Interest and Tax

MM - Modigliani and Miller

NPV - Net Present Value

NSE - Nairobi Securities Exchange

REIT - Real Estate Investment Trusts

SPSS - Statistical Package for Social Sciences

UK - United Kingdom

USA - United States America

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

The firms in Kenya and other countries usually prefer to finance their operation activities using internally generated funds rather than external funds. In this study, the researcher is keen to understand the factors that determine the level of retained earnings in companies listed at NSE. Retained earnings can be defined as the portion of the firm's net income that the management retains to finance the internal operations in lieu of distributing it to the shareholders in form of dividends. Retained earnings can be used for different purposes by the company. In some cases the company has to use a large portion of the retained earnings for maintenance. This is especially true for companies that are in manufacturing or in other industrial fields. These large companies have to devote a large portion of their cash to fixing equipment, buying new equipment and keeping up with the competition. They might have to use a good portion of their money to build a new factory or a distribution plant. These industries are considered to be capital-intensive, and a good portion of the retained earnings has to go to maintain their position in the industry. Enterprises that are not in a capital-intensive market can use their retained earnings for other purposes. In most cases, they will attempt to use them for the growth of the company. They might decide to branch out into other markets. They might put extra money into research and development of new products so that they can increase market share. Investors generally like to see companies that value growth because that often means that the value of their shares will increase in the long run.

The companies are listed under ten different segments at NSE. These segments include; agricultural, automobiles and accessories, banking, commercial and services,

construction and allied, energy and petroleum, insurance, manufacturing and allied, and telecommunication and technology sectors. In some cases, companies under different segments may have different levels of retained earnings for different purposes.

Kayhan (2007) observed that there exists a relationship between change in retained earnings, managerial discretion and firm characteristics. Managers of firms prefer to maintain low debt ratios in order to reduce risk and protect their undiversified human capital thus, alleviating the pressure that comes with interest payment commitments, or enjoy the benefit of opportunities associated with running a less levered company where raising of capital for investment is easy. However, he also pointed out that some managers may prefer higher debt ratios so as to reduce the chances of a takeover, or convince investors of their ability to generate sufficient earnings to repay their debt.

Many theories have been developed to explain the relationship between retained earnings, and capital structure decisions and dividend policy. The pecking order theory as advanced by Myers (1984) and supported by theoretical foundation of Myers and Majluf (1984) asserts that firms prefer to use internal finance or retained earnings over external finance. In case the internal funds are inadequate to finance investment opportunities, the firms may or may not seek for external financing, and if they do, they issue debt when they are positive about their firms' future prospects and issue equity when they are unsure. The theory suggests that firms do not have target cash levels, but cash is used as a buffer between retained earnings and investment needs. Trade-off theory postulates that firms identify their optimal level of retained earnings by weighing the marginal benefits and marginal costs of holding cash. The benefits associated with cash holdings include reduction of the likelihood of financial

distress, allows the pursuance of investment policy when financial constraints are met, and minimizes the costs of raising external funds or liquidating existing assets. The main cost of holding cash is the opportunity cost of the capital invested in liquid assets (Ferreira & Vilela, 2004). The agency cost and free cash flow theories postulate that due to the conflict of interests between managers and firm owners, the shareholders incur agency costs associated with monitoring manager's behavior. The payment of dividends might reduce the discretionary funds available to managers and hence align the interests and mitigate the agency problem between managers and shareholders (Rozeff, 1982 and Jensen, 2006). Consequently, this may reduce the amount of retained earnings of the firm set aside for investment operations.

1.1.1 Retained earnings

Retained earnings are defined as the portion of net profit after tax which is kept by the firm instead of distributing it to its owners as dividends. They are earnings retained by the firm for investment in its operations and therefore not paid out as dividends (Campbell, R, 2012). These retained earnings add to stockholders' ownership of the company's net assets. As Weston and Brigham (1972) argued, the value of the firm can be significantly influenced by the retained profits. Retained earnings are measured by the ratio of change in retained earnings divided by total assets.

1.1.2 Determinants of retained earnings

Determinants of retained earnings are those factors that cause the firm's retained earnings to increase or decrease. The firm characteristics such as firm size, assets tangibility, profitability, dividend payout, leverage, growth opportunities, and business risk and managerial discretion have been identified by different researchers as the determinants of retained earnings. According to Bhole (1980), the saving ratio

of companies depends on the type, size and industry of the company. For example, large companies have a higher saving ratio than small companies. Thirumalaisamy (2013), retained earnings are a major source of finance for growth of companies. This is so because there is no transaction or bankruptcy cost associated with retained profits. Thus, potential growth opportunities of a firm necessitate a greater demand for internally generated funds.

1.1.3 Companies listed at NSE

According to NSE website, there were 57 companies listed at NSE as from 2009 to 31st December 2013. These companies are listed under agriculture, automobiles and accessories, banking, commercial and services, construction and allied, energy and petroleum, insurance, investment, manufacturing and allied, and telecommunication and technology segments. Each company or companies under each segment may have different levels of retained earnings used for different purposes. For example, companies in manufacturing and allied sector use a large portion of retained earnings for maintenance.

1.2 Research problem

The management of any given firm is always faced with a problem of making the financing decision that will maximize the firm's value. The decision about allocation of net income after tax between dividends and retained earnings can have a critical influence on the value of the company (Weston & Brigham, 1972). The management is torn between paying out to shareholders large, small or zero percentage of earnings in form of dividends or to retain them for investment operations. This study sought to identify factors that can influence the firm's level of saving in form of retained earnings. The factors that determine the level of retained earnings have been

discussed by many scholars for quite some time and still remain one of the unresolved issues in the corporate finance literature. In most countries, some firms don't have the knowledge about the saving ratio that can maximize the firm value. Therefore, it should be made clear the factors that determine optimal level of retained earnings in any given financial period. Studies have been carried out to address this issue, but still there have been never clear standard determinants of retained earnings in companies.

The studies on determinants of retained earnings of firms have been carried out internationally. For example, Bhole (1980) in his study found that the saving ratio of firms depends on the type, size and industry of the company. Therefore, large companies have higher saving ratio than small companies. Opler, Pinkowitz, Stulz, and Williamson (1999) investigated the determinants and implications of cash holdings amongst publicly traded US firms. Their results showed that firms with strong growth opportunities, higher business risk, and smaller size hold more cash than other firms. Large firms, high-levered firms, as well as firms with credit ratings normally hold less cash. Nevertheless, the study revealed that successful firms tend to accumulate more cash than predicted by the static trade-off model with managers maximizing shareholders' wealth. Therefore, firms hold excess cash for them to be able to keep investing when cash flow is too low, relative to investment needs, and when outside funds are expensive. Their results indicated that managerial entrenchment has little impact on the level of cash holdings. Thirumalaisamy (2013) in his study about firm growth and retained earnings behavior found out that the level of retained earnings is influenced by cash flow, dividends and growth rate of the companies. He pointed out that the level of saving is influenced very much by the growth rate of companies. Locally, several researchers have reviewed different aspects of capital structure and dividend policy involving retained earnings in the

Kenyan context. Kintu and Ngugi (2013) investigated determinants of corporate hedging practices used by companies listed in Nairobi securities exchange a case of Uchumi supermarket. They found that growth option, long term debt ratio, liquidity ratio and cash flow volatility influenced hedging practices used by companies listed at NSE.

From the available empirical evidence, there are no clear standard determinants of retained earnings and therefore more empirical work was required in this area of corporate finance. It is also important to note that there was no research that had been done on this issue in Kenya. This study sought to establish the factors that determine the level of retained earnings in companies listed at NSE. The findings of this study were to enable companies listed under the ten segments at NSE to identify the optimal level of retained earnings. Thus, the study was to help answer the question, "What are the determinants of retained earnings in companies listed at NSE?"

1.3 Objective of the study

The main objective of this study was to establish the determinants of retained earnings in companies listed at Nairobi securities exchange.

1.4 Value of the study

The findings of this study were to enable the management of companies to understand and appreciate the determinants of the level of retained earnings. This was to go a long way of assisting the management in determining how to allocate net profit after tax between retained earnings and dividends. Consequently, this decision may have a significant impact on the value of the firm.

The study was meant to contribute to the literature of factors that determine the level of retained earnings in firms. Therefore, the results of this study were valuable to the

academicians since their knowledge on determinants of retained earnings would increase and stimulate their interest for further research in this area.

The results of this study may be used by the government and policymakers to formulate policies that will guide firms to make appropriate decisions about allocation of net income between retained earnings and dividends. This will create an enabling environment that will enhance smooth operations of the companies listed at NSE. The results of the study would also provide investors with vital information about the factors that determine the amount of retained earnings. Therefore, they will be able to assess the benefits that accrue from the decision by the firm management to accumulate more retained earnings than payment of dividends and vice versa, in any given financial period.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses theories underpinning the study, determinants of retained earnings, empirical evidence and summary of literature review.

2.2 Theoretical review

The theories underpinning this study are reviewed. These theories include the pecking order theory, trade-off theory, and agency costs and free cash flow theories.

2.2.1 Pecking order theory

The pecking order theory of Myers (1984) postulates that firms finance investments first with retained earnings, then with safe debt and risky debt, and finally with equity as a last resort. This order of financing is meant to minimize asymmetric information costs and other financing costs. The theory asserts that firms do not have optimal cash levels, but instead, cash is used as a buffer between retained earnings and investment needs. Therefore, if current operational cash flows are adequate to finance new investments, corporations repay debt and accumulate cash. If retained earnings are inadequate to finance current investments, corporations use the accumulated cash holdings and, if need be, debt is issued. D´Mello, Krishnaswami and Larkin (2008) in their study found that cash diverged from anticipated levels due to pecking order effects, with surplus cash holdings positively related to concomitant cash flows, and hence also confirmed the pecking order theory. Al-Najjar and Belghitar (2011) noted that the profitability and leverage significantly impact cash holdings under this theory. Several financial variables such as size and cash flow (Ferreira & Vilela, 2004) and leverage and profitability (Al-Najjar and Belghitar, 2011) can be used to empirically explain the determinants of cash holdings under the pecking order theory.

2.2.2 Agency costs and free cash flow theories

According to MM's perfect capital market, one of its assumptions is that there are no conflicts of interests between managers and shareholders. In reality, this assumption doesn't apply where the firm owners are distinct from its management. The agency cost and free cash flow theories suggest that there exists conflict of interests between managers and firm owners. Consequently, shareholders incur agency costs associated with monitoring managers' behavior. The payment of dividends might reduce the discretionary funds available to managers and hence align the interests and mitigate the agency problem between managers and shareholders (Rozeff, 1982 and Jensen, 2006).

2.2.3 Trade-off theory

The trade-off model of Myers (1984) asserts that firms set their target level of retained earnings by weighing the marginal benefits and marginal costs of holding cash. The benefits associated with holding cash include; reduction of the likelihood of financial distress as it acts a buffer between retained earnings and investment needs, allows the pursuance of the optimal investment policy when financial constraints are met and minimize the costs of raising external funds or liquidating existing assets as it acts like a buffer between the retained earnings and investment needs. The main cost of holding cash is the opportunity cost of the capital invested in liquid assets (Ferreira, & Vilela, 2004).

Al-Najjar (2013) explained that firms may lose the opportunity to invest in profitable projects and may even handicap their profitable projects to retain cash, if they hold large cash balances. According to Ferreira and Vilela (2004) under the trade-off theory, several firm characteristics influence cash-holding decisions of a firm. These firm characteristics include; payment of dividends, firm size, cash flow, leverage, and

the availability of liquid assets to act as cash substitutes. Opler *et al*. (1999) in their study found out that firms have an optimal level of cash holdings and supported the trade-off hypothesis in which firms weight between the costs and benefits of holding cash to find the optimum balance. Nevertheless, their findings also indicated that firms often hold cash at levels that are higher than predicted by the trade-off hypothesis.

2.3 Determinants of retained earnings

Retained earnings are considered to have a significant influence on the firm value. A lot of research work has been done on determinants of the level of retained earnings of enterprises. The firm characteristics and managerial discretion have been brought forth as the determinants of the amount of retained earnings in firms and are elaborated as follows.

The firm size can be defined as the natural logarithm of total assets. Al-Najjar and Belghitar (2011) found that the size of the firm has a significant influence on the level of cash holdings. Collins, Kothari, and Rayburn (1987) reported that there exists a positive relation between size and cash holdings because larger enterprises have a reduced amount of information asymmetry and as a result, more financial policies flexibility and hence more level of cash holdings. Ozkan and Ozkan (2004) argued that larger companies lean toward greater cash holdings since they have more latitude than smaller companies in their investment and financial decision making. The firm size can be measured by the natural logarithm of total assets.

Al-Najjar and Belghitar (2011) in their research found a negative relationship between profitability and cash holdings. Opler et al. (1999) and Ferreira and Vilela (2004) suggest that more profitable enterprises are motivated to have financial slack. Contrary, Dittmar et al. (2003) in their research found that more profitable enterprises

will tend to keep large amounts of cash in relation to pecking order theory which suggests a positive relationship between profitability and cash holdings. Al-Najjar (2013) in his study found mixed evidence for profitability as a determinant of cash holdings. His results showed that profitability has both a positive and a negative relationship with cash holdings in a country-specific analysis, while cross-country findings showed no relationship. Therefore, this evidence reveals a contradictory relationship between profitability and cash holdings. The proxy for profitability is the ratio of operating profit (EBIT) divided by total assets.

Dividend payout is measured by dividends per share divided by earnings per share. Firms that pay dividends are expected to retain fewer amounts of their net incomes than firms that do not pay dividends (Ferreira & Vilela, 2004). Al-Najjar and Belghitar (2011) reported a negative relationship between dividend policy and cash holdings. Therefore, their findings were in support of those ones of Opler *et al* (1999). Al-Najjar and Binsaddig (2013) argued that, according to trade-off theory, the relationship between dividend payment and cash holdings is negative and so, the enterprises can trade off the costs of retaining cash by decreasing dividend payments to shareholders. Al-Najjar (2013) in his study found that dividend policy was a significant determinant of cash holdings and had a negative relationship.

Al-Najjar and Binsaddig (2013) observed that enterprises with more tangible assets should keep less cash since tangible assets are easily liquidated in the event of a cash flow shortage. The proxy for asset tangibility is the ratio of fixed assets divided by total assets. Drobetz and Gruninger (2007) in their research found a negative relationship between asset tangibility and the level of corporate cash holdings. Al-Najjar and Binsaddig (2013) reported that the relationship between asset tangibility and cash reserves reveal that companies with more liquid assets have less cash to

minimize the opportunity cost of liquidity. This evidence clearly indicates that asset tangibility is a negative determinant of cash holdings.

A positive relationship between growth opportunities and retained earnings is predicted by the trade-off theory. Al-Najjar and Belghitar (2011) in their research found that there was a positive relationship between growth opportunities and cash holdings. The trade-off theory predicts that firms with better investment opportunities have greater financial distress costs since the NPV of these investments disappears (almost entirely) in the event of bankruptcy. Consequently, firms with better investment opportunities usually keep higher levels of retained earnings to avoid financial distress. Growth opportunities are measured as sales to total assets ratio.

Leverage refers to the ratio of total debt to total assets. Pecking order theory and trade-off theory both predict a negative relationship between leverage and internal cash reserves. Opler et al (1999) observed that under the pecking order theory, those enterprises that keep a large amount of cash use it to pay off outstanding debt. Al-Najjar and Belghitar (2011) in their study found that leverage had a significant negative impact on cash balances. Al-Najjar (2013) in his study also found a strong similar evidence that leverage impacted negatively on cash balances. Ferreira and Vilela (2004) noted that leverage increases the probability of bankruptcy and therefore firms with higher leverage are expected to retain more cash in order to reduce the chances of experiencing financial distress. On the other hand, if leverage ratio acts as a proxy for the ability of the firms to issue debt, then firms with higher leverage should keep less cash. Therefore, the predicted relationship between retained earnings and leverage is ambiguous.

Managerial discretion is defined as latent characteristic representing multiple dimensions of corporate governance that affect managers' ability to act in their self interest (Kayhan, 2007). Somes proxies which can be used to measure the managerial discretion have been identified and they include CEO-chairman duality, and board size (Musani, 2012).

2.4 Empirical evidence

Several researchers have tested factors that influence the level of retained earnings in firms. Bhole (1980) carried out a study on retained earnings, dividends and share price on Indian joint stock. The results indicated that the saving ratio of companies depends on the type, size and industry of the company. Large companies have higher saving ratio than small companies. John (1993) examined firm-level determinants of cash holdings in US. She found out that firms with higher costs of financial distress and higher cash flow volatility hold relatively more cash, while firms with higher leverage, higher growth rates, a longer cash conversion cycle, and more tangible assets hold less cash. Opler et al (1999) from their study revealed that firms with strong growth opportunities, higher business risk, and smaller size hold more cash than other firms. The firms having the greatest access to capital markets, such as large firms and those high-levered, as well as firms with credit ratings normally hold less cash. Nevertheless, the study reveals that successful firms tend to accumulate more cash than predicted by the static trade-off model. Therefore, firms hold excess cash for them to be able to keep investing when cash flow is too low, relative to investment needs, and when outside funds are expensive. Their results indicated that managerial entrenchment has little impact on the level of cash holdings.

Ferreira and Vilela (2004) in their study on determinants of corporate cash holdings in EMU countries found out that cash holdings are positively affected by investment opportunity set and cash flows and negatively affected by asset's liquidity, leverage and size. Bank debt and cash holdings are negatively related, suggesting that a close relationship with banks allows the firm to hold less cash for precautionary reasons. Kytonen (2005) carried out an empirical investigation on corporate liquidity holdings in Finnish firms. The results reveal that firm size, cash flows, growth opportunities, leverage, dividend policy, and the probability of financial distress impact cash holdings. Drobetz and Gruninger (2006) investigated the determinants of Swiss non-financial firms' cash holdings. They found out that there is a negative relationship between asset tangibility and cash holdings and a non-linear relationship between leverage and cash holdings. Dividend payments are positively related to cash reserves. Nevertheless, there was no robust impact of firm size on cash. Their results also revealed that there is no a significant positive relationship between growth opportunities and cash holdings. Therefore, the firms adjust their cash holdings only slowly towards an endogenous target cash ratio. Their findings also revealed that firms where the CEO serves as the COB at the same time hold significantly more cash.

Gill and shah (2012) carried out a study on determinants of corporate cash holdings in Canada. Their results indicated that firm size, cash flow, market-to-book ratio, net working capital, leverage, board size, and the CEO duality significantly affect the corporate cash holdings. Thirumalaisamy (2013) in his study found that the level of retained earnings is influenced by cash flow, dividends and growth rate of the companies. Kintu and Ngugi (2013) investigated determinants of corporate hedging practices used by companies listed in Nairobi securities exchange a case of Uchumi

supermarket. They found that growth option, long term debt ratio, liquidity ratio and cash flow volatility influenced hedging practices used by companies listed at Nairobi Securities Exchange. Anjum and Malik (2013) carried out a study on determinants of corporate liquidity; an analysis of cash holdings of companies listed at Karachi stock exchange in Pakistan. Their results indicated a significant relationship between cash holdings and firm size, net working capital, leverage and cash conversion cycle.

2.5 Summary of literature review

From the foregoing literature, it is clear that most empirical evidences provide evidence that firm size, investment opportunities, and leverage are factors that significantly influence the level of cash holdings. For example, Ferreira and Vilela (2004) found out that cash holdings are positively influenced by investment opportunity set and negatively affected by asset's liquidity, leverage and size. Gill and Shah (2012) in their study found that firm size, cash flows, market-to-book ratio, net working capital, leverage, board size, and CEO duality significantly influence the cash holdings by firms. However, some empirical studies provide empirical evidence that give conflicting results. For instance, Bhole (1980) provided proof that firm size is positively related to saving ratio of firms while Opler et al (1999) concluded that firm size is negatively related to cash holdings. Despite extensive research about factors that influence cash holdings by firms, the standard determinants of retained earnings are unclear, especially in developing economies. For example, no research had been done on the determinants of retained earnings of firms in Kenya before.

Therefore, the change in retained earnings is significantly associated with managerial discretion and firm characteristics. Considering the firm characteristics, for example, enterprises with high market-to-book ratios (investment opportunities), firms with

tangible assets, and firms with high prior period book leverage ratios tend to retain less of their earnings. Profitable and large firms, and firms with good performance, however, tend to have higher levels of retained earnings. In regard to managerial discretion, enterprises large with board sizes tend to retained more cash. Enterprises with small board sizes are likely to retain fewer earnings.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter highlights the research design that the researcher will employ, the target population, data collection, data reliability and validity, and data analysis method that were used.

3.2 Research design

This study adopted both longitudinal and cross-section research designs, employing secondary quantitative data. Longitudinal research design enhanced the study of variables for the four years, from 2009 to 2012. The cross-section research design facilitated the comparison of determinants of retained earnings in companies listed under different segments at the NSE.

3.3 Target Population

The target population of the study was all the 57 companies listed at NSE from 2009 to 2012. However, only 41 non-financial companies were studied. Thus, financial companies (banking and insurance sector) were excluded from the study to remove any anomalies associated with this sector which is highly regulated by the central bank prudential on issues of liquidity, asset and capital holding, and provision for bad debts among other factors. The financial leverage of financial companies is not comparable to those non-financial companies. Moreover, cash is the trading asset of banks and hence the levels of cash holding are expected to be significantly higher than for firms in other sectors (Mwangi, Makau, & Kosimbei, 2014).

3.4 Data collection

The study used secondary data which was obtained from published annual financial statements and reports at the NSE's website, the Capital Markets Authority's website,

and companies' websites for the period between 2009 and 2012. The data collected was utilized to measure the following variables: change in retained earnings, firm size, growth opportunities, profitability, asset tangibility, dividend policy, leverage, risk and managerial discretion for each company. The data was collected with the help of a data collection sheet.

3.5 Data validity and reliability

The information used in this study was compiled from reliable and credible sources justifying the completeness and accuracy of the data used. Thus, the data was obtained from published annual financial statements and reports at the NSE's website, the Capital Markets Authority's website, and companies' websites for years between 2009 and 2012. These are very reliable sources and the validity of the information published is tied to the institution that carried out the publication.

3.6 Data analysis

This study employed Multiple Regression analysis. A regression was run to measure the impact of the independent variables on dependent variable (retained earnings). In this regard, the data analysis tools of SPSS were applied.

3.6.1 Analytical Model

The analytical model for this study was developed from Anwar (2011) who used a similar model to analyze data for three different sectors. The model is specified as follows:

$$\textbf{RE} = \beta_0 + \beta_1\textbf{SZ} + \beta_2\textbf{GO} + \beta_3\textbf{DP} + \beta_4\textbf{TG} + \beta_5\textbf{PF} + \beta_6\textbf{LG} + \varepsilon$$

Where**;**

RE = Change in Retained earnings, as given by; Change in retained earnings divided by Total Assets

SZ = Firm Size, as given by; Natural logarithm of total assets

GO = Growth Opportunities, as given by; Sales divided by total assets (market-to-book ratio)

DP = Dividend payout, as given by; Dividends per share divided by Earnings per share

TG = Tangibility, as given by; Fixed assets divided by Total assets

PF = Profitability, as given by; Ratio of operating profit (EBIT) divided by Total assets

LG = Leverage, as given by; Total debt divided by Total assets

β_0 = Constant term

$\beta_1 - \beta_6$ = Regression coefficients − define the amount by which RE (Explained variable) is changed for every unit change in the explanatory variable.

ε = the error term, which defines the variation in the dependent variable, RE, which cannot be explained by the included predictor variables.

3.6.2 Test of Significance

The researcher employed tools of diagnostic test which are mainly correlation coefficient (R), coefficient of determination (R^2) and F statistic to better understand the different relationships between the variables in this study. The correlation coefficient (R) was used to measure the strength and direction of the relationship between the response variable (retained earnings) and each of the predictor variables. R is defined as the covariance of the variables divided by the product of their standard deviations. Coefficient of determination, R^2, was used to measure the proportion of variance in the dependent variable that can be explained by independent variables. Thus, R^2 measured how well the regression model fits the data in this study. The F statistic was used to test for the significance of the relationship between retained

earnings and each of the predictor variables. Therefore, the F statistic is a ratio that compares the explained sum of squares and the unexplained sum of squares.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter outlines the data analysis, research findings and interpretations. The research findings presented were based on the study whose research objective was to examine the determinants of retained earnings in companies listed at NSE. Data of targeted listed companies was collected from published reports and financial statements available at NSE and CMA. This was then used to compute the various ratios which constituted variables in the study. This was followed by a summary and interpretation of the findings.

4.2 Regression Analysis Results

The research results are presented in tables on descriptive statistics, correlation matrix, the ANOVA, summary of the model, and the coefficients.

Table 4.2.1: Summary of descriptive statistics of variables

Variable	N	Minim um	Maxi mum	Mean	Std. Deviatio n
Retained Earnings to Total Assets Ratio	145	-.389	.869	.332	.219
Earnings Before Interest and Tax to Total Assets Ratio	144	-.306	.951	.122	.165
Sales to Total Assets Ratio	145	.073	5.891	1.086	.847
Size (Log of Total Assets)	145	4.928	8.213	6.783	.707
Dividend Payout Ratio	139	-.623	1.101	.289	.273
Debt to Total Assets	144	.119	.882	.458	.178
Tangibility	145	.084	1.537	.576	.267
Valid N (list wise)	139				

Predictors: (Constant), Profitability, Firm Size, Growth Opportunities, Dividend Payout Ratio, Leverage, Tangibility.

Dependent Variable: Retained earnings

Source: Research findings

Table 4.2.1 provides a summary of the descriptive statistics of the dependent and independent variables for the targeted companies. This shows the average indicators of variables computed from the financial statements. The change in retained earnings measured by retained earnings to total assets ratio reveals an average of 33.2% with a standard deviation of 21.9. This suggests that each company under study retained at least 33.2% of net income during the period under study.

Table 4.2.2: Correlation Matrix

		RE to Total Assets Ratio	EBIT to Total Assets Ratio	Sales to Total Assets Ratio	Size (Log of Total Assets)	Dividend Payout Ratio	Debt to Total Assets	Tangibility
Retained Earnings to Total Assets Ratio	Pearson Correlation	1	.433**	-.253**	-.254**	.253**	-.693**	.258**
	Sig. (2-tailed)		.000	.002	.002	.003	.000	.002
	N	145	144	145	145	139	144	145
EBIT to Total Assets Ratio	Pearson Correlation	.433**	1	.058	-.077	.331**	-.510**	.288**
	Sig. (2-tailed)	.000		.489	.357	.000	.000	.000
	N	144	144	144	144	139	144	144
Sales to Total Assets Ratio	Pearson Correlation	-.253**	.058	1	.163	-.060	.215**	-.411**
	Sig. (2-tailed)	.002	.489		.051	.482	.010	.000
	N	145	144	145	145	139	144	145
Size (Log of Total Assets)	Pearson Correlation	-.254**	-.077	.163	1	.188*	.285**	.194*
	Sig. (2-tailed)	.002	.357	.051		.026	.001	.019

	tailed)							
	N	145	144	145	145	139	144	145
Dividend Payout Ratio	Pearson Correlation	.253[**]	.331[**]	-.060	.188[*]	1	-.385[**]	.133
	Sig. (2-tailed)	.003	.000	.482	.026		.000	.119
	N	139	139	139	139	139	139	139
Debt to Total Assets	Pearson Correlation	-.693[**]	-.510[**]	.215[**]	.285[**]	-.385[**]	1	-.146
	Sig. (2-tailed)	.000	.000	.010	.001	.000		.080
	N	144	144	144	144	139	144	144
Tangibility	Pearson Correlation	.258[**]	.288[**]	-.411[**]	.194[*]	.133	-.146	1
	Sig. (2-tailed)	.002	.000	.000	.019	.119	.080	
	N	145	144	145	145	139	144	145

Predictors: (Constant), Profitability, Firm Size, Growth Opportunities, Dividend Payout Ratio, Leverage, Tangibility

Dependent Variable: Retained earnings

Source: Research findings

From table 4.2.2 above, the correlation coefficients for all variables were less than 0.8 implying that the study data did not exhibit severe multicollinearity as recommended by (Gujarati, 2003; Cooper & Schindler, 2008).

Table 4.2.3: The ANOVA

Source	DF	SS	MS	F	P
Regression	6	3.36892	0.56149	23.74	0.000
Residual Error	132	3.12220	0.02365		
Total	138	6.49112			

Predictors: (Constant), Profitability, Firm Size, Growth Opportunities, Dividend Payout Ratio, Leverage, Tangibility

Dependent Variable: Retained earnings

Source: Research Findings

Table 4.3 shows that the independent variables statistically predict the dependent variable (6, 95) =23.74, p<0.05 (i.e. the regression model is a good fit for the data).

Table 4.2.4: Summary of the Model

S	R Squared	Adjusted R Squared
0.1538	0.5190	0.4970

Predictors: (Constant), Profitability, Firm Size, Growth Opportunities, Dividend Payout Ratio, Leverage, Tangibility

Dependent Variable: Retained earnings

Source: Research Findings

From table 4.4 above, R-squared is the proportion of the changes in dependent variable (Retained earnings) that can be accounted for (or predicted) by the changes in independent variables. In this case 51.9% of variations in retained earnings can be explained by variations in profitability, firm size, growth opportunities, dividend payout ratio, leverage, and tangibility implying that there are other factors that influence the level of retained earnings in companies listed at NSE. Therefore, the model has a strong explanatory power since it produced an R^2 of 0.5190, an F-ratio of 23.74 and a significance level of 0.000.

Table 4.2.5: Coefficients

Predictor	Coefficient	SE Coefficient	T	P
Constant	0.8266	0.1333	6.20	0.000
EbitTa	0.1136	0.1048	1.08	0.280
SalesTa	-0.01346	0.01856	-0.73	0.469
Ta(log)	-0.03353	0.02209	-1.52	0.131
DpRatio	-0.00447	0.05553	-0.08	0.936
DebtTa	-0.72762	0.09856	-7.38	0.000
Tangibility	0.11865	0.06189	1.92	0.057

Predictors: (Constant), Profitability, Firm Size, Growth Opportunities, Dividend Payout Ratio, Leverage, Tangibility

Dependent Variable: Retained earnings

Source: Research findings

The general form of regression equation is given by;

$$ReTa = 0.827 + 0.114 \text{ EbitTa} - 0.0135 \text{ SalesTa} - 0.0335 \text{ Ta(log)} - 0.0045 \text{ DpRatio}$$

$$- 0.728 \text{ DebtTa} + 0.119 \text{ Tangibility}$$

Profitability is positively correlated with retained earnings with a coefficient of 0.114 but statistically insignificant at 0.280 level of significance. Growth opportunities have a negative correlation with retained earnings which is statistically insignificant at (0.469) level of significance. There is also a negative relationship between the size of the firm and retained earnings though not statistically significant. Dividend payout ratio has little or no relationship with retained earnings as shown by the coefficient (-0.00447). Leverage has a strong negative relationship with retained earnings with a coefficient of -0.72762 and is statistically significant at 0.000 level of significance. This implies that as the debt increases, the level of retained earnings reduces. There is a significant positive relationship between tangibility of assets and retained earnings as shown by the estimated coefficient of 0.11865 at (0.057) level of significance.

4.3 Discussion

The results of the study revealed that profitability has an insignificant positive relation with the change in retained earnings. This supports the cross-country findings of Al-Najjar (2013) which showed that there was no relationship between profitability and retained earnings. The findings also indicated that there is no a significant relationship between the retained earnings and the growth opportunities. These results contradict the trade-off theory which predicts a positive relationship between the availability of investment opportunities and the level of cash holdings.

The study found that the size of the firm had no significant influence on the change in retained earnings. The evidence is contrary to the findings of other similar studies, for example, Collins e tal (1987) found a positive relationship between the firm size and

retained earnings. From the study results, dividend payout ratio had an insignificant relationship with the change in retained earnings.

However, leverage was found to have a significant negative relationship with the change in retained earnings, meaning that the level of debt decreases with an increase of level of retained earnings. Thus, a firm that keeps a large amount of retained earnings will use it to pay off the outstanding debt. This is in support of both the pecking order theory and the trade-off theory which predict a negative relationship between debt ratio and the retained earnings. Last but not least, the research findings also indicated a significant positive relationship between the tangibility of assets and the change in retained earnings. This suggests that firms with many tangible assets are expected to retain more of their net profits. Therefore, these results contradict those of other similar studies. For instance, Drobetz and Gruninger (2007) in their study found that there exists a negative relationship between the tangibility of assets and the amount of retained earnings.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter aims at linking and applying the results obtained from the study to solve real life determinants of retained earnings and change in retained earnings misalignments as described in the research problem statement. Thus, the chapter presents discussion of the key findings outlined in chapter four, conclusion drawn based on the findings and recommendations, as well as the limitations or constraints encountered during the study.

5.2 Summary and Conclusion

The main objective of this study was to examine the determinants of retained earnings in companies listed at Nairobi securities exchange. Both the longitudinal and cross-sectional research designs were employed to enhance the study of companies listed under different segments during the period between 2009 and 2012. Out of the 57 companies listed at NSE, 41 non-financial companies were studied. Thus, financial companies (banking and insurance sector) were excluded from the study to remove any anomalies associated with this sector which is highly regulated by the central bank prudential on issues of liquidity, asset and capital holding, and provision for bad debts among other factors. The financial leverage of financial companies is not comparable to those non-financial companies. Moreover, cash is the trading asset of banks and hence the levels of cash holding are expected to be significantly higher than for firms in other sectors. Secondary data from published reports and financial statements at NSE was used in this study. Data was collected by review of documents, annual reports of the companies published books of accounts. The study employed a multiple regression data analysis technique where SPSS tools were used.

The research findings indicated that there was a weak positive relationship between profitability and retained earnings. This supported the findings of Dittmar *et al* (2003) and Al-Najjar (2013) who found the same results in similar studies. The study also revealed that both the firm size and growth opportunities had a weak negative relationship with the retained earnings. Dividend payout ratio was found to have little or no relationship with the retained earnings. The research results showed that there was a strong negative relationship between leverage and the retained earnings. This supported the empirical evidence of Opler *et al* (1999), Ferreira and Vilela (2004), Al-Najjar and Belghitar (2011), and Al-Najjar (2013) who found the same results in similar studies. Therefore, these results supported both the pecking order theory and trade-off theory which predict a negative relationship between leverage and retained earnings. Last but not least, the study revealed that there was a significant positive relationship between the tangibility of assets and retained earnings. From this study it is clear that the model is statistically significant since it produced an R^2 of 0.5190 and an F-ratio of 23.74 at (0.000) level of significance. Therefore, it is evident that the change in retained earnings is mainly influenced by the leverage and tangibility of assets and some factors other than those ones tested in this study.

5.3 Recommendations for Policy and Practice

Some of the key factors to consider when choosing an optimal level of retained earnings should include the leverage and tangibility of assets. This will go a long way to contribute to the increase in the value of the firm.

Chief Finance officers of firms in the various sectors of economy should take into account these two factors when developing their financial policies. Nevertheless,

factors other than those ones discussed in this study should be identified and considered when making decisions about corporate cash holding.

5.4 Limitations of the Study

The researcher encountered quite a number of challenges related to the research and especially during the process of data collection. Not all data was available in the NSE handbook because it had summarized data. The Capital markets authority (CMA) provided comprehensive data. However data for some years was missing. Companies in financial sectors were excluded from this study. This implies that the results might have not reflected the general determinants of retained earnings in listed companies at NSE.

The time allocated for the study was insufficient given that the researcher was holding a full time job at the same time carrying out the research. This was encountered during the collection of material as well as the data to see the study success. However the researcher tried to conduct the study within the time frame as specified.

5.5 Suggestions for Further Studies

This study focused on all the companies listed at NSE, non-financial ones in particular. Therefore, generalizations could not adequately be extended to every listed company as the change in retained earnings in companies under different segments may be influenced by different factors. Based on this fact among others, it is therefore, recommended that a narrow based study covering a specific segment or company be conducted to find out the determinants of retained earnings.

Similar studies can also be replicated in a few years to come to assess whether the determinants of retained earnings in companies listed at NSE would have changed as the Nairobi Securities Exchange continues to change.

A similar research could be undertaken that includes more independent variables. This is because the study indicated that the six factors could only account for 51.9% of the change in retained earnings, meaning that other factors may be in play.

A research that involves both quoted and unquoted firms could be conducted which could give more insights into the determinants of retained earnings for different sectors of the economy.

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APPENDICES

APPENDIX I: List of companies listed at Nairobi Securities Exchange As at December, 2013

Agricultural sector
1.Eaagads Limited
2.Kakuzi Limited
3.Kapchorua Tea Company Limited
4.Limuru Tea Company Limited
5.Rea Vipingo Plantations Limited
6.Sasini Tea and Coffee Limited
7.Williamson Tea Kenya limited
Automobiles And Accessories
8.Car And General (Kenya) Limited
9.CMC Holdings Limited
10.Marshalls (EA) Limited
11.Sameer Africa Limited
Banking
12.Barclays Bank of Kenya Limited
13.CFC Stanbic Bank
14.Co-operative Bank of Kenya
15.Diamond Trust Bank (Kenya) Limited
16.Equity Bank Limited
17.Housing Finance Company Limited

18.Kenya Commercial Bank Limited
19.National Bank of Kenya Limited
20.NIC Bank Limited
21.Standard Chartered Bank Kenya Limited
Commercial And Services
22.Express Kenya Limited
23.Kenya Airways Limited
24.Longhorn Kenya Limited
25.National Media Group Limited
26.Scangroup Limited
27.Standard Group Limited
28.TPS Eastern Africa Limited (Serena Hotels)
29.Uchumi Supermarket Limited
Construction And Allied Sector
30.ARM Cement Limited
31.Bamburi Cement Company Limited
32.Crown Paints Kenya Limited
33.East African Cables Limited
34.East African Portland Cement Company
Energy And Petroleum
35.Kenol Kobil Limited
36.Kenya Electricity Generating Company (KENGEN)
37.The Kenya Power & Lighting Company Limited
38.Total Kenya Limited

39.Umeme Limited
Insurance
40.Britam Limited
41.CIC Insurance Limited
42.Jubilee Holdings Limited
43.Kenya Reinsurance Corporation Limited
44.Liberty Kenya Holdings Limited
45.Pan Africa Insurance Company Limited
Investment
46.Centum Investment Company (ICDCI) Limited
47.Olympia Capital Holdings Limited
48.Transcentury Limited
Manufacturing And Allied Sector
49.Boc Kenya Limited
50.British American Tobacco Kenya Limited
51.Carbacid Investments Limited
52.East African Breweries Limited
53.Eveready East Africa Limited
54.Mumias Sugar Company Limited
55.Unga Group Limited
Telecommunication And Technology
56.Accesskenya Group
57.Safaricom

APPENDIX II: Data collection sheet

Company Name:								
	Fixed Assets	Total Assets	Change in Total Assets	Total Liabilities	EBIT	Retained Earnings	Change in Retained Earnings	Total Sales	EAT
2009									
2010									
2011									
2012									
2013									