

**THE EFFECT OF MARKET TIMING ON CAPITAL
STRUCTURE OF COMPANIES LISTED AT THE NAIROBI
SECURITIES EXCHANGE**

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DECLARATION

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

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DEDICATION

I dedicate this research project to my dear wife, Rahab Wanjiru and daughters Shaneece and Tiffany Munene.

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ABBREVIATIONS

ANOVA	-	Analysis of Variance
CDSC	-	Central Depository and Settlement Corporation
CMA	-	Capital Markets Authority
EPS	-	Earnings per share
IPO	-	Initial Public Offering
MBR	-	Market to Book Ratio
MTT	-	Market Timing Theory
SEO	-	Seasonal Equity Offering

ABSTRACT

Financing plays an essential role in increasing a company's capabilities to develop its business. As firms grow, they need to raise capital, and that can come from either debt or equity, influencing the overall capital structure of the firm. There are different theories guiding appropriate financing decisions. They try to guide the corporate finance managers in choosing the optimal proportion of debt and equity for their firm. These include: The trade-off theory, the pecking order theory, market timing theory (Baker and Wurgler, 2002), the irrelevance theory (Modigliani and Miller, 1958), and agency theory (Jensen and Meckling, 1976). This study aims to examine the effect of Market Timing Theory (MTT) from Baker and Wurgler (2002) on capital structure of firms, in the context of the Nairobi Securities Exchange. The essence of MTT is that firms are more likely to issue equity when their market values are high relative to book and past market values and to repurchase equities (if allowed by regulation) when their market values are low. The study adopted the descriptive research design. The study was conducted on 26 companies listed in the Nairobi securities exchange and which issued Initial Public Offerings or rights issues between 2006 and 2014. Data was obtained from published annual financial statements and reports maintained by Nairobi Securities Exchange (NSE) and The Capital Markets Authority (CMA) for a period of eight years. The proposed model of this paper used regression analysis to measure the effect of market timing, proxied by the ratio of market value to book value, on the sources of financing firms through increase in equities. The findings of this analysis concluded that as the ratio of market value to book value increases, firms tend to increase their equity through an increase in the number of shares outstanding. It was hence concluded that market timing influences the overall capital structure of the firm through increase in equities.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Financing plays an essential role on increasing a company's capabilities to develop its business. As firms grow, they need to raise capital, and that can come from either debt or equity. Managers have to constantly decide between increasing the number of shares and absorbing loans, both of which influence the capital structure of the firm. Hence the primary objective of every manager is to find the right timing and optimal mix of debt and equity, while maximizing shareholder value (Bloom and Milkovich, 2012).

According to Modigliani and Miller (1958), the costs of different forms of capital do not vary independently, hence there would be no gain from financing by either debt or equity and capital structure is irrelevant in efficient markets. Baker and Wurgler (2002) argue that in capital markets that are inefficient by contrast, managers have incentives to time the equity market if they think it is possible to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital.

Baker and Wurgler (2002) argue that capital structure is the cumulative effect of past attempts to time the equity market. The proxy for market timing is Market to Book Ratio (MBR). Changes in stocks outstanding and leverage are the indicators of effect of Market Timing Theory (MTT) on financing decisions by companies. There are different theories guiding financing decisions by companies including Trade off Theory, Pecking Order Theory, Signaling Theory and Market Timing Theory (Baker and Wurgler, 2002). This study aimed to investigate the market timing theory with

empirical evidence from selected companies from the Nairobi Securities exchange.

1.1.1 Market Timing

According to Baker and Wurgler (2002), market timing is the cumulative outcome of past attempts to time the equity market. Its proxy is Market to book value of equity of listed firms. Firms are more likely to issue equity when their market values are high, relative to book and past market values, and to issue debt when their market values are low. Fama and French (2002) argue that a company should use equity financing when the cost of equity capital is economical compared to debt financing and vice versa. If firms seek to minimize their cost of capital, market inefficiencies have important implications for corporate financing.

According to Stein (1996), market inefficiency can exist in both firm level as well as in the industry level. MTT proposes that windows of opportunity to time the market exist as the relative cost of equity varies over time for either rational or irrational reasons. Saad (2010) gave three arguments about the effectiveness of MTT (Market Timing Theory) which are: managers tend to issue equity in lieu of debt when market value is high relative to book value as well as when market value of the past is high; through the analysis of estimated earnings prospects, companies tend to sell equity at the time investors have high optimism and high enthusiasm; MTT is done when the company has high growth (growth stage in the Product Life Cycle) because it would invite a lot of market sentiment. This indicates the importance of overvaluation of a company stock, when it will sell its stake in the market. Baker and Wurgler (2002) argued that if the release of shares is more prospective, then market to book ratio (of equity) should have a negative effect on leverage.

1.1.2 Capital Structure

A firm's capital structure refers to the mix of its financial liabilities. As financial capital is an uncertain but critical resource for all firms, suppliers of finance are able to exert control over firms (Harris and Raviv, 1991). Debt and equity are the two major classes of liabilities, with debt holders and equity holders representing the two types of investors in the firm. Each of these is associated with different levels of risk, benefits, and control. It is the way the corporation finances its assets through some combination of equity, debt, or hybrid securities. A firm's capital structure is then a composition or structure of its liabilities.

The capital structure is how a firm finances its overall operations and growth by using different sources of funds. Debt comes in the form of bond issues or long-term notes payable, while equity is classified as common stock, preferred stock or retained earnings. According to Harris and Raviv (1991), the Consensus is that "leverage increase with fixed assets, non-debt tax shields, investment Opportunities, and firm size, and decreases with volatility, advertising expenditure, the probability Of bankruptcy, profitability, and uniqueness of the product." Kayhan, & Titman (2005) state that market timing, Asset structure, non-debt tax shields, growth, uniqueness, industry classification, size, earnings Volatility and profitability are factors that may affect capital structure according to different theories of Capital structure.

1.1.3 The Effect of Market Timing on Capital Structure

According to Kayhan and Titman (2005), firms time when to issue equity stocks for subscription by the public. New stocks are only issued at such a time when they are perceived to be over-valued and bought back when they are undervalued. As a

consequence, the perception about the stock price affects the capital structure of the firm. According to Baker and Wurgler (2002), the effect of market timing on capital structure is significant not only in the short-term but also persistent over time. Kayhan and Titman (2005) confirms that leverage and equity changes are consistent with the market timing, but unlike Baker and Wurgler they do not find a persistent effect on capital structure.

Baker and Wurgler (2002) present two separate versions of market timing that have led to dynamics in capital structure. First is the assumption that economic agents are rational. Companies issue equity directly after a positive information release which reduces information asymmetry problem between the management of the firm and stockholders. Then the reduction in asymmetry coincides with a rise in the stock price. This triggers firms to create their own timing opportunities. Second is the irrationality of economic agents which results into time varying mispricing of a firms stock (Baker and Wurgler, 2002). Managers make new equity issues when they perceive their costs to be irrationally low and repurchase them when their costs are irrationally high.

Baker and Wurgler (2002) found that changes in stockholders equity of firms is positively correlated to the historical market-to-book value, which is in line with the market timing. This study hence proposed to investigate market timing effect on stock holders equity at the Nairobi Securities Exchange with empirical evidence from selected companies.

1.1.4 Firms Listed in the Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) was constituted as a voluntary association of stockbrokers registered under the Societies Act in 1954. The NSE has served as an organized market for buying and selling of corporate and other securities. The stock exchange provides investors with an efficient mechanism to liquidate their investments in securities.

A company seeking listing for the first time on the stock exchange offers part of its securities to be subscribed by the public. This first offer is called an Initial Public Offering (IPO). Later issues of new shares to the market, is called a "follow-on" offering. Any company wishing to undertake an IPO in Kenya would have to get approval from the Capital Markets Authority (CMA). The CMA takes into account compliance with the legal and regulatory framework by the company undertaking the IPO.

Since the year 2000 the NSE has seen the numbers of companies opting to raise capital through listing their shares grow to the current number of 64 (CMA). The NSE has had a total of 11 Initial Public Offerings, 22 companies have issued rights issues, 27 companies have issued bonus issues, 15 companies have carried out share splits and 15 companies have either been delisted or suspended from trading in keeping with the mandate of the NSE (CMA Statistical Bulletin 2015). This study will hence focus on the companies opting to raise new capital from the NSE by either IPO or rights issues to investigate the premise that by timing the market managers can exploit the NSE to profit from undervalued equity conditions.

1.2 Research Problem

Market timing hence enables managers to minimize the cost of capital by taking advantage of capital market inefficiencies and hence contribute to maximizing shareholder value. This is especially the case for fast growing firms in the growth stage of company life cycle. These firms will prefer to raise capital through initial public offerings (IPO) despite the cost associated as overall cost will be lower than debt interest due to market undervaluation of growth firms. MTT also guides managers to carry out Seasonal Equity Offerings (SEO) during the lifecycle of the firm. The results of Baker and Wurgler (2002) find evidence of a long-lasting market timing effect on capital structure. Elliott and Warr (2007) find that market timing helps to explain the security issuance decision, as firms with overvalued equity tend to favour equity issuances over debt issuances. The market timing theory has, however, drawn criticism from Alti (2003), and Butler et al, (2011), who question the longevity and overall economic significance of market timing.

The value of a firm is maximized when a firm chooses an optimal capital structure that minimizes its weighted average cost of capital. Most of firms in Kenya however do not have optimal capital structure since a bigger proportion of their activities are financed by equity securities as compared to debt. Between 2008 and 2010, listed firms in Kenya financed their operation with 76% of equity as compared to 24% of debt (Ayot, 2011). Such a structure shows a preference for equity financing by firms exposing them to financial market risks which could adversely affect their operations with the ultimate risk being financial distress and yet firms play an important role in the economy as engines of growth and employment creation.

Several studies have been done on the determinants of capital structure of the companies listed in the NSE. Kinyua (2005) established that profitability, company size, asset structure, management attitude towards risk and lenders' attitude towards the company are key determinants of capital structure, and hence financing decisions, for small and medium enterprises in Kenya. Kuria (2010) conducted a study on the determinants of capital structure of firms listed in the NSE and established that profitability and asset structure are the only determinants of capital structure.

Turere (2012) examined determinants of capital structure in energy and petroleum sector and concluded that company size, age of company, growth rate and ownership structure are the key determinants of capital structure and hence financing decisions. Although several studies have been done on the determinants of capital structure of the companies listed in the Nairobi Securities Exchange, important questions remain about the timing of equity issues and market valuation of firms listed in the NSE.

Much of the literature on MTT is alien to the Kenyan business context in general and specifically when dealing with firms listed in the NSE. This leaves a knowledge which needs to be addressed by this study. This study will, therefore, seek to answer the following question; is there evidence of market timing as indicated by market to book ratio on increase in stocks outstanding on companies listed on the Nairobi Securities exchange?

1.3 Objectives of the Study

The objective of this study was to investigate the effect of market timing on the capital structure of firms listed at Nairobi security exchange.

1.4 Value of the Study

This study aims to contribute to the literature of the applicability of Market Timing Theory of capital structure on companies listed in the NSE. It is hoped that findings of this study are valuable to academicians who may find useful research gaps that may stimulate interest in future research in this area of capital structure and market timing.

Equity market timing appears to be an important aspect of real corporate financial policy. Hence managers, in their function to maximize shareholder wealth and minimize cost of capital can identify windows of opportunities where stocks are underpriced due to irrational investors and capitalize on these. This study aims to show applicability of MTT in the NSE especially during IPOs and SEOs.

This study will also provide a basis for comparison for this relatively new field of study with respect to capital structure and corporate finance as a whole. The findings will also provide information to institutions, consultants and entrepreneurs with the necessary tools to plan financing for their businesses and make informed decision for investment.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter will present a review of relevant literature on market timing theory. It will review capital structure theories and discuss the determinants of capital structure. The chapter will finally discuss empirical literature and present the summary of literature review.

2.2 Theoretical Review

Theories of capital structure try to explain what happens to the overall cost of capital and value of the firm when the proportions of the funds that make up the capital are varied. They try to guide the corporate finance managers in choosing the optimal proportion of debt and equity for their firm. Over the years three major theories have emerged that guide financing decisions of firms which are: The trade-off theory, the pecking order theory and market timing theory (Baker and Wurgler, 2002). The irrelevance theory (Modigliani and Miller, 1958), and agency theory (Jensen and Meckling, 1976) have emerged to describing the capital structure of a firm.

2.2.1 The ‘Irrelevance’ Theory

Modigliani and Miller (1958) demonstrated in their paper ‘The cost of capital, corporation finance, and the theory of investment’ that in the absence of taxes, bankruptcy costs, transaction costs and asymmetric information and the same rate of interest of borrowing by individuals and corporations, the value of a firm is independent of its financial structure. It does not matter if the firm’s capital is raised by issuing equity or selling debt. It does not matter what the firm’s dividend policy is.

The model is based on a framework that starts with assumptions of perfect competition in factor and product markets and no transaction costs. Modigliani and Miller (1958) conclude that a firm cannot increase its value by using debt as part of its permanent capital structure. There are two fundamentally different types of capital structure irrelevance propositions. The classic arbitrage-based irrelevance propositions provide settings in which arbitrage by investors keeps the value of the firm independent of its leverage. In addition to the original Modigliani and Miller paper, important contributions include papers by Hirshleifer (1966) and Stiglitz (1969). The second irrelevance proposition concludes that “given a firm’s investment policy, the dividend payout it chooses to follow will affect neither the current price of its shares nor the total return to its shareholders” (Miller and Modigliani, 1961). In other words, in perfect markets, neither capital structure choices nor dividend policy decisions matter. Including tax deductibility of interest payments into their model, Modigliani and Miller (1963) show that borrowing will only cause the value of the firm to rise by the amount of the capitalized value of the tax subsidy.

2.2.2 Trade-off Theory

The trade-off theory states that the optimal debt ratio of a firm is determined by a trade-off between cost and benefits of borrowing, holding the firm’s assets and investment plans constant. When Modigliani and Miller (1963) added corporation tax to the original irrelevance theory, a benefit for debt was created in that it served to shield firms from taxes. Firms balance debt and equity positions by making trade-off between the value of interest tax shields and the cost of bankruptcy or financial distress. Provided there are no adjustments costs attached to capital structure changes,

the observed capital structure should be optimal in the sense that it maximizes the firm value (Myers, 1984).

Interest being a tax deductible expense, decreases the tax liability and increases the after tax cash flows. Firms in their attempt to increase cash flows and market value will embark on higher level of debt if the tax rate is higher than the debt interest rate. One of the disadvantages of debt is the cost of potential financial distress, especially when the firm relies on too much debt. This leads to a trade-off between the tax benefit and the disadvantage of higher risk of financial distress. Incorporating agency costs into the static trade-off theory means that a firm determines its capital structure by trading off the tax advantage of debt against the agency cost of equity.

Hence under trade off theory firms will have a target capital structure determined by the equity and leverage ratios. If the actual leverage ratio deviates from the optimal one, the firm will adapt its financing behavior in a way that brings the leverage ratio back to the optimal level.

2.2.3 Pecking Order Theory

The pecking order theory is based on the assertion that managers have more information about their firms than investors. This disparity of information is referred to as information asymmetry. According to Myers and Majluf (1984), if investors are less informed than the firm insiders about the value of the firm, then equity may be mispriced by the market. When firms need to finance new investments, underpricing may be so severe that new investors capture more than the net present value (NPV) of the project resulting in a dilution of value to the existing investors. This can lead to under-investment result, that is, the project will be rejected. To avoid this, firms

establish a preference conditions; firms prefer internal finance over external finance, safe debt over risky debt and convertibles and finally common stocks (Myers & Majluf, 1984).

This theory is based upon costs derived from asymmetric information between managers and the market and the assumption trade-off theory costs and benefits of debt financing are of second order importance when compared to the costs of issuing new securities in the presence of asymmetric information. Tangible assets are less subject to information asymmetries and usually have a greater value than intangible assets in the event of bankruptcy. This therefore means that tangibility of assets should be a factor to consider in the choice of capital structure.

Myers (1984), states that an optimal capital structure is difficult to define as equity appears at the top and at the bottom of the 'pecking order'. Internal funds incur no flotation costs and require no disclosure of the firm's proprietary financial information that may include the firm's potential investment opportunities and gains that are expected to accrue as a result of undertaking such investment. This brings into perspective the issue of growth as a determinant of capital structure. According to pecking order theory hypothesis, a firm will use first internally generated funds which may not be sufficient for a growing firm so the next option is for the growing firms to use debt financing which implies that a growing firm will have a high leverage (Drobetic & Fix 2003). Hence firm growth should be considered as a determinant of capital structure.

2.2.4 Agency Theory

Jensen and Meckling (1976) identify the possible conflict between shareholders and managers interests because of the manager's share of less than 100 percent in the firm. The managers' given role has many implications for the capital structure of a firm. Managers make investment decisions based on imperfect markets and incur agency costs of different types, thus influencing firm's value (Jensen and Meckling, 1976).

Optimal capital structure can be obtained by trading off the agency cost of debt financing for the benefit of debt financing. Managers may try to use the free cash flows sub-optimally or use them to their own advantage rather than to increase value of the firm. Jensen (1986) suggests that this problem can be somehow controlled by increasing the stake of managers in the business or by increasing debt in the capital structure, thereby reducing the amount of 'free' cash available to managers (Jensen (1986). Thus, debt serves as a mechanism to discipline the managers from engaging in self-serving activities, e.g. perquisite consumption and empire building. Grossman and Hart (1982) argue that short-term debt can serve as a mechanism to align managerial incentive with that of shareholders since bankruptcy is costly for management. This implies that liquidity is an important determinant of capital structure.

2.2.5 Market Timing Theory

This theory states that capital structure evolves as the cumulative outcome of past attempts to time the equity market by issuing new stock when the stock price is

perceived to be overvalued and buying back own shares when there is undervaluation (Baker & Wurgler, 2002).

There are two versions of equity market timing that lead to similar capital structure dynamics. The first is a dynamic form of Myers and Majluf (1984) with rational managers and investors and adverse selection costs that vary across firms or across time. Companies are assumed to issue equity directly after a positive information release which reduces the asymmetry problem between the firm's management and shareholders. The decrease in information asymmetry coincides with an increase in share price. In response, firms create their own timing opportunities.

The second version involves irrational investors and time varying mispricing (Baker & Wurgler, 2002). Managers issue equity when they believe its cost is irrationally low and repurchase equity when they believe its cost is irrationally high. Due to irrational behavior there is a time-varying mispricing of the stock of the company. This version of MTT does not require that the market actually be inefficient. It does not ask managers to successfully predict stock returns. The assumption is simply that managers believe that they can time the market.

2.3 Determinants of Equity Changes in Firm

Theoretical and empirical literature suggests a number of factors that may influence the equity financing decisions by companies. For this study change in equity will be used as the dependent variable and measured as the change in equity stocks outstanding in the company's balance sheet. The following variables are important to firm's equity financing decisions: Market Timing, Profitability and firm size. Some

factors have positive, some negative and others have interactive and complex relationship with capital structure.

2.3.1 Market Timing

Baker and Wurgler (2002) provide evidence that equity market timing has a persistent effect on the capital structure of the firm. They define a market timing measure, which is a weighted average of external capital needs over the past few years, where the weights used are market to book values of the firm. In this study the market to book ratio is similarly used as the proxy for market timing of equity changes. Hence this study expects a positive relationship between MBR and changes in equity stocks outstanding.

Firms are more likely to issue equity when their market values are high, relative to book and past market values, and to issue debt when their market values are low. Fama and French (2002) argue that a company should use equity financing when the cost of equity capital is economical compared to debt financing and vice versa. If firms seek to minimize their cost of capital, market inefficiencies have important implications for corporate financing.

2.3.2 Profitability

Myers (1984) in his pecking order theory predicts that firms prefer raising capital from retained earnings, then from debt, then from issuing equity. The cost of capital dictates the rank of the pecking order under asymmetric information and market imperfections. If pecking order applies, then, higher profitability will correspond to a

constant equity shares outstanding, as financing by retained earnings will be preferred to issuing new equity.

In the trade off theory, agency costs, taxes and bankruptcy costs push more profitable firms toward higher book leverage. First, expected bankruptcy costs decline when profitability increases. Secondly, the deductibility of corporate interest payments induces more profitable firms to finance with debt. In a tradeoff theory framework, when firms are profitable, they prefer debt to benefit from the tax shield. In the agency models of Jensen and Meckling (1976) and Jensen (1986), higher leverage helps control agency problems by forcing managers to pay out more of the firms excess cash. Accordingly, the tradeoff theory predicts a negative relationship between profitability and equity share increase.

In this study, negative relationship between profitability and Equity stocks outstanding is expected. Rajan and Zingales (1995) and Bevan and Danbolt (2001) measured this variable as the ratio of Earnings before Interest and Taxes to total assets. This study will also measure Profitability as earnings before interest and taxes (EBIT) divided by total assets.

2.3.3 Firm Size

Two contradicting views on relationship between size and equity financing exist. According to trade off theory, larger firms are well diversified, having stable cash flows and their chances of bankruptcy are less as compared to small firms. Therefore, large firms prefer leverage to equity financing (Myers & Majluf, 1984). Due to the large size, high level of fixed assets, economies of scale, stable cash flow and creditworthiness larger firms have the bargaining power over lender and can borrow

at relatively lower rate (Marsh, 1982). Thus, large firms are expected to hold more debt in their capital structure than equity. Following this, one may expect a negative relationship between size and outstanding equity issues changes in a firm.

Second, contrary to first view, Rajan and Zingales (1995) argue that there is less asymmetrical information about larger firms. This reduces the chances of undervaluation of the new equity issue and thus encourages the large firms to use equity financing. This means there is negative relationship between size and leverage of a firm.

In this study we expect a negative relationship between size and Equity stocks changes. To measure size, sales is considered a sound measure. So the natural logarithm of sales is taken to measure the size as used in some previous studies. (Myers & Majluf, 1984) and Turere (2012) used the same measure. Size of the firm will be measured by taking the natural logarithm of the sales as this measure 'smoothens' the variation in the figure over the periods of time.

2.4 Empirical Studies

A study by Baker and Wurgler (2002) successfully demonstrated the persistent effect of equity issuance. If the persistence is still there then the company does not need to rush to do the adjustment of leverage. Huang and Ritter (2005) revealed two groups, one for the pros and the other in the cons of MTT. Among other groups of pros are Welsch (2004), Kayhan and Titman (2005) and Lemmon et al. (2005). They claim that based on the sample of firms that had IPOs, the effect of persistence was still so strong even up to 10-20 years. But with nearly the same samples, Leary and Robert

(2005), Alti (2003), and Hovakimian (2005) found the persistence of the effects disappeared in just few years after the IPO.

Alti (2003) did a study and incorporated elements of hot and cold IPO markets during the panel data framework, although using the same model (OLS). Last Hovakimian (2005) has included new variables such as size, tangibility and profitability in addition to the M/B and ratios of PPE/Assets and EBITDA/Asset in the study of Baker and Wurgler (2002). With the problems in the persistence definition in the field of econometrics, the study agrees with Huang and Ritter (2005) that an appropriate analysis model is needed. It seems the panel data regression can be an alternative to explain the phenomenon of persistence. Huang and Ritter (2005) have demonstrated the persistence of the effect, although quite weak.

Rajan and Zingales (1995) studied the determinant factors of capital structure of common company corporations in seven large countries around the world (America, Japan, Germany, France, Italy, Britain and Canada) during 1987 to 1991. In this study, they chose 4557 companies as samples of these seven countries. Research findings indicate that financial leverage has negative relationship with profitability and market value to book value ratio and positive relationship with the value of tangible fixed asset and firm size.

Pouraghajan and Malekian (2012) conducted a study whose objective was to establish the impact of capital structure on financial performance of companies listed in the Tehran Stock Exchange. They studied and tested a sample of 400 firms in the form of 12 industrial groups during the years 2006 to 2010. Variables of return on assets ratio (ROA) and return on equity ratio (ROE) were used to measure financial performance

of companies. The results suggest that there is a significant negative relationship between debt ratio and financial performance of companies. The result also shows that by reducing debt ratio, management can increase the company's profitability and thus the amount of the company's financial performance measures.

Ebaid (2009) did a study that investigated the impact of capital structure choice of firms in Egypt as one of the emerging or transition economies based on a sample of non-financial listed firms from 1997 to 2005. The methodology used was multiple regression analysis. The sample was 64 firms drawn from ten non-financial industries. The findings of the study revealed that there is a negatively significant influence of short term debt and total debt on financial performance measured by return on assets but no significant relationship founded between long term debt and financial performance.

In Kenya, Kuria (2010) set out to analyze the determinants of capital structure of firms listed in the NSE. In her findings, she concluded that larger and highly profitable firms prefer debt to equity while high growth firms use less debt financing. She also found that firms with high non-debt tax shields use more debt than equity.

Kamere (1987) carried out a research on factors that influence capital structures of public companies. He found out that management of quoted companies preferred internally generated funds and debt financing. This could be attributed to the desire for existing shareholders to retain control hence lack of new equity issue which could dilute ownership. He also found that stability of future cash flows and level of interest rates as determinants of capital structure were significantly related to leverage.

Muli 2014, Studied the effect of initial public offering on long run stock price performance of companies listed at the Nairobi securities exchange between 2006 and 2011. The study confirmed that different results are obtained if different methodologies are used however in general IPOs outperformed the market. To improve on IPOs performance the study recommended that CMA and NSE should encourage and provide favorable environment for more private companies to list in the NSE by relaxing the regulations in trading.

Maina and Kondongo (2013) investigated the effect of debt-equity ratio performance of firms listed at the Nairobi Securities exchange. A census of all firms listed at the Nairobi Security Exchange from year 2002-2011 was the sample. The study found a significant negative relationship between capital structure and all measures of performance. This results collaborated MM theory that indeed capital structure is relevant in determining the performance of a firm. The study further found that that firms listed at NSE used more short-term debts than long term in their capital structure.

Kaumbuthu (2011) carried out a study to determine the relationship between capital structure and return on equity for industrial and allied sectors in the Nairobi Securities Exchange during the period 2004 to 2008. Capital structure was proxied by debt equity ratio while performance focused on return on equity. The study applied regression analysis and found a negative relationship between debt equity ratio and ROE. The study focused on only one sector of the companies listed in Nairobi Securities Exchange. The results of the study, therefore, may not be generalized to the other sectors. The study covered all non-financial companies listed on the Nairobi

Securities Exchange to determine the effects of financing decisions on firm financial performance.

Chelangat (2007) in her research Book-to-market ratio as a predictor of performance at the NSE set out to test the extent of predictive ability of book-to-market ratio in the Kenyan stock market. She used Nairobi Stock Exchange (NSE) data from 1996 to 2002. Her study focused on two portfolios of firms: those which consistently have the highest book-to-market ratios over the period 1996 to 1998, and for those which consistently have the lowest book-to-market ratios over the same period. She found the book to market ratio to have predictive ability for the two portfolios. This hence indicates that managers can observe the MBR with the aim of timing equity the NSE.

2.5 Summary of Literature Review

When regarding to a firm's investment financing decisions, the Modigliani-Miller theorem opened a literature on the fundamental nature of debt versus equity. The capital structure of a firm is the result of the transactions with various suppliers of finance. In the perfect capital markets world of Modigliani and Miller, the costs of different forms of financing do not vary independently and therefore there is no extra gain from opportunistically choosing among them. Nevertheless, financing clearly matters as a consequence of taxes' differences in information and agency costs. The various theories of capital structure differ in their interpretation of these factors. Each emphasizes some cost and benefits of alternative financing strategies. In the market timing theory, there is no optimal capital structure, so market timing decisions accumulate over time into the capital structure outcome.

Previous studies have focused on either the determinants of capital structure of firms listed in the NSE as well as their performance. Chelangat (2007) set out to test the extent of predictive ability of book-to-market ratio in the Kenyan stock market focusing on two portfolios (highest and lowest book-to-market ratio companies). Kuria (2010) concluded that larger and highly profitable firms prefer debt to equity while high growth firms use less debt financing. She also found that firms with high non-debt tax shields use more debt than equity. Muli (2014) confirmed that different results are obtained if different methodologies are used but his findings found that in general, IPOs outperformed the market. Clearly, these studies have not investigated market timing theory of capital structure in NSE. Motivated by this gap, this study will investigate market timing theory on firms listed at Nairobi security exchange.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the procedures that were employed in fulfilling the objectives of the study and answering the research question. This includes the population, the sample, the type of data collected, method of data collection and also the data analysis procedures that was employed.

3.2 Research Design

Research design refers to a detailed outline on how the research will take place. It specifies the methods and procedures that will be used to collect and analyze data (Borg et al. 2007). This study adopted the descriptive research design. Descriptive research design is a statistical method that quantitatively synthesizes the empirical evidence of a specific field of research. In this study, a descriptive research was preferred because it describes how changes in equity is related to any one of the independent variables, that is; MBR, profitability, market performance, and interest rates.

Flick (2009) notes that descriptive research design has become widely accepted in the field of finance and economics since it is proving to be very useful in policy evaluations. According to Groves (2004) descriptive technique gives accurate information of persons, events or situations.

3.3 Population

The target population refers to the entire group of people, events or things that the researcher intends to investigate (Borg et al. 2007). The population of the study

comprised of all the companies quoted in NSE that issued Initial Public Offerings (IPOs) or Seasonal Equity offerings (SEOs) between the periods 2006 to 2014. There were a total of 26 companies that had issued IPOs and rights issue for the period under study. A census survey of these companies was undertaken in this study.

3.4 Data Collection

Data collection is the process of gathering and measuring information in order to be able to answer questions that prompted the undertaking of the research (Flick, 2009). For the purpose of this study, secondary data was obtained from published annual financial statements and reports maintained by Nairobi Securities Exchange (NSE) and The Capital Markets Authority (CMA) for a period of eight years between 2006 and 2014 because during this period, the targeted companies had been issuing IPOs and rights issues. The researcher obtained data to study the variables which included net change in equity, market to book ratio, profitability, market performance and average interest rate for the year.

3.5 Validity and Reliability

According to Mugenda and Mugenda (1999) validity is a measure of the degree to which result obtained from data represents the phenomena under study. A valid model should therefore contain variables that are relevant to the study. The researcher used the supervisor in reviewing the model to address its content and face validity.

Reliability estimates provides researchers with an idea of how much variation to expect. Cronbach reliability test was conducted to test for the reliability of the model

under study. According to Mugenda and Mugenda (1999) a coefficient of 0.80 or more shows that there is high reliability of data.

3.6 Data Analysis

According to Mugenda and Mugenda (2003) data must be cleaned, coded and properly analysed in order to obtain meaningful information. Secondary data was organized in spreadsheets for the purpose of analysis. The data was then analyzed using Statistical Package for Social Sciences (SPSS).

3.6.1 Test of significance

To test for statistical significance, the 't' statistic was used. The test of significance was done at the individual company level and then compared for all the companies in the sample. The research study used 95% significance level. The 95%, a significance of $p= 0.05$ was used since it is the generally accepted conventional level in social sciences research. This indicates that 95 times out of 100, the researcher will be sure that there is a true or significant correlation between the two variables, and there is only a 5% chance that the relationship does not truly exist.

3.6.2 Regression Analysis

Regression models are used to predict one variable from one or more variables (Saunders et. al., 1997). This study used Regression analysis to determine the impact of the independent variables on change in equity.

Correlation Coefficient (r) was determined and used to measure the strength and direction of the relationship between the dependent variable (Stockholders' equity)

and each of the independent variables. Coefficient of determination (R²) was used to measure the proportion of variance in the dependent variable that can be explained by independent variables.

The estimated model was:

$$\Delta E_{i,t} = \alpha_{i,t} + \beta_1 MBR_{i,t} + \beta_2 MARKET_{i,t} + \beta_3 PROFIT + \beta_4 INTEREST_{i,t} + \varepsilon_{i,t}$$

Where;

ΔE = Change in the percentage of Stockholders' Equity in total capital for firm *i* calculated as

$$\Delta E = \frac{E_t}{D_t + E_t} - \frac{E_{t-1}}{D_{t-1} + E_{t-1}}$$

In this survey ΔE is calculated as change in the percentage of book value of equity in the total capital for firm *i* between year *t-1* and *t*. Where *E* is book value of equity and *D* is book value of long term debt.

MBR = Market to Book Ratio. In this research, the ratio of market value on book value is calculated from dividing market value of the firm by the book value of equity at the end of each fiscal year.

MARKET = Market performance of NSE all share Index. Market performance is calculated by measuring the growth on the NSE all share index between year $t-1$ and year t .

PROFIT = Profitability. Profitability in this research is defined as earnings before interest and tax (EBIT) of firm i in year t divided by total assets of firm i at the end of year t .

INTEREST = Interest rate. In this survey the researcher will consider the average rate of interest announced by central bank of Kenya (CBK) for year t .

$\alpha_{i,t}$ = Constant term.

$\beta_1 - \beta_4$ = Regression Coefficients.

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

This model was used by Nasri and Serkani (2012) who conducted an empirical study on market timing theory in Tehran Stock Exchange and found that as the ratio of market value to book value increases, firms tend to increase their equity though an increase to the number of shares.

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis and interpretation of the research findings. The analyses were based on secondary data obtained from reports of the Nairobi Stock Exchange and from the financial reports of the companies under review. Ordinary Least Square (OLS) analysis through correlation and regression models of analysis was used. The section is divided into three sections which include descriptive, correlation and regression analysis.

4.2 Reliability Statistics

Reliability estimates provides researchers with an idea of how much variation to expect. Cronbach reliability test was conducted to test for the reliability of the model under study. According to Mugenda and Mugenda (1999) a coefficient of 0.80 or more shows that there is high reliability of data. Cronbach statistics was used in this study to test for reliability. Table 4.1 illustrates the findings.

Table 4.1: Reliability Statistics

Cronbach's Alpha	N of Items
.891	555

From the findings, the reliability test is 0.891 which is more than 0.7. This shows that the model was reliable.

4.3 Descriptive Statistics

The findings illustrated in the table below indicate mean and standard deviation for the main variables of the study namely change in the percentage of stakeholders equity, market to book ratio, market performance, profitability and interest rates. The statistics are the sample averages over the study period.

Table 4.2: Descriptive Statistics for the Averages of Variables

		Mean	Std. Deviation	Variance	N
Y	Change in the percentage of stakeholders equity (ΔE)	0.1363	0.3792	0.144	30
X1	Market to book ratio (MBR)	1557.934	3917.238	15344757	30
X2	Market performance (MARKET)	-81.8333	306.7605	94102.01	30
X3	Profitability (PROFIT)	0.206	0.12939	0.017	30
X4	Interest rates (INTEREST)	9.235	1.69328	2.867	30

a. Coefficients have been calculated through the origin.

From the findings above, there were 30 observations which were used for this study for all the variables. Based on the data obtained, the mean for change in the percentage of stakeholders' equity is 0.1363 and its corresponding standard deviation is 0.3792. The mean for market to book ratio was 1557.934 and a standard deviation of 3917.238 while market performance, profitability and interest rates had means of -81.8333, 0.206 and 9.235 and standard deviation of 306.7605, 0.12939 and 1.69328 respectively.

4.4 Correlation Analysis

The study used Pearson correlation to scrutinize if there was any degree of association between capital structure and market timing. Table 4.3 presents the results.

ΔE = Change in the percentage of stakeholders equity in capital

MBR = Market to Book Ratio

MARKET = Market performance of NSE all share Index

PROFIT = Profitability

INTEREST = Average Interest rate for the year

Table 4.3: Correlation Analysis

	ΔE	MBR	MARKET	PROFIT	INTEREST
ΔE	1				
MBR	0.434*	1			
MARKET	0.111	0.116	1		
PROFIT	0.319*	0.277	0.331	1	
INTEREST	-0.018	0.018	0.315	0.139	1

*. Correlation is significant at the 0.05 level (2-tailed).

The findings in the table above indicate a positive correlation between change in the percentage of stakeholders' equity and MBR with a correlation of 0.434. The findings show that increase in market to book ratio (MBR) lead to a change in the percentage

of stakeholders' equity since firms are more likely to issue equity to exploit perceived equity over valuation by the market as indicated by book and past market values.

There is a positive correlation between change in the percentage of stakeholders' equity and MARKET with a correlation of 0.111. The findings therefore indicate that the higher the Market performance of NSE all share Index, the higher the change in the percentage of stakeholders' equity.

Furthermore, there existed a positive relationship between change in the percentage of stakeholders' equity and PROFIT with a correlation coefficient of 0.319. This indicates that an increase in firm's change in the percentage of stakeholders' equity result to an increase in profitability.

From the table above, there existed a negative relationship between change in the percentage of stakeholders' equity and INTEREST with a correlation coefficient of -0.018. This suggests that if there is an increase in interest rates, the rate of percentage of stakeholders' equity will decrease in relation. The findings illustrate the results obtained from the correlation analysis for the sampled firms for the period of study at 0.05 significance level.

4.5 Regression Analysis

A regression analysis was conducted to conclude the relationship between capital structure and market timing. This involved the use ordinary least squares (OLS). The resultant regression model was as follows;

$$\Delta E_{i,t} = \alpha_{i,t} + \beta_1 MBR_{i,t} + \beta_2 MARKET_{i,t} + \beta_3 PROFIT + \beta_4 INTEREST_{i,t} + \epsilon_{i,t} \text{-----}(1)$$

Data for the above variables was generated for 26 companies listed in the NSE that issued IPOs and SEOs between the years 2006 to 2013. The table below presents the model summary.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868 ^a	.754	.486	0.0194

a. Predictors: (Constant), Interest rates, Market to book ratio, Market performance, Profitability

From data in table 4.4, the value of R^2 equals 0.754. This insinuates that there was a variation of 75.4% of change in the percentage of stakeholders' equity of firms listed in the NSE as a result of changes in interest rates, market to book ratio, market performance and Profitability at 95% confidence interval, this is an indication that 75.4% of change in percentage of stakeholders' equity of firm listed in the NSE could be accounted for by changes in the interest rates, market to book ratio, market performance and profitability.

Table 4.5: ANOVA

Model		Sum Squares	of df	Mean Square	F	Sig.
1	Regression	.480	4	.120	.813	.0002 ^b
	Residual	3.690	25	.148		
	Total	4.170	29			

a. Dependent Variable: ΔE

b. Predictors: (Constant), INTEREST, MBR, PROFIT, MARKET

ANOVA findings (P value of 0.001) in the table above indicate that there is a strong significant relationship between the predictor's variables (Interest rates, Market to book ratio, Market performance and Profitability) and response variable (Change in the percentage of stakeholders equity). An F ratio is calculated which represents the variance between the groups, divided by the variance within the groups. A large F ratio indicates that there is more variability between the groups (caused by the independent variable) than there is within each group, referred to as the error term. A significant F test indicates that we can reject the null hypothesis which states that the population means are equal. The P value is 0.0002 which is less than 0.005 significance level.

Table 4.6: Distribution of Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.099	.437		.226	.003
	MBR	0.351	.000	-.098	-.501	.001
	MARKET	0.0383	.000	.031	.149	.003
	PROFIT	0.014	.605	.346	1.677	.0006
	INTEREST	-.017	.044	-.074	-.374	.0011

a. Dependent Variable: ΔE

Table 4.6 represents the relationship that exists between the independent variables and the dependent variables. From the regression model:

$$\Delta E_{i,t} = \alpha_{i,t} + \beta_1 MBR_{i,t} + \beta_2 MARKET_{i,t} + \beta_3 PROFIT + \beta_4 INTEREST_{i,t} + \epsilon_{i,t}$$

The regression equation is presented below.

$$\Delta E_{i,t} = 0.099 + 0.351 MBR + 0.0383 MARKET + 0.014 PROFIT - 0.017 INTEREST$$

From the equation above, change in the percentage of stakeholders' equity would be 0.099 if interest rates, market to book ratio, market performance and profitability are all held at zero.

The regression coefficient for market to book ratio is 0.351. This means that the relationship between market to book ratio and change in the percentage of stakeholders' equity is positive. This implies that high optimism and high enthusiasm in market to book ratio results to an increase in change in the percentage of stakeholders' equity and vice versa.

From the above regression model, the regression coefficient for market performance is 0.0383. This indicates that the relationship between the market performance (NSE all share index) and change in the percentage of stakeholders' equity is positive. This implies that positive market performance results to better actions in regard to overvaluation of a company stock, when it will sell its stake in the market thus resulting to increase in change in the percentage of stakeholders' equity and vice versa.

Furthermore, the regression coefficient for profitability is 0.014. This means that the relationship between firm profitability and change in the percentage of stakeholders' equity is positive. This implies that an increase in firm profitability leads to increase in change in the percentage of stakeholders' equity as it signals growth which spurs enthusiasm in the stock leading to market overvaluation and hence managers can exploit the opportunity to finance via equity issues.

The regression coefficient for interest rates is -0.017. This means that the relationship between average annual interest rates on loans and change in the percentage of stakeholders' equity is negative. This implies that an increase in interest rates results to a decrease in change in the percentage of stakeholders' equity and vice versa.

4.6 Discussion of Findings

From the analysis of the results obtained, there were strong relationship between dependent variable and independent variables. This concurs with Kaya (2012) who examines the effects of a firm's credit rating, size, market-to-book ratio, profitability, degree of leverage, and tangible assets on its choice of debt financing. He finds that while larger and highly rated firms with a lot of tangible assets tend to prefer public debt to private placements/public issues, non-rated firms with relatively high MBR ratios tend to do the opposite. He concludes that these firm specific factors explain firms' financing choice.

There was also strong significant relationship between market to book ratio and change in the percentage of stakeholders' equity in that high optimism and high enthusiasm in the stock market expressed by the market to book ratio results to an increase in change in the percentage of stakeholders' equity. The results of the research are in agreement with the findings of the research by Lev (2001) who reports that the average market to book ratio for the companies of the S&P 500 index ranged from around 2.0 to 3.5 in the 2 period 1990-1995, and increased to the 3.5-7.5 range during the "tech boom" period 1996-2000, hence increasing change in the percentage of stakeholders' equity.

The results also agree with MTT theory put forward by Baker and Wurgler (2002) which show that firms tend to issue equity when their market values are high relative to their book values and past market values. Hence firms capital structure tend to be the result of this attempt by managers to try and time the market for opportune times to issue equity.

There was a significant relationship between market performance, that is the NSE all share index, and change in the percentage of stakeholders' equity as positive market performance results in increased confidence and enthusiasm in the stock market leading to regard to overvaluation of companies stocks, when they will sell a stake in the market thus resulting to increase in change in the percentage of stakeholders' equity. This concurs with Graham and Harvey (2001) who reveal that market performance is a primary concern of corporate executives: CFOs admit that timing considerations play a very important role in change in the stakeholders' equity.

Furthermore, there was no significant relationship between interest and change in the percentage of stakeholders' equity. This is because an increase in interest lead to decrease in change in the percentage of stakeholders' equity as deductibility of corporate interest payments induces more profitable firms to finance with debt. This concurs with Wajahat and Syed (2010) who found no significant relationship between interest and change in the percentage of stakeholders' equity when grouped as aggressive, defensive or conservative based on capital structure.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the summary of the findings in chapter four. The findings in conclusion and recommendations are discussed in relation to the objectives of the study which was to establish the effect of market timing on capital structure of companies listed at the Nairobi securities exchange.

5.2 Summary of Findings

This study surveyed the effect of market timing on capital structure of companies listed at the Nairobi securities exchange. 26 listed firms over the period of 2006 to 2013 were used to provide information. The study was conducted based on the secondary data collection. MBR was used as a proxy for market timing.

The study found that there was a positive significant relationship between market to book ratio and change in the percentage of stakeholders' equity. It found that high optimism and high enthusiasm in the market as shown by market to book ratio results to an increase in change in the percentage of stakeholders' equity. This implied that companies preferred to issue equity when they were overvalued and hence exploited a relatively lower cost of financing by equity compared to debt financing.

The study found that market performance signified by growth in the NSE all share index and change in the percentage of stakeholders' equity are positively related. It found that positive market performance results to stakeholder actions leading to overvaluation of a company stock, when it will sell its stake in the market thus resulting to increase in change in the percentage of stakeholders' equity.

The study found a positive relationship between firm profitability and change in the percentage of stakeholders' equity. It found that an increase in firm profitability lead to an increase in change in the percentage of stakeholders' equity. This is attributable to positive market sentiment and enthusiasm generated in the market by highly profitable companies. This could signal management to issue IPOs to take advantage of this market sentiment.

The study further found a negative relationship between interest rates and change in the percentage of stakeholders' equity. It found that an increase in interest rates results to a decrease in change in the percentage of stakeholders' equity. This may be attributable to the fact that profitable firms may choose to take advantage of interest tax shield introduced by debt.

5.3 Conclusions

The primary objective of this study was to establish whether there is any relationship between Financing of firms and market value to book value (MBR) a proxy for market timing. The study measured the effect of the ratio of MBR on the sources of financing firms though increase in equities. Several control variables were included in the analysis.

According to Branch (2010), MBR assists investors to unearth high-growth companies selling at low-growth prices. In regard to equity issuance managers can use MBR to assess market perception of the company's value and hence time seasonal equity offerings.

As observed in this study high market to book ratio results to an increase in change in the percentage of stakeholders' equity as firms opt to issue more shares as seasonal

equity offerings or initial public offerings. Managers hence have incentives to time the equity market to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital.

By observing or even manipulating the MBR managers can lower their overall cost of capital by issuing equity when the market overvalues the firm. This hence implies that the overall capital structure of the firm will be the result of these attempts by managers to time the equity market, agreeing with Baker and Wurgler (2002).

Market performance, signified by growth in the NSE all share index, also plays an important role in change in the percentage of stockholders' equity. Positive market performance results to stakeholder actions leading to overvaluation of a company stock, when it will sell its stake in the market thus resulting to increase in change in the percentage of stakeholders' equity.

Furthermore, firm profitability can also affect change in the percentage of stakeholders' equity. An increase in profitability lead to an increase in change in the percentage of stakeholders' equity as firms issue shares in an effort to take advantage of positive market sentiment created by reporting profits in the annual reports.

Finally, existence of negative correlation in interest rates can lead to a negative impact on percentage of stakeholders' equity. An increase in interest rates results to a decrease in change in the percentage of stakeholders' equity.

5.4 Recommendations

In this study, it can be observed that the market's perception of a firm as signified by the market to book ratio has an effect on the capital structure and hence cost of capital of firms by an increase in equity. Then the main task of management is to make a process of

adjustment at any time to determine the level of market to book ratio to exploit equity stock offerings.

Therefore firms should create timing opportunities (increase market to book ratio) using appropriate signals to the market prior to equity offerings. Market inefficiencies have important implications for corporate financing and hence firms should issue equity when overvalued by the market as this can result in lower cost of financing due to reduced overall cost of equity issues compared to debt financing.

5.5 Limitations of the Study

This study did not cover a long period of data such as other MTT studies in the USA which average over 20 years. This is because of the relative immaturity of the NSE.

The study faced a limitation of scope where the study was limited to firms enlisted in Nairobi Stock Exchange which carried out SEOs or IPOs during the period 2006 to 2013. Due to the relative immaturity of the NSE, the regulatory environment and the size of Kenya's economy the NSE had only 64 listed companies and 26 equity offerings (8 IPO and 19 Rights issues) at the time of study. The study therefore recommends that the scope be enlarged to the regions security exchanges.

Third not all data was available in the NSE because they had summarized data for some companies. The company reports also were not consistent due to allowed limited discretion on company information to be disclosed and formatting of annual reports.

5.6 Suggestions for Further Research

Further research should be carried out with an extended time period to test the effects of the persistence of the MTT especially since persistency effect has been criticized by Altı (2003) and that the capital structure decisions are a long-term decision by firms.

Secondly this study was done on companies listed in Nairobi Stock Exchange only, it is difficult to generalize the findings to other firms in the region. Studies should be done about MTT in other countries in the region so as to be able to get a bigger scope and generalize the findings.

Thirdly similar research could be undertaken that includes more independent variables. This is because the study showed that the four factors could only explain 75.4% of the change in equity, leaving 24.6% unexplained, meaning that other factors may be in play.

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APPENDIX I: TABLE OF DATA COLLECTION

Years	Book Value of Stockholders' Equity	Book Value of Long term Debt	Equity stocks outstanding	Market Price of Stocks	EBIT	Book value of total assets	Change in NSE all share Index from beginning to the end of the year	Average Interest rate for year from CBK
2006								
2007								
2008								
2009								
2010								
2011								
2012								
2013								

**APPENDIX II: LIST OF COMPANIES THAT HAVE ISSUED
IPOS AND RIGHTS ISSUE**

No.	Company
1	African Lakes
2	Mumias Sugar Company
3	Kengen
4	Scangroup
5	Eveready
6	Access Kenya
7	Kenya Re
8	Safaricom
9	Co-op Bank
10	British American
11	Standard Group
12	Mumias Sugar Company
13	KCB
14	Uchumi supermarket
15	CfC Bank

16	DTB
17	Olympia Capital
18	NIC Bank
19	HFCK
20	TPS East Africa
21	Standard Chartered
22	KPLC
23	KQ
24	Diamond Trust Bank
25	Centum Investment
26	Jubilee Holdings

**APPENDIX III: TABLE SHOWING SUMMARY OF DATA
COLLECTED**

Company	ΔE	MBR	MARKET	PROFIT	INTEREST
Mumias Sugar Company	0.30	500	52	0.15	8.75
Kengen	0.19	400	532	0.06	9.88
ScanGroup 2006	1.00	1000	532	0.59	9.88
ScanGroup 2008	0.00321	1000	52	0.21	8.75
Eveready	0.7169682	1000	532	0.44529346	9.88
Access Kenya	0.9952433	757.026	-498	0.20541339	8.63
Kenya Re	1	400	-498	0.14866377	8.63
Safaricom	0.2358491	20000	52	0.40602824	8.75
Co-op Bank	0.0476	1001.959	52	0.246828	8.75
Britam	0.0109516	10000.01	-55	0.20147198	10.07
Standard Group 2007	-0.311279	200.0001	-498	0.27509551	8.63
Standard Group 2010	0.0439073	200.0001	-83	0.19981694	6.38
Standard Group 2011	0.0234884	199.9998	-55	0.10013945	10.07
Standard Group 2012	0.0703454	200.0001	62	0.11136436	13.5
KCB 2008	-0.005398	999.9999	52	0.28514609	8.75
CfC Bank	-0.005835	200	52	0.06870105	8.78
DTB	-0.00785	250.0002	-498	0.19261304	8.63
Olympia Capital	0.4034411	200	-498	0.04638392	8.75
NIC Bank 2007	0.035349	200	-498	0.22160535	8.63
NIC Bank 2009	-6.62E-06	181.8182	-191	0.22478444	7.75
HFCK	0.0430879	200	52	0.0554893	8.75
TPS East Africa 2007	0.0155612	999.9976	-498	0.11321717	8.63
TPS East Africa 2010	-0.000841	999.9976	-83	0.0675033	6.38
TPS East Africa 2013	0.0144133	1000.001	-6	0.06954659	9
Standard Chartered 2009	-0.001766	167.3542	-83	0.37783867	7.75
Standard Chartered 2012	-0.001003	169.3284	62	0.3757767	13.5
KQ	0.0224172	92.64915	-6	0.15071907	9
Centum Investment 2011	-0.867941	2199.994	-55	0.14296695	10.07
Centum Investment 2012	0.1175969	1817.889	62	0.22850052	13.5
Jubilee Holdings	0.0006286	200	-498	0.20958162	8.63