

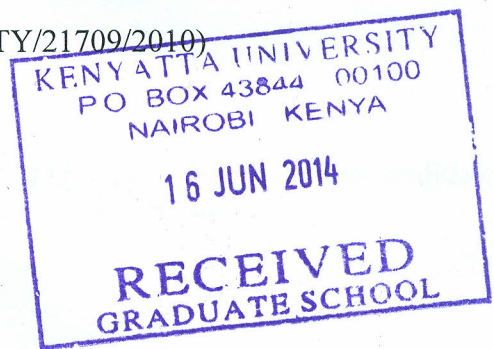
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EFFECT OF FINANCING DECISIONS ON PERFORMANCE OF NON-FINANCIAL COMPANIES LISTED IN THE NAIROBI SECURITIES EXCHANGE, KENYA

BY

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DEDICATION

I dedicate this thesis to my husband Francis and our sons Joseph, Simon, and Steve for their love, great moral support, and encouragement that energised me to complete my PhD study. I would also like to dedicate this work to my father, Simon Mwangi, who planted a seed in me to always reach for the greatest heights.

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OPERATIONAL DEFINITION OF TERMS

Aggressive financing policy

used as one of the measures of working capital management policy. An aggressive financing policy (AFP) utilises higher levels of current liabilities but less long-term debt.

Aggressive investing policy

used as another measure of working capital. Aggressive investment policy (AIP) utilises less current assets in proportion to the total assets of the firm.

Capital structure

A mixture of long-term debt and equity in the firm's total capital.

Conservative financing policy

Conservative financing policy utilises lower levels of current liabilities but more long-term debt.

Conservative investing policy

A conservative investment policy utilises more current assets in proportion to the total assets of the firm.

Dividend policy

Refers to the proportion of shareholders' earnings paid out as dividend

Economic environment of a country

Annual percentage growth rate of Gross Domestic Product (GDP) at market prices based on constant local currency.

Financial leverage

The proportion of long-term debt in the capital structure. In the literature, the term is used synonymously with capital

	structure, but in this study, financial leverage refers to the long-term debt to equity ratio.
Financing decisions	Financing decisions as used in this study consist of three constructs: financial leverage, working capital management, and dividend policy.
Internal cash flow available	The cash ratio, the highest level of liquidity measure. This is measured as cash and cash equivalents divided by the current liabilities.
Long-term debt/ liabilities	Long-term debts are those loans whose maturity period exceeds one year.
Non-financial companies	Companies other than those in the banking and insurance industry.
Performance	Financial performance as measured by return on assets and return on equity.
Size	The natural logarithm of the total assets of the company.
Short-term debt/current liabilities	Loans of short-term maturity of less than one year, commercial papers, and the portion of long-term debt payable within 12 months.
Working capital management policy	Working capital management involves management of current assets and current liabilities. In this study, the working capital management policy is operationalised in

terms of aggressive and conservative working capital management policies.

Working capital management 1

Refers to financing policy which may be aggressive or conservative. It is proxied by the ratio of total current liabilities to total assets ratio in this thesis.

Working capital management 2

Refers to investing policy, which may be aggressive or conservative. It is proxied by the ratio of total current assets to total assets ratio.

ABBREVIATIONS AND ACRONYMS

AFP	Aggressive Financing Policy
AIP	Aggressive Investment Policy
CB	Capital Budgeting
CCC	Cash Conversion Cycle
CLRM	classical linear regression model
CMA	Capital Market Authority
DIVP	Dividend Policy
EBIT	Earnings before Interest, Tax and Dividends
EVA	Economic Value Added
FGLS	Feasible Generalised Least Square
FINL	Financial Leverage
GDP	Gross Domestic Product
GDPGR	Gross Domestic Product Growth Rate
IPO	Initial Public Offering
LR	Likelihood Ratio
MM	Modigliani and Miller
MR	Market Returns
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
ROCE	Return on Capital Employed
SSEs	Small- Scale Enterprises

TA	Total Assets
TCA	Total Current Assets
TCL	Total Current Liabilities
WC	Working Capital
WCMP	Working Capital Management Policy

ABSTRACT

Corporate failure among companies in Kenya has often been associated with the financing behaviour of the firms. Momentous efforts to revive the ailing and liquidating companies have focused on financial restructuring. Corporate managers, therefore, have the critical responsibility of understanding how alternative financing decisions influence performance so that they can work towards securing successful performance while also mitigating against corporate failure. Suboptimal financing decisions can lead to corporate failure. A great dilemma for management and investors alike is whether there exists an optimal financing policy and how various financing decisions influence business performance. This study therefore investigated the effect of financing decisions on the performance of non-financial companies listed in the Nairobi Securities Exchange (NSE), Kenya, in a bid to offer a solution to this dilemma. The study further sought to establish the interaction effects of the various components of financing decisions on the performance of non-financial companies listed in the NSE. In order to provide a holistic solution, the thesis additionally evaluated the mediating role of internal cash flow available on the relationship between financing decisions and performance. The study employed an explanatory non-experimental research design. A census of 42 non-financial companies listed in the Nairobi Securities Exchange, Kenya was taken. The study used secondary panel data contained in the annual reports and financial statements of listed non-financial companies. The data were extracted from the Nairobi Securities Exchange hand books for the period 2006-2012. The study applied panel data models (random effects) based on the outcome of Hausman specification tests to determine the effect of financing decisions on performance of non-financial companies listed on the NSE, Kenya. The mediating effect of internal cash flow available was tested using the step-wise regression technique by employing the logic of Baron and Kenny (1986). Feasible Generalised Least Square (FGLS) regression results revealed that financial leverage had a statistically insignificant negative association with return on assets (ROA), but a significant negative relationship with return on equity (ROE). Increased aggressiveness in financing policy had a positive effect on both measures of performance while increased aggressive investing policy was found to affect performance positively. Dividend policy had a statistically significant positive effect on ROA but an insignificant negative effect on ROE. The study also found that the interaction between the financing decision components had a significant effect on performance. Furthermore, the results of Sobel-Goodman mediation test indicated that internal cash flow available had no mediating effect on the relationship between financing decisions and performance of non-financial companies listed in the NSE. The study recommends that managers of listed non-financial companies should reduce the reliance on long term debt as a source of finance. Further it is recommended that an aggressive financing policy and a conservative investing policy should be employed to enhance the performance of non-financial companies listed in the NSE, Kenya. The government should employ fiscal and monetary policies through the central bank to reduce the cost of borrowing from financial institutions. Most importantly managers should make financing decisions in relation to each other and not in isolation.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The corporate sector plays a vital role in influencing the economic outlook of any country (Butt, Hunjira & Rehman, 2010). It is, therefore, imperative to enhance the financial performance of the sector both at the microeconomic and macroeconomic levels. The importance of financing decisions cannot be over emphasised since many of the factors that contribute to business failure can be addressed using strategies and financial decisions that drive growth and the achievement of organizational objectives (Salazar, Soto & Mosqueda, 2012). The finance factor is the main cause of financial distress (Memba & Nyanumba, 2013). The objective of all financing decisions is wealth maximisation and the immediate way of measuring the quality of any financing decision is to examine the effect of such a decision on the firm's performance. Despite theoretical advancement and the availability of tools for relating financing decisions and performance, the process by which integrated financing decisions lead to desired outcomes is still unclear.

Literature suggests that corporate financing decision, such as the degree of financial leverage, have a great impact on economic systems therefore making it necessary for managers to identify appropriate capital structures for their firms. Literature further indicates that other financing decisions, including working capital management policy and dividend policy, influence the financial performance of a company. Although cash is the most generic of all assets, both management and finance theory suggests that it may, nonetheless, have weighty performance consequences (O'Brien & Folta,

2009). An understanding the mediating role of internal cash flows on the relationship between financing decisions and the firm's financial performance is therefore imperative.

1.1.1 Financial Leverage

Financial leverage refers to the proportion of debt in the capital structure. Capital structure has for long been regarded as an important parameter from a financial economics standpoint since it is linked with a firm's ability to meet the demands of various stakeholders (Jensen, 1986). Firms can obtain funds from either external or internal sources. Internal sources of funds include retained earnings while external sources include loans from financial institutions, trade credit, issuance of loan stock, and issuance of equity shares. The creation of a capital structure, therefore, can influence the governance structure of a firm which, in turn, may influence the ability of a firm to make strategic choices (Jensen, 1986). Financing decisions which results into a given capital structure constitutes one category of managerial decisions.

Use of equity financing affords a firm free cash flow to venture in risky investments since the management is relieved of the burden of having to worry about generating positive cash flows to finance debt. Debt financing, on the other hand, offers the firm a tax shield since interest expense is tax deductible. According to the Income Tax Act of Kenya cap 470 sec 15(1), the interest paid on borrowing is an allowable expense. Kenya has experienced tremendous growth of its financial sector. The number of commercial banks and microfinance institutions has increased phenomenally leading to increased access to loans by both firms and individuals. According to the economic

survey of 2013, the growth in the banking sector has increased credit to the private sector by 30.8 percent and by 11.7 in 2011 and 2012 respectively.

Despite the universal view that the stock exchange offers the most pragmatic and cost-effective method of raising capital, firms, especially private sector firms in underdeveloped economies, have consistently shunned these financial institutions (Sejjaaka, 2011). Equity financing does not appear to be very popular in Kenya. Thus, according to CMA statistical bulletin (2012), there was only one Initial Public Offer (IPO) by British American Tobacco Kenya Ltd, in 2011, two introductions by Trans-Century Ltd and CFC insurance holdings in 2011, and only five rights issue in 2012. The use of debt capital through the stock exchange does not appear to be any better. According to CMA statistical bulletin (2012) there was only one issue of corporate bonds in 2012.

The Kenya Vision 2030 development plan projects to attain an annual economic growth rate of 10 percent with an investment rate of 30 percent to be financed mainly through mobilisation of domestic resources. In this regard, there has been significant focus on the capital market as seen in the institutional development of the stock market and introduction of new instruments in the bonds market. It is expected that these efforts will facilitate the mobilisation of adequate resources and the subsequent efficient allocation of these resources to achieve growth objectives. The projects and programmes to be pursued in the financial sector will aim at creating a vibrant and competitive financial sector capable of driving high levels of savings while also financing the country's investment needs. The various activities will be anchored on

the flagship projects for the sector, which include increasing financial access and deepening the capital market.

Financial leverage is considered as a key determinant of financial performance (Almajali, Alamro & Al-Soub, 2012). Empirical evidence of the relationship between capital structure choice and financial performance is, however, conflicting. Whereas number of studies support the existence of a negative relationship between the parameters, (Booth *et al.*, 2001; Fama & French, 2002), some have indicated that the relationship is positive (Champion, 1999; Ghosh *et al.*, 2000; Hadlock & James, 2002; Berger & Bonaccorsi di Patti, 2006). Still, Ebaid (2009) has suggested that capital structure decision has a weak-to-no-impact on a firm's performance. This clearly indicates that the appropriate degree of financial leverage is an unresolved issue in the finance field and therefore requires further research.

1.1.2 Working Capital Management Policy

Working capital management refers to investment in current assets and current liabilities which are liquidated within one year or less and is therefore crucial for firm's day-to-day operations (Kesimli & Gunay, 2011). Working capital is the money needed to finance the daily revenue generating activities of the firm. According to Vahid, Mohsen and Mohammadreza (2012) working capital management plays a significant role in determining success or failure of firm in business performance due to its effect on firm's profitability as well on liquidity. Business success depends heavily on the ability of financial managers to effectively manage the components of

working capital (Filbeck & Krueger, 2005). A firm may adopt an aggressive or a conservative working capital management policy to achieve this goal.

According to the NSE (2010), a number of public and private companies have been under statutory management in the last decade, including the Kenya Planters Cooperative Union KPCU (2010), Ngenye Kariuki Stockbrokers (2010), Standard Assurance (2009), Invesco Assurance (2008), Hutchings Beimer (2010), Discount Securities (2008), Uchumi Supermarkets (2006), and Pan Paper Mills (2009). Uchumi supermarket Ltd annual report (2005, pp 10) reported that the company had a tight cash flow position that made it difficult for the company to maintain supplier relations and consistent supplies. This condition led to loss of customers to competition and worsened the cash flow position which resulted into receivership. It is therefore worth investigating the effect of working capital management policy on performance.

1.1.3 Dividend Policy

Making dividend payouts reduces the free cash flows available to the managers and hence ensures that they maximise shareholders' wealth rather than use the funds for their private benefit (De Angelo *et al.*, 2006). Many companies that are listed at the NSE do not pay dividends consistently and when they do, the level of payout is quite low, contrary to shareholders' expectations. One of the requirements for any company seeking to be listed in the Nairobi Securities Exchange is a clear future dividend policy (NSE, 2010). The dividend policy, therefore, requires adequate attention by management. Due to the acknowledged importance of the impact of dividend policy on financial performance, managers should devote adequate time towards designing a

dividend policy that will enhance firm performance and, therefore, shareholder value (Murekefu & Ouma, 2012). It is, therefore, worthwhile to establish the relationship between dividend policy and performance as a basis for designing appropriate dividend policies.

1.1.4 Performance of Firms

Laitinen (2002) has suggested that performance is ability of an object to produce certain predetermined results in relation to a specified target. Njanja and Pellisier (2011) have defined performance in terms of both behavior and results. They indicate that performance is the direct result of managing various economic resources and of their efficient use within operational, investment, and financing activities. The widely accepted indicators of financial performance are financial ratios such as return on equity (ROE), return on assets (ROA), and growth in sales (Adenkule & Sunday, 2010; Zeitun & Tian, 2007; Rao *et al*, 2007).

Table 1.1: performance of non-financial companies listed on the NSE (2007-2011)

Sector	AVERAGE ROE	AVERAGE ROA	Number of firms sampled
Agriculture	0.162	0.169	7
Commerce	0.193	0.23	6
Telecommunications	0.17	0.2	2
Automobiles	0.135	0.138	4
Investment	0.165	0.1	4
Manufacturing	0.182	0.254	8
Construction	0.201	0.175	5
Energy & Allied	0.084	0.084	3
Industrial & Allied	0.132	0.177	1

Source: Kasavi, Mukras and Oginda (2013)

Tables 1.1 indicate the performance averages of a sample of non-financial companies listed in the NSE, Kenya. From the above statistics the construction sector had the highest Return on equity of 20.1 percent while energy and allied had the lowest of 8.4 percent. Manufacturing sector had the highest average return on assets of 25.4 percent whereas energy and allied had the lowest of 8.4 percent. This clearly demonstrates that the two measures of performance are not synonymous. Return on equity measures return to the owner of the business for their capital investment. Return on assets on the other hand measures efficiency of assets utilization. Omondi and Muturi (2013) purport that a single aspect cannot reveal every facet of a company's performance. The use of several measures therefore permits a superior assessment of the financial profile of a firm. Furthermore different stakeholders define performance from different perspectives.

The performance of companies is in many instances underpinned by the strength and strategy of financing for their operations. Careful attention should therefore be given in crafting financial strategies. With the growing trend of sudden corporate failure in both global and local context, shareholders and other stakeholders are increasingly becoming more apprehensive of the financial performance of their firms (Omondi & Muturi, 2013).

1.1.5 Nairobi Securities Exchange, Kenya

The Capital market plays a critical role in the economy by facilitating mobilization and allocation of capital resources to finance long term productive investments (Omondi & Muturi, 2013). It therefore facilitates and promotes the process of

economic growth in the country. Kenya has only one stock market, that is, Nairobi Securities Exchange (NSE) which was formed in 1954. According to Njuguna and Muronge (2013), NSE Kenya, is still an emerging capital market. NSE has classified the listed companies into 10 sectors which consist of: agricultural sector, automobile and accessories sector, energy and petroleum sector, telecommunication sector, construction and allied sector, manufacturing and allied sector, investment sector, commercial and services sector, growth enterprise market sector, banking sector and insurance sector. NSE has experienced expansion in terms of listing while at the same time a number of companies have been delisted.

Table 1.2: Trend of companies listing and delisting on the NSE, Kenya

Period	No. of listing	Public offerings	No. of delisting
1954	46	-	-
1955-1969	55	13	4
1960-1969	63	19	11
1970-1979	57	5	11
1980-1989	57	3	3
1990-1999	56	4	5
2000-2009	55	10	12
2010-to date	61	9	2

Source: CMA annual reports (2001-2012), Ngugi & Njiru (2005)

From table 1.0 show the number of listed companies, number of listings and delisting and number of public offerings from 1954 to 2012. There is a growing tendency of collapse of companies listed in the NSE such as Uchumi Supermarkets, A Baumann and Company, Bulk medical limited, Nyaga stock brokers. The NSE has been performing scantily in recent years. The performance of the securities market indicates that the market has not managed to make significant contribution to financing

economic growth (Ngugi, Amanja & Maana, 2009). Whilst there are 44 non-financial companies listed in NSE, a number of them are not financially stable. Although at the point of listing, companies must meet stringent listing requirement of NSE, with passage of time, the company's financial position and business direction can change for the better or for the worse. The changes may be occasioned by many factors such as financial appetite, risk profile or over leveraging among others. Therefore a close watch in the market is necessary to maintain investor confidence.

1.2 Statement of the Problem

The government and the private sector have invested heavily in creating an enabling environment for doing business in Kenya and, indeed, some companies have performed exceedingly well as a result. Several companies, however, are experiencing declining performance and some have even been delisted from the NSE in the last decade. Thus a number of public and private companies, such as Hutchings Biemer, Pan Paper Mills, and Uchumi Supermarkets Ltd have been put under statutory management during this period (NSE, 2010). Momentous efforts to revive the ailing and liquidating companies have focused on financial restructuring. However managers and practitioners still lack adequate guidance for attaining optimal financing decisions (Kibet, Kibet, Tenei & Mutwol, 2011) yet many of the problems experienced by the companies put under statutory management were largely attributed to financing (Chebii, Kipchumba and Wasike, 2011). This situation has led to loss of investors' wealth and confidence in the stock market.

Studies on the relationship between various financing decisions and performance have produced mixed results. For instance, Javed and Akhtar (2012); Berger and Bonaccorsi (2006) and Hadlock and James (2002), have suggested that financial leverage is positively related to performance. Conversely, Fama and French (2002) and Booth, Aivazian, Demirguc and Maksimovic (2001) indicate that the two elements have a negative relationship. Where they exist, studies conducted in Kenya to explore the effect of working capital management on performance have not addressed aggressive /conservative working capital management practices. For instance, Nyamao *et al.* (2012) considered working capital management in terms of efficiency of cash, inventory and receivables management, while Mathuva (2009) considered working capital management in terms of the operating cycle

Existing studies such as Maina and Kondongo (2013); Murekefu (2012) and Nyamao *et al.* (2012), have not incorporated all the key financing decisions in a single study to comprehensively analyse the effect of financing decisions on performance, and specifically among listed companies in Kenya. In addition, the interaction effect of the various financing decisions has not been considered by these studies. Instead, the past studies only focused on the direct effect of the individual financing decisions on performance. It is against this background that this study was carried out.

1.3 Research Objectives

1.3.1 General Objective

To investigate the effect of financing decisions on performance of non-financial companies listed in the Nairobi Securities Exchange, Kenya.

1.3.2 Specific Objectives

The specific objectives of this study were:

- i. To determine the effect of financial leverage on performance of non-financial companies listed in the NSE, Kenya.
- ii. To establish the relationship between working capital management policy and performance of non-financial companies listed in the NSE, Kenya.
- iii. To determine the relationship between dividend policy and performance of non-financial companies listed in the NSE, Kenya.
- iv. To determine the mediating effect of internal cash flow available on the relationship between financial leverage, working capital management policy and dividend policy and performance of non-financial companies listed in the NSE, Kenya.
- v. To determine the interactive effect of financial leverage, working capital management policy and dividend policy on performance of non-financial companies listed in the NSE, Kenya.
- vi. To determine if there are industry/sector-based differences in financial leverage, working capital management policy and dividend policy of non-financial companies listed in the NSE, Kenya.

1.4 Research Hypothesis

- i. There is no statistically significant relationship between financial leverage and performance of non-financial companies listed in the NSE, Kenya
- ii. There is no statistically significant relationship between working capital management policy and performance of non-financial companies listed in the NSE, Kenya
- iii. There is no statistically significant relationship between dividend policy and performance of non- financial companies listed in the NSE, Kenya
- iv. Available internal cash flow does not mediate the relationship between financial leverage, working capital management policy and dividend policy decisions and performance of non-financial companies listed in the NSE, Kenya
- v. There is no statistically significant interaction effect between financial leverage, working capital management policy and dividend policy on the performance of non-financial companies listed in the NSE, Kenya
- vi. There is no statistically significant industry-based/sector-based difference in the financial leverage, working capital management policy and dividend policy of non-financial companies listed in the NSE, Kenya

1.5 Significance of the Study

This study sheds light on matters regarding financing decisions. It will help managers to assess how different financing decisions relate, in practice, to the performance of

the firm. It will help them in planning for appropriate capital structures whenever they have to raise funds for their firms. The results of the study provide more insight into the suitability or otherwise of a conservative or aggressive working capital management policy in enhancing performance. The results of the study are useful in assisting managers to determine the optimal working capital management policy and appropriate liquidity levels for their firms.

Providers of funds such as banks and venture capitalists will find the results of this study useful in elucidating the financing behaviour of listed companies in Kenya. The results of the study will also help investors to develop a model for use in forecasting earnings and for making investment decisions.

The study contributes to the body of knowledge in finance on the interaction effect of financing decisions on firm performance. The results have extended the finance theory by demonstrating that in addition to the direct effects of financing decisions on firm performance, there is an interaction effect. The study further contributes to the theory of finance by demonstrating that internal cash flow available does not mediate the relationship between financing decisions and performance but has in fact a significant positive relationship with performance.

1.6 Scope of the Study

The study covered the companies listed in the Nairobi Securities Exchange, Kenya. Companies in the banking and insurance segments were excluded from the study due to their unique characteristics, such as financing and liquidity regulations by the central bank prudentials and the banking act requirements, that do not apply to non-

financial companies. Further, research on correlation between financial leverage and performance should be based on firms that are subject to common tax system, same bankruptcy policies, comparable market rules and similar financial customs (Pratheepkanth, 2011). The study, therefore, was restricted to non-financial companies listed in the NSE, Kenya. The study covered the effect of financing decisions on performance of non-financial companies listed in the NSE, Kenya. Financing decisions were restricted to financial leverage (long-term financing decisions), working capital management policy (short-term financing decisions), and dividend policy representing the sources of funds dimension of financing decisions.

1.7 Limitations of the Study

The study encountered two main limitations. First, the Nairobi Securities Exchange has only a small number of listed companies making the size of the study population rather small. To ensure meaningful statistical analysis, panel data were used to increase the quantity and quality of the data available for analysis. Secondly, the study used panel data over a seven year period starting from the onset of the global financial crisis to the most recent time (2006-2012), but some of the companies covered had not been in existence for the entire period covered resulting into an unbalanced panel. In order to address this problem, the study used STATA software, which has the capacity to work with unbalanced panel.

1.8 Organisation of the thesis

This thesis is organised into five chapters. Chapter one covers the background, the statement of the problem, the objectives of the study, research hypotheses, scope of

the thesis, and significance of the study. Chapter two reviews the theoretical and empirical literature on the thesis topic. Chapter three outlines the methodology that was utilised to achieve the research objectives. Chapter four presents and discusses the results of the study. Chapter five outlines the summary, the conclusions and recommendations based on the conclusions from the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of theoretical underpinning of the thesis. The chapter also presents a critical review of empirical research relating to financing decisions and performance. The relationship between financing decisions and performance then presented in a conceptual framework demonstrating the researchers conceptualization of the variables investigated in the thesis. Based on the review, the research gap was identified for the purpose of contextualising the study.

2.2 Theoretical Literature

This study was underpinned by capital structure relevance theories, working capital management theories, dividend relevance theory, and the systems theory. The capital structure and dividend relevance theories argue that financial leverage and dividend policy have an impact on the value of the firm. The capital structure relevance theories underpinning this study include the agency theory and the Modigliani and Miller capital structure relevance theory. The prominent dividend theory in this thesis is the agency cost theory.

2.2.1 Agency Theory

Elliot (2002) posits that the directors of a company have a duty to run the company in such a way as to maximise the long-term returns to the shareholders and the company's profit and cash flow. Jensen and Meckling (1976), in their agency theory, however observe that managers do not always run the firm they work for to maximise shareholders' wealth but may instead pursue their own self-interest. According to the

agency theory, debt finance acts as a controlling tool to restrict the tendency towards opportunistic behaviour for personal gain by managers. Debt finance reduces the free cash flows within the firm by paying fixed interest payments and in the process forces managers to avoid negative investments and work in the interest of shareholders.

Pinegar and Wilbricht (1989) similarly argue that capital structure can be used to mitigate the agency conflict by increasing the debt level. Such action will force managers to invest in profitable ventures for the benefit of shareholders. If managers decide to invest in non-profitable projects that may lead to inability to pay the interest due to debt holders, the debt holders may force the firm into liquidation and managers will lose their decision-making rights or, possibly, their employment. Based on arguments of the agency theory, therefore, this study sought to establish whether the use of debt financing had any effect on the financial performance of non-financial firms listed in the NSE. The study also investigated the nature of such an effect.

2.2.2 Modigliani and Miller Capital Relevance Theory

Modigliani and Miller (1963) modified an earlier capital structure irrelevance theory in which they argued that capital structure really does matter in determining the value of a firm. The theory was based on the argument that the use of debt offers a tax shield. Based on this assertion, firms could opt for an all-debt capital structure. Brigham and Gapenski (1996), however, contend that the Miller-Modigliani (MM) model is true only in theory, because in practice, bankruptcy costs exist and will even increase when equity is traded off for debt. They assert that an optimal capital structure is achieved when the marginal cost of bankruptcy is equal to the marginal

benefit from the tax shield provided by the increase in the debt ratio. Based on this argument, this study sought to determine how varying degrees of financial leverage affect performance.

2.2.3 Working Capital Management Theories

Modern theories offer two alternative strategies of working capital management, that is, conservative working capital management policy and aggressive working capital management policy. The literature contains an extensive debate on the risk/return trade-off among different working capital policies (Gitman, 2005; Moyer *et al.*, 2005; Brigham & Ehrhardt, 2004). While more aggressive working capital policies are associated with higher returns and risk, conservative working capital policies offer both lower risk and returns (Gardner *et al.*, 1986; Weinraub & Visscher, 1998).

Walker (1964) pioneered an effort to develop a theory of working capital management through empirical testing of the risk-return trade-off of working capital management and formulated three propositions. The first proposition was that, a company that wishes to reduce its risk to a minimum should employ equity capital alone to finance working capital management. The second proposition was that the risk-return-trade-off is affected by both the debt equity ratio and the debt maturity period while the third proposition was that the use of a portfolio of debt instruments with differing maturity periods would reduce the risk. This study sought to determine the effect of working capital management policy on performance.

2.2.4 Dividend Theories

The Dividend relevance theory that underpins this study is the agency cost theory. The agency cost theory suggests that dividend policy is determined by agency costs arising from the divergence of ownership and control (Murekefu, 2012). Managers may not always adopt a dividend policy that is value-maximising for shareholders but may instead, choose a dividend policy that maximises their own private benefits. Making dividend payouts will reduce the free cash flows available to the managers and would thus ensure that managers maximise shareholders' wealth rather than use the funds for their private benefits (DeAngelo *et al.*, 2006). This study sought to establish the relationship between dividend policy and a firm's performance.

2.2.5 Systems Theory of the Study of Organisations

According to the systems theory, an organisation operates as an open system that interacts actively with its external environment. A system is a set of some interrelated variables which work together to achieve common goals. An organization has subsystems within it which interact to produce synergy. This, therefore, means that the outcomes of organisational actions cannot be attributed to a single factor but the integration of a variety of factors. According to Minger and White (2010), the systems theory lays emphasis on recognising that the relationships or interactions between elements are more important than the elements themselves in determining the behavior of a system. Thus, in the context of this present study, various financing decisions components were integrated in a single model. The interaction effect of financing decision components on performance was also investigated to determine whether synergetic effects exist. The study also tested the mediating effect of internal cash

flow available on the relationship between financing decision components and performance.

2.3 Empirical Literature

2.3.1 Effect of Financial Leverage on Firm Performance

Maina and Kondongo (2013) investigated the effect of debt-equity ratio performance of firms listed at the Nairobi Securities exchange, Kenya. A census of all firms listed at the Nairobi Security Exchange from year 2002-2011 was the sample. The investigation adopted causal research design. The study found a significant negative relationship between capital structure (DE) and all measures of performance. The study further found that that firms listed at NSE used more short-term debts than long term. This study however did not consider the interaction effect of financial leverage and working capital management; neither did it include other financing decisions such as dividend policy.

Abdul (2012) conducted a study to determine the relationship between capital structure decisions and the performance of firms in Pakistan. The study applied Pooled Ordinary Least Square regression using short-term debt to total assets (STDTA) and total debt to total assets (TDTA) as the independent variables and firm performance as the dependent variable. Firm performance was proxied by return on assets (ROA), return on equity (ROE), gross profit margin (GM), and Tobin's Q. The study concluded that financial leverage has a significant negative relationship with firm performance as measured by ROA, GM, and Tobin's Q. The relationship between financial leverage and firm performance as measured by the return on equity (ROE)

was negative but not statistically significant. The current study extended the study by Abdul by incorporating working capital management policy and dividend policy. The study also examined industry differences on the financing behavior.

In another study, Javed and Akhtar (2012) explored the relationship between capital structure and financial performance. They concluded that there is a positive relationship between financial leverage, financial performance, and growth and size of the companies. The study, which focused on the Karachi Stock Exchange in Pakistan, used correlation and regression tests on financial data. The findings of the study are consistent with the agency theory. This study however isolated the other financing decisions and focused only on financial leverage.

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 and paid attention to only one aspect of financing decisions. The results of the study, therefore, may not be generalised to the other sectors. The present thesis covered all non-financial companies listed on the Nairobi Securities Exchange to determine the effects of financing decisions on firm financial performance.

Similarly, Pratheepkanth (2011) conducted a study to determine the impact of capital structure on a firm's performance in Sri Lanka. In the study, performance was proxied

by profitability ratios which include ROI, ROA, gross profit, and net profit. Using regression analysis, the study concluded that a negative association exists between capital structure and firm performance. This findings is similar to that of Zeitun and Tian (2007) and Rao, Yahyae and Syed (2007). The results of the study, however contradict earlier studies such as Ghosh *et al.*, (2000), Hadlock and James (2002), and Berger and Bonaccorsi (2006). The divergent results indicate that there must be other factors affecting the relationship between capital structure and performance which account for the differences in the results.

Saeedi and Mahmoodi (2011) examined the relationship between capital structure and performance of listed firms in the Tehran Stock Exchange, Iran. In the study, performance was proxied by performance measures including return on assets, return on equity, earnings per share, and Tobin's Q while capital structure was measured by long-term debt, short-term debt, and total debt ratios. The panel data procedure was used to analyse the data. According to the study market measures of performance are positively related to capital structure and whereas ROA is positively related to capital structure, no significant relationship exists between ROE and capital structure. The use of multiple measures of performance is collaborated by Adenkule and Sunday (2011), Zeitun and Tian (2007)

The findings by Saeedi and Mahmoodi (2011) indicate that financial leverage may affect different measures of performance in different ways. In attempts to investigate the relationship between financing decisions and financial performance, it would be inappropriate to use one measure of financial performance or even a composite index

as this would give a misleading conclusion about the relationship between the variables

In their study, Salehi and Biglar (2009) investigated whether the capital-structure decision impacts firms' performance of Tehran Stock Exchange, Iran. The study operationalised capital structure as book value to market ratio and used five measures of financial performance. The study adopted correlation analysis to establish the causal relationship between the dependent and independent variables. In the study, Salehi and Biglar (2009) assert that profitability is negatively correlated with financial leverage. Pratheepkanth (2011) found similar results in a study covering five years for 117 companies on the Tehran Stock Exchange (TSE). Results of the study demonstrate that capital structure influences financial performance contrary to MM irrelevance theory. The study by Salehi and Biglar (2009) was carried out in Iran, which has different economic, social, and political structures from those prevailing in Kenya. It was, therefore, necessary to test these conclusions in the Kenyan context.

Ebaid (2009) carried out a study to investigate the impact of choice of capital structure on the performance of firms in Egypt. Performance was measured using ROE, ROA, and gross profit margin. Capital structure was measured by short-term debt to asset ratio, long-term debt to asset ratio, and total debt to total assets. Multiple regression analysis was applied to estimate the relationship between the leverage level and performance. The study indicated that capital structure has little to no impact on a firm's performance. These results are inconsistent with other empirical studies such as Hadlock and James (2002) and Ghosh *et al.* (2000), which revealed a positive

relationship between financial leverage and choice of capital structure. Other studies revealed a negative relationship such as Berger and Udell (2006), Gleason *et al.* (2000) and Simerly and Li (2000) whereby lower equity capital ratio is associated with higher firm performance. The contradicting results give room for introducing additional variables in new studies.

In a study to examine the impact of capital structure on the performance of firms, Adekunle (2009) used debt ratio to proxy capital structure while return on asset and return on equity were used as measures of firms' performance. The study used the Ordinary Least Squares method of estimation. The result of the study indicated that debt ratio has a significant negative impact on the firm's financial measures of performance. The study, however, did not consider other financing decisions in the analysis, including the mediating effect of internal cash flow available.

Margaritis and Psillaki (2007) conducted a study to investigate the relationship between firm efficiency and leverage. Efficiency was measured by the distance from the industry best practice production frontier while leverage was measured by debt to assets ratio. The study found evidence supporting the theoretical predictions of the Jensen and Meckling (1976) agency cost model. The authors concluded that the reverse causality effect of efficiency on leverage is positive at low- to mid-leverage levels and negative at high leverage ratios. The measure of efficiency in the study implies that the results can only be applied to manufacturing firms. The present study, however, took into account both manufacturing and non-manufacturing concerns.

In another study, Rao, Al-Yahyaee and Syed (2007) examined the relationship between capital structure and performance of companies in Oman. Performance was proxied by ROA while capital structure was operationalised as total debt to total assets ratio. The study introduced age of the firm as a control variable and applied regression analysis to examine the relationship between the dependent and independent variables. The study concluded that there is a negative association between the level of debt and financial performance, which is contrary to the Trade-off theory of capital structure. The study considered only financial leverage but overlooked the other financing decisions in the analysis.

Similarly, Gangeni (2006) conducted a study to investigate the relationship between capital structure and performance of firms in South Africa. The study used the debt/equity ratio as a proxy for capital structure. The ROE, ROA, EVA, and EPS ratios were used to represent attributes of firm performance. The study found no empirical evidence for a causal relationship between capital structure and the firm's performance despite the importance of the two concepts in corporate finance. This observation contradicts other studies that seem to suggest that, indeed, the two concepts have a causal relationship.

Abdulahi (2005) conducted a study to determine the variability in returns caused by the level of debt in the capital structure in public companies in Kenya. The study used stock prices, dividends paid, debt amounts, interest on debt, and annual tax paid as the variables transformed into levered and unlevered returns based on the Modiglian and Miller (1958) theory. Using a test of significance, the study concluded that existence

of debt in the capital structure does not lead to variability of common stocks. This finding contradicts the commonly held view that leverage increases the risk to common stock holders as a result of fixed interest charges that the firm will be committed to as postulated by the Modiglian and Miller (1958) theory. It is apparent from the study that while this theory holds true for developed markets, the outcome in developing and emerging markets would be worth exploring.

Singh and Faircloth (2005) undertook a study to investigate the impact of corporate debt on long-term investment and firm performance. Performance was defined in terms of investment in research and development effort. Financial leverage was measured by total debt to total assets ratio. The study posits that there is a strong negative relationship between the degree of financial leverage and the level of research and development expenditure undertaken by firms. The two authors hypothesised that investment in research and development effort determine corporate long-term competitive positioning, financial and market performance, and growth.

Abor (2005) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange. The study used regression analysis to estimate functions relating to return on equity with measures of capital structure. Capital structure was measured by the ratio of short-term debt to total assets and the ratio of total debt to total assets. The study concluded that profitable firms depend more on debt as their main financing option. This finding contradicts the results of studies by Salehi and Bigla (2009) and Rajan and Zangales (1995), which indicate that companies with high profitability and good performance have less debt in their capital

structure. These studies further reveal a difference in the relationship behaviour of short-term debt and long-term debt to ROE.

2.3.2 Effect of Working Capital Management Policy on Performance

Nyamao, Lumumba, Odondo and Otieno (2012) conducted a study to investigate the effects of working capital management practices on the financial performance of small-scale enterprises (SSEs) in Kisii South District, Kenya. The study, which adopted a cross-sectional survey research design, found that working capital management practices were low amongst SSEs as majority of them had not adopted formal working capital management routines. Similarly, their financial performance was on a low average. The study concluded that working capital management practices influence the financial performance of small scale enterprise. The study relied on primary qualitative data to measure the working capital management practices, but the present study measured working capital management in terms of aggressiveness/conservatism using secondary quantitative data. The findings of the study also required validation in other areas of the country and among companies listed in the NSE.

Similarly, Ogundipe, Idowu and Ogundipe (2012) conducted a study to examine the impact of working capital management on the performance and market value of companies in the Nigeria Stock Exchange. The study used Tobin Q, ROA, EBIT, and ROI as the dependent variables while the independent variables were cash conversion cycle; current ratio; current asset to total asset ratio; current liabilities to total asset ratio; and debt to asset ratio. Using correlation and multiple regression analysis

techniques, the study established that a significant negative relationship exists between cash conversion cycle and market valuation and a firm's performance. The study, however, only focused on short-term financing decisions.

In another study, Vahid, Mohsen and Mohammadreza (2012) investigated the impact of working capital management policies (aggressive and conservative policies) on the firms' profitability and value of listed companies in the Tehran Stock Exchange, Iran. The study used panel data and operationalised working capital management policy as conservative/aggressive. The results of the study show that application of a conservative investment policy and aggressive financing policy has a negative impact on a firm's profitability and value. The study adopted the model used by Nazir and Afza (2009) to investigate the relationship between the working capital management policies and profitability of firms listed in the Karachi Stock Exchange (KSE). In their study, Nazir and Afza (2009) found a negative relationship between a firm's profitability and its financing policies. Thus, firms that adopt an aggressive working capital policy generate a lower rate of return than those adopting a conservative working capital policy. The present thesis borrowed the operationalisation of working capital management as applied in the two studies since Kenya has a different economic setting from Iran and India where the two studies were carried out.

Bhunia and Das (2012) conducted a study to examine the relationship between the working capital management structure and the profitability of Indian private sector firms. The independent variables used in the study were ratios that affect working capital management and included the following: current ratio, liquid ratio, cash

position ratio, debt-equity ratio, interest coverage ratio, inventory turnover ratio, debtors' turnover ratio, creditors' turnover ratio, and working capital cycle. Return on capital employed was used as a proxy for profitability. Using multiple regression analysis, the study found a weak relationship between all the working capital management constructs and profitability. The study should, nevertheless, have been extended to identify the other factors that drive profitability in addition to working capital management.

In a study conducted to determine the effect of working capital management on profitability of Indian firms, Sharma and Kumar (2011) used a sample of 263 non-financial firms listed on the Bombay Stock Exchange during 2002 to 2008. Data were analysed using OLS multiple regression. The study found a positive relation between WCM and firm profitability, although the relationship between cash conversion cycle and ROA was not statistically significant. The study also found that account receivables are also positively related to ROA and that account payables are negatively related to ROA. The results assert that Indian firms can increase profitability by increasing cash collection cycle. This study contradicts other studies (Ogundipe, Idowu & Ogundipe, 2012; Dong, 2010; Mathuva 2009). The authors attribute this difference to the fact that India is an emerging market.

A study by Dong and Su (2010) concluded that a firm's profitability and liquidity are affected by working capital management. The study used pooled data for the period between 2006 and 2008 to assess the companies listed in the Vietnam Stock Exchange. The study focused on cash conversion cycle and related elements to

measure working capital management. The study found that the relationships among these variables were strongly negative, suggesting that profit is negatively influenced by an increase in cash conversion cycle. The study also found that profitability increases as the debtor's collection period and inventory conversion period reduce. The present study operationalised working capital management in terms of aggressiveness and conservatism as measured by the proportion of current liabilities to total assets and total liabilities.

Mathuva (2009) examined the influence of working capital management components on the profitability of 30 firms listed on the Nairobi Stock Exchange, Kenya. The study used the cash collection cycle to measure working capital. The present study, however, measured working capital management practices in terms of aggressive financing and aggressive investing working capital management practices. Mathuva applied the Pearson and Spearman's correlations, the pooled ordinary least squares, and the fixed effects regression models in data analysis. The study found a highly significant negative relationship between profitability and the time it takes for firms to collect cash from their customers. The study also found a highly significant positive relationship between profitability and the period taken to convert inventories to sales and the time it takes for firms to pay creditors.

Raheman and Mohamed (2007) carried out a study to analyse the impact of working capital management on firm's performance in Pakistan. The results of their study established that the cash conversion cycle, net trade cycle, and inventory turnover in days had a significant effect on the performance of the firms. They suggested that

efficient management and financing of working capital can increase the operating profitability of manufacturing firms. They, therefore, assert that effective policies must be formulated for the individual components of working capital.

2.3.3 Effect of Dividend Policy on Performance

Gwaya, Kiyondi and Oyugi (2013) established through, univariate analysis, that there is a strong positive relationship between increased dividend and increase in earnings. Their study of companies listed in the NSE, Kenya supports the view that management only increases the dividends when earnings are expected to increase permanently. The study concludes that dividend policy is relevant and that managers should devote adequate time in designing a dividend policy that will enhance firm performance and, therefore, shareholder value. Whereas this study applied univariate analysis, the present thesis used multivariate analysis. The researchers acknowledge that dividend policy is not the only determinant of performance and have recommended inclusion of other financing decisions in the model.

Murekefu and Ouma (2012) carried out a study to establish the relationship between dividend payout and firm performance among listed firms in the Nairobi Securities Exchange. Regression analysis indicated that dividend payout has a significant positive relationship with firm performance. The findings support earlier studies (Howalt *et al.* 2009; Amidu, 2007). The study used actual dividends paid and actual net profit. Nevertheless, the actual dividend paid may not be a good measure of a firm's dividend policy as the amount paid will largely depend on the size of the firm, which in turn influences the total earnings and these will differ from one company to

another. A better measure of dividend policy would perhaps have been dividend payout ratio. In another study Waithaka *et al.* (2012) investigated the effects of dividend policy on share prices of companies listed in the Nairobi stock exchange. The study focused on the market performance of the stocks, but the current study focused on financial performance of the companies listed in the NSE.

Few *et al* (2008) examined the dividend policy of 100 Malaysian public listed companies and identified the characteristics of the dividend-paying companies, such as profitability, growth opportunities, firm risk, size, leverage, and share distribution. Using coefficient of correlation the study found that dividend-paying companies were relatively more profitable, less risky, mature, and stable compared to non-dividend-paying companies. The study classified companies into those that pay dividends and those that do not. In reality, however, companies will sometimes pay dividends and fail to do so at other times. The classification is, therefore, not realistic.

Amidu (2007) examined whether dividend policy influences firm performance in Ghana and posits that there is a negative association between leverage and return on assets and dividend payout ratio. The Ordinary Least Squares model was used to estimate the regression. Categorical scale was used to denote companies that pay dividends and those that do not. The study revealed a negative association between leverage and return on assets and dividend payout ratio. The study, however, revealed a positive relationship between return on assets, dividend policy, and growth in sales. The use of a binary measure of dividend pay-out ratio in the study fails to show how varying levels of dividend payout ratio relate to performance.

2.3.4 Interaction effect of financing Decisions on Performance

Ajibolade and Sankay (2013) carried out the study to determine whether working capital and financial leverage interact to produce synergetic effect on profitability. The study was based on two year panel data of manufacturing companies listed on the Nigerian stock exchange. Using Panel and Factorial-ANOVA estimation methods, the study concluded that on individual basis, a positive significant relationship exist between financial leverage and profitability but no significant relationship between the composition of working capital and profitability. The study, however, demonstrated that as the firm's working capital composition synchronously interacts with the financial leverage, profitability is positively affected. The study recommended that, financing decision should be considered in relation to working capital composition in order to optimize profitability and to sustain healthy liquidity position. This current study has extended study by Ajibolade and Sankay (2013) by incorporating other financing decisions which include dividend policy. Furthermore, the study was done in Nigeria which may have different economic conditions from Kenya. Thus, it was necessary to test the propositions of the study in the Kenyan context specifically among non-financial companies listed in the NSE, Kenya.

Ince and Owers (2012) developed a valuation model that incorporates corporate capital structure and dividend payout policies. The model incorporated the different tax rates on corporate income, personal interest, dividends, and capital gains. The model was applied to ten different U.S. tax systems from 1979 to produce a number of testable predictions. The study concluded that when the dividend tax rate exceeds the capital gains tax rate, dividend payout can partially offset value-enhancing effects of

leverage. When the two rates are close, dividend payout loses its moderating influence. This study only focused on dividend payout, tax rates and financial leverage and did not include other financing decisions which may also have moderating effect on the model used by the study. The results of the study however demonstrate that interaction effect exist between financing variables in relation to performance.

2.4 Summary of the Literature and the Research Gap

The existing studies relating financing decisions variables to performance have not considered the interactive effects of the different financing decisions components on performance. The studies, instead, focus on the effect of only one financing decision variable on performance. Some of the studies, for instance, have considered the effects of financial leverage alone on financial performance (Abdul, 2012; Javed & Akhtar, 2012; Abdulahi, 2011; Pratheepkanth, 2011; Salehi & Biglar, 2009). Other studies have considered effects of working capital management policies only on financial performance (Ogundipe, Idowu & Ogundipe 2012; Bhunia & Das 2012; Mathuva, 2009). Still, some of the studies have considered the effects of dividend policy alone on performance (Murekefu, 2012; Fewet *al.*, 2008; Amidu, 2007). The present study contributed to the knowledge gap by adding a new dimension in the examination of the relationship between financing decisions and performance. This involved analysing the interaction effect of a number of financing decisions in one model on performance of non-financial companies listed in the NSE.

Similarly, earlier studies only attempted to establish the existence of a direct relationship between financing decisions and certain parameters of financial

performance but failed to consider the intervening processes that link financing decisions to performance. This study, therefore, attempted to fill this gap in the literature by investigating the mediating effects of internal cash available on the relationship between financing decisions and performance of firms.

Despite numerous studies, the relationship between financial leverage and performance is not clearly understood. A number of studies support a negative relationship between the variables (Fama & French, 2002, Booth *et al.*, 2001) while some studies have found a positive relationship (Javed & Akhtar, 2012; Berger & Bonaccorsi di Patti, 2006; Hadlock & James, 2002). Further, Ebaid (2009) indicate that capital structure decision has a weak-to-no impact on firm's performance. In addition, the studies relating to financial leverage have focused more on long-term financing decisions. The present study considered both long-term and short-term financing decisions and their effects on performance of non-financial companies listed in the NSE, Kenya.

Studies relating dividend policy to performance do not provide conclusive results either. Researchers (Amidu 2007; Lie, 2005; Zhou & Ruland, 2006) have yielded contradictory findings about the relationship between dividend payout and performance. This study sought to determine the exact nature of the relationship between dividend policy and performance of non-financial companies listed in the NSE, Kenya.

Studies relating working management as measured by cash collection cycle have also yielded contradictory results. Whereas Sharma and Kumar (2011) indicate that

profitability increases with increase in cash collection cycle, other studies (Ogundipe, Idowu & Ogundipe, 2012; Dong & Su, 2010; Mathuva, 2009) reveal a negative relationship between cash collection cycle and profitability. The current study, therefore, sought to establish the effect of aggressiveness or otherwise of between working capital management policy and performance of non-financial companies listed in the NSE, Kenya.

Many of the reported studies on the relationship between financial leverage and performance have been conducted in developed countries where capital markets are well-developed. The Kenyan capital market is relatively under developed and therefore the traditional capital structure theories that have their origin in the developed countries needed to be tested in the Kenyan context as in the present thesis. The present study also analysed the trend of financing decisions among companies listed in the NSE to determine whether are industry/sector-based differences in the financing decisions of non-financial companies listed in the NSE, Kenya

2.5 Conceptual Framework

The conceptual framework is the researcher's conceptualisation of the interactions between the variables of the study. The graphical representation of the conceptual framework for this study is shown in Figure 2.1

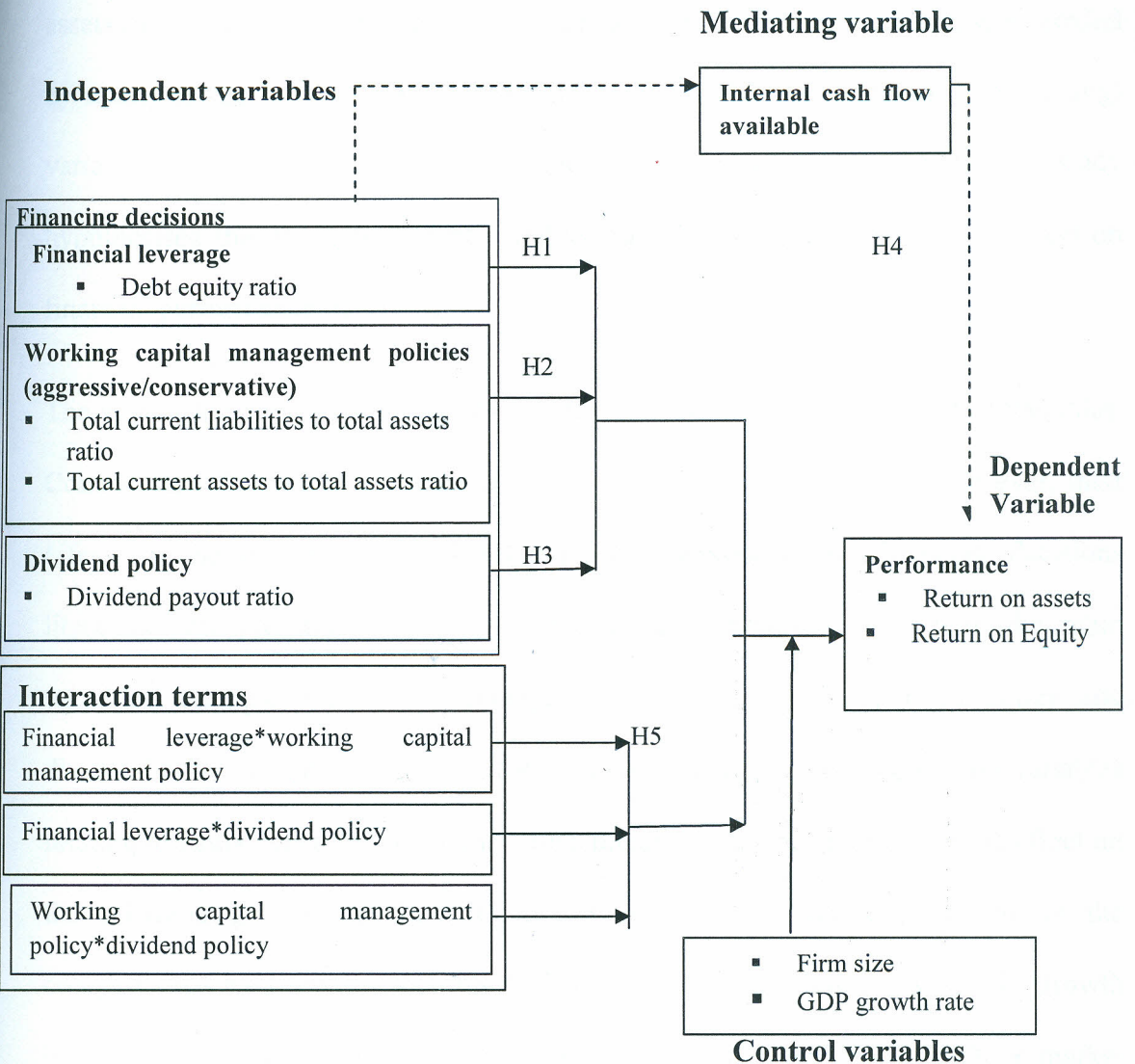


Figure 2.1: Conceptual Framework

Source: Researcher (2013)

Note:* represent the product sign

The independent variables used in the study were financing decisions which included financial leverage, working capital management policy, and dividend policy. Working capital management policy was operationalised as two variables, that is, aggressive financing policy which was measured by total current liabilities to total assets ratio and aggressive investing policy which was proxied by total current assets to total

assets ratio. The dependent variable of the study was performance, which was proxied by return on assets (ROA) and return on equity (ROE). The mediating (intervening) variable was internal cash flow available. Based on empirical literature, the study hypothesised that the independent variables have both a direct and indirect effect on financial performance of a firm.

The size of the company and the state of the economy were used as control variables. Control variables are aspects that are not part of researcher's interest; however, their effect on the dependent variable cannot be overlooked. In financing decisions literature, various studies have used the control variables along with the main variables. Alongside financial leverage, working capital management policy and dividend policy variables the present study took into account the two control variables relating to firms which the researcher conceptualized may have a moderating effect on the relationship between financing decisions and performance. The size of the company was measured by logarithm of total asset of each company while the growth in the economy was measured by the annual percentage growth rate of GDP at market prices based on constant local currency as in Nazir & Afza (2009)

The researcher had additionally conceptualised that the relationship between financing decisions and firm performance is partially or fully mediated by available internal cash flow. Although cash is the most generic of all assets, theories in both management and finance suggest that it may nonetheless have weighty performance consequences (O'Brien & Folta, 2009). Jensen (1986) and Williamson (1988) in the agency cost

theory postulate that debt is a disciplinary tool to ensure that managers give preference to wealth creation for equity shareholders.

The researcher further conceptualised that the variation in the dependent variable (performance) is explained by the individual independent variables, that is, financial leverage, working capital management, and dividend policy. In addition to these main effects, the variation in firm financial performance is also explained by the interaction between the financing decisions components. Interaction between the explanatory variables can be represented by their product (Bauer & Curran, 2005 & Friedrich, 1982). The interaction terms in the study included; the product of financial leverage and working capital management policy, the product of financial leverage and dividend policy and the product of dividend policy and working capital management policy.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter explains the methodology that was used to achieve the research objectives. The chapter covers the research design adopted by the study, data collection procedures, operationalisation of variables and the data analysis approach taken.

3.2 Research Paradigm

This thesis was founded on the positivism paradigm. The research paradigm of a study reflects the nature and approach taken when conducting research. Research paradigms can be identified by their research philosophy and research methods. Research philosophy relates to the development of knowledge and the nature of that knowledge, (Saunders, Lewis & Thornhill 2009). Research methods on the other hand are the techniques used to gather and analyse data in a study.

There are two research paradigms that may underpin a research, that is, positivism and social constructivism. The positivism stance was appropriate for this study based on the underlying assumptions of this paradigm relative to social constructivism. Positivism assumes in its understanding of the world that the environment and the events of interest are objective, external and independent of the researcher (Bryman & Bell, 2003). Social constructivism, however, assumes that the understanding of the environment and events in it are socially constructed and subjective from the researcher's point of view (Bryman & Bell, 2003). This study followed the principle of deduction as elucidated by positivism: hypotheses were first derived from theory

after which data were collected to form a representative sample and tested empirically to support or reject the hypotheses. As a result of these methodological considerations, the thesis relied on quantitative research methods.

3.2.1 Research Design

This study adopted an explanatory non-experimental research design to analyse the effect of financing decisions on performance of non-financial companies listed in the NSE, Kenya. Explanatory research seeks to establish causal relationship between variables (Saunders *et al.*, 2009 & Robson 2002,). A non-experimental research is systematic empirical inquiry in which the researcher does not have direct control of independent variables because their manifestations have already occurred (Kerlinger & Lee, 2000). An explanatory non-experimental research design is appropriate where the researcher is attempting to explain how the phenomenon operates by identifying the underlying factors that produce change in it in which case there is no manipulation of the independent variable (Kerlinger & Lee, 2000). This study was therefore explanatory non-experimental seeking to establish the relationship between financing decisions and performance and the researcher did not manipulate the independent variables as their manifestations had already occurred.

3.3 Empirical Model

In order to analyse the effects of financing decisions on performance of listed companies in the NSE, the study modified the model used by Saeedi and Mahmoodi (2011) as shown in equation 3.1. The study employed the linear regression model to analyse the effects of financing decisions on performance of non-financial companies

listed on the NSE in Kenya. Given that the data had both time series and cross-sectional dimensions, the study estimated a linear panel regression as proposed by Greene (2008).

Panel data analysis is more advantageous than either cross-section or time series alone because it allows the researcher to account for unobservable heterogeneity. According to Baltagi (2005) using panel data makes it possible to achieve a bigger sample size than with either time series or cross-section since panel data has both time series and cross-section dimensions. Panel data yields much larger data set with more variability and less collinearity among the variables than is characteristic of cross-section or time-series data. More reliable estimates and more complicated behavioral models can be tested with less limiting assumptions due to the expanded more informative data. Panel data sets are also better able to recognize and estimate the effects that cannot be merely detected in pure cross-sections or pure time-series data. Since the study focused only on 42 non-financial companies listed in the NSE, using cross-section data alone would have given a small sample size but after incorporating the time dimension of seven years, the sample was expanded to 282 observations. The resultant large sample made it possible for the study to satisfy asymptotic requirements (Gujarati, 2003).

The general empirical model used in the study was defined as follows:

$$Y_{it} = \alpha + X'_{it}\beta + \varepsilon_{it} \dots \dots \dots (3.1a)$$

This Equation was transformed to Random Effects model by specifying ε_{it} as shown in Equation 3.1b.

$$\varepsilon_{it} = V_i + U_{it} \dots \dots \dots (3.1b)$$

Where Y_{it} is the dependent variable denoting performance of company i at time t i denotes the observation (company), $i = 1, \dots, 42$ while t is the time period $t = 2006, \dots, 2012$; X_{it} denotes a vector of independent variables β are coefficients to be estimated, α is a constant term, and ε_{it} is a composite error term. Where V_i denotes heterogeneity effects and U_{it} denotes idiosyncratic disturbances.

Equation 3.1 was expanded to obtain equations 3.2 and 3.3 which were used for estimation.

$$ROA_{it} = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \varepsilon_{it} \dots \dots \dots (3.2)$$

$$ROE_{it} = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \varepsilon_{it} \dots \dots \dots (3.3)$$

Where:

ROA_{it} = Return on assets of company i at time t

ROE_{it} = Return on equity of company i at time t

$FINL_{it}$ = Financial leverage of firm i at time t

$(TCL/TA)_{it}$ = Total current liabilities to total assets ratio (working capital management 1) of company i at time t .

$(TCA/TA)_{it}$ = Total current assets to total assets ratio (working capital management 2) of company i at time t .

$DIVP_{it}$ = Dividend policy of firm i at time t

$Size_{it}$ = size of the company (measured as logarithm of total assets) of company i at time t .

$GDPGR_{it}$ = Gross Domestic Product growth rate

α = Constant term

β^s are coefficients of the explanatory variables

ε_{it} = composite error term

3.3.1 Mediation effect model

To determine the mediating effect of internal cash flow available on the relationship between the financing decisions (financial leverage, working capital management and dividend policy) and performance, the study specified equations 3.4 and 3.5 as follows:

$$ROA_{it} = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \beta M + \varepsilon_{it} \dots \dots \dots (3.4)$$

$$ROE_{it} = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \beta M + \varepsilon_{it} \dots \dots \dots (3.5)$$

$$M = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \varepsilon_{it} \dots \dots \dots (3.6)$$

Where: M = mediating variable = internal cash flow available

3.3.2 Model with interaction effect

To determine the interactive effect of financing decisions on performance of listed companies in the NSE, equations 3.7 and 3.8 were formulated as follows:

$$ROA_{it} = \alpha + \beta_1 FINL_{it} + \beta_2 (TCL/TA)_{it} + \beta_3 (TCA/TA)_{it} + \beta_4 DIVP_{it} + \beta_5 Size_{it} + \beta_6 GDPGR_{it} + \beta_7 \left\{ FINL_{it} * \left(\frac{TCL}{TA} \right)_{it} \right\} + \beta_8 \left\{ FINL_{it} * \left(\frac{TCA}{TA} \right)_{it} \right\} + \beta_9 \{ FINL_{it} * DIVP_{it} \} + \beta_{10} \left\{ DIVP_{it} * \left(\frac{TCL}{TA} \right)_{it} \right\} + \beta_{11} \left\{ DIVP_{it} * \left(\frac{TCA}{TA} \right)_{it} \right\} + \varepsilon_{it} \dots \dots \dots (3.7)$$

Table 3.1: Operationalisation and Measurement of Study Variables

Category	Variable	Operationalisation	Measurement	Hypothesised direction
Dependent variable	performance	Return on assets(ROA).The profit generated by each one shilling invested in assets	<i>EBIT/TotalAssets</i>	Positive/negative
		Return on equity (ROE). Measuring the returns to shareholders	<i>EBIT/Equity</i>	Positive/negative
Independent variable	Financial leverage	Amount of long-term debt in the total capital (long-term debt to total capital)	<i>long term debt/equity</i>	Positive/negative
Independent variable	Working capital management policies	Working capital management 1 denoted by Total current liabilities to total assets ratio to measure aggressiveness of financing policy	<i>total current liabilities /Total Assets</i> A higher ratio indicates a relatively higher aggressive financing policy	Positive/negative
		Working capital management 2 denoted by Total current assets to total assets ratio to measure aggressiveness of investment policy	<i>total current assets /Total Assets</i> A lower ratio means a relatively aggressive investment policy	Positive/negative
Independent variable	Dividend policy	Dividend pay-out ratio	<i>Dividend per share/earnings per share</i>	Positive/negative
Mediating variable	Internal cash flow available	Cash ratio	<i>Cash and cash equivalents /current liabilities</i>	Positive/negative
Control variables	Size	This is a proxy for the size of the company listed at NSE	It was measured by taking the logarithm of total assets of each company	Positive/negative
	GDP growth rate	Economic environment of a country	It was measured by the annual percentage growth rate of GDP at market prices based on constant local currency	Positive/negative

Source: Researcher (2013)

3.5 Target Population

The target population of the study comprised of all non-financial companies listed in the Nairobi Securities Exchange (NSE). The NSE had 44 non-financial companies as at 31st December 2012. These 44 companies were screened against various factors which included availability of data and integrity of data, that is, unqualified audit report. Two companies were dropped as they did not meet the criteria thus the remaining 42 companies became the target population of the study. The 42 companies were classified as shown in table 3.2 based on NSE categorization of segments.

Table 3.2: Distribution of the Target Population

	Segment/sectors	Number of listed companies	Percentage
1.	Agricultural	7	16.7%
2.	Automobiles and accessories	4	9.5%
3.	Energy and petroleum	4	9.5%
3.	Telecommunication and technology	2	4.8%
4.	Construction and allied	5	11.9%
5.	Manufacturing and allied	9	21.4%
6.	Investment	3	7.1%
7.	Commercial and services	8	19%
	Total	42	100%

Source: NSE Website (2012)

Table 3.2 shows that the target population which was made up of non-financial listed companies were classified into seven segments. 16.7 percent comprised of companies in the agricultural segment while 9.5 percent of the companies were in the automobile and accessories segment. Companies in the energy and petroleum sector made up 9.5 percent of the target population while 4.8 percent were in the telecommunication

segment. 11.9 percent of the companies were in the construction and allied segment while 21.4 percent of the companies were in the manufacturing and allied segment. 7.1 percent of the companies were in the investment segment while 19 percent were in the commercial and services segment. This distribution shows that most of the listed non-financial companies came from manufacturing and allied segment while the least number of companies came from telecommunication and technology segment. Telecommunication and technology segment had only two companies listed in the NSE. The distribution however indicates that all the non-financial segments were represented.

The companies in the financial 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 (Santos, 2001). The financial leverage of financial companies is not comparable to those non-financial companies (Mwangi, Anyango & Amenity). 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. According to Pratheepkanth (2011) research on correlation between financial leverage and performance should be based on firms that are subject to common tax system, same bankruptcy policies, comparable market rules and similar financial customs.

3.6 Sampling Design and Technique

The study adopted a census approach because of the small number of non-financial companies in the NSE. According to (Saunders, Lewis & Thornhill, 2009) a census

approach enhances validity of the collected data by including certain information-rich cases for study. The total numbers of non-financial listed companies in the NSE used in the study were 42.

3.7 Data Collection Procedure

The researcher obtained a research permit (Appendix 2) from National commission for science, technology and innovation to allow utilization of data from published financial statements of non-financial companies listed in the NSE, Kenya. The data was panel data which consisted of time series and cross-sections. The cross sectional data consisted of the companies while the time series were years 2006-2012. A combination of time series with cross-sections enhances the quality and quantity of data to levels that would otherwise be impossible to achieve with only one of the two dimensions (Gujarati, 2003). The data for all the variables in the study were extracted from published annual reports and financial statements of the listed companies in the NSE covering the years 2006 to 2012. The data was obtained from the NSE handbooks for the period of reference. The specific financial statements from which data were extracted include the income statement, statement of financial position, and notes to the accounts. The researcher used a document review guides presented in appendix 3 (a) and 3(b) to extract and compile the required data for analysis from the financial statements.

3.8 Data Analysis Method

The data obtained were analysed using descriptive statistics, correlation analysis, and panel multiple regression analysis. The panel methodology was aided by STATA 11.0

software. After extracting data from the financial statements, an Excel program was used to compute the relevant ratios for each of the companies across time. The data were then formatted in STATA long form before being imported to STATA from Excel.

Descriptive statistics were used to summarise and profile the status of financial leverage (FINL), working capital management policies (WCMP), dividend policy (DIVP), and performance among companies listed in the NSE. Feasible Generalised Least Square estimation was performed after accounting for various violations of classical linear regression assumptions. Panel data can be estimated using any of the following models: pooled effects or constant effects, random effects, and fixed effects. Whereas a pooled model assumes that parameters do not vary across observations, the fixed effects model assumes that each cross-section's intercept does not vary across time. The random effects model, on the other hand, assumes coefficients are randomly characterised from the population that the random sample is drawn (Baltagi, 2005). The Hausman specification test was used to determine the appropriate model for estimating the panel data in the study.

3.8.1 Diagnostic Tests

It was necessary during the study to ensure non-violation of the assumptions of the classical linear regression model (CLRM) before attempting to estimate equations 3.2 and 3.3. Estimating equations 3.2 and 3.3 when the assumptions of the classical linear regression model are violated runs the risk of obtaining biased, inefficient, and inconsistent parameter estimates. Consequently, the following diagnostic tests were

conducted in order to ensure proper specification of equations 3.2 and 3.3: multicollinearity, autocorrelation, heteroskedasticity, and panel unit root test.

3.8.1.1 Multicollinearity

Multicollinearity was tested in the study using correlation matrix whereby the cut-off point for severe multicollinearity was 0.8 (Gujarati, 2003; Cooper & Schindler, 2008). Failure to account for perfect multicollinearity result into indeterminate regression coefficients and infinite standard errors while existence of imperfect multicollinearity results into large standard errors. Large standard errors affect the precision and accuracy of rejection or failure to reject the null hypothesis. During estimation, the problem is not lack of multicollinearity but rather its severity. A correlation coefficient greater than 0.8, thus, indicate the presence of severe multicollinearity.

3.8.1.2 Autocorrelation

This study used the Wooldridge test for serial correlation to test for the presence of autocorrelation in the linear panel data. Serial autocorrelation is a common problem experienced in panel data analysis and has to be accounted for in order to achieve the correct model specification. According to Wooldridge (2002), failure to identify and account for serial correlation in the idiosyncratic error term in a panel model would result into biased standard errors and inefficient parameter estimates. The null hypothesis of this test was that the data had no serial autocorrelation. If serial autocorrelation was detected in the study data, then the feasible generalised least square (FGLS) estimation procedure would be adopted.

3.8.1.3 Heteroskedasticity

Heteroskedasticity is an assumption of CLRM that needs to be tested for in the data and properly accounted for if present. Specifically, the CLRM assumes that the error term is homoskedastic, that is, it has constant variance. If the error variance is not constant, then there is heteroskedasticity in the data. Running a regression model without accounting for heteroskedasticity would lead to unbiased parameter estimates but the invalid standard errors. In this thesis, panel level heteroskedasticity was tested for using the Likelihood Ratio (LR) test proposed by Poi and Wiggins (2001). The null hypothesis of this test was that the error variance is homoskedastic. If the null hypothesis were to be rejected and a conclusion made that heteroskedasticity is present in the study data, then this would be accounted for by running a FGLS model.

3.8.1.4 Panel Unit Root Test

Since panel data have both cross-sections and time series, there was need to test for the stationarity of the time series because the estimation of time series data is based on the assumption that the variables are stationary. Estimating models without taking into account the non-stationary nature of the data would lead to spurious results (Gujarati, 2003). In this thesis, the researcher employed Fisher-type test of unit root in panel data. The advantage of this test is that it allows for unbalanced panels with gaps, performs either Dickey-Fuller or Phillips-Perron test for each panel, and reports four different tests. The null hypothesis of this test was that all panels had unit root. The alternative hypothesis was that at least one panel did not have unit roots or some panels did not have unit root (Choi, 2001). If any of the variables had unit root, the

researcher would difference it and run equations 3.2 and 3.3 using the differenced variable.

3.8.2 Test for Fixed or Random Effects

When using panel data analysis, one has to determine whether to run a fixed effects model or a random effects model. The decision on the type of model to run is based on the Hausman specification test. This test is mainly based on the consistency and efficiency of the random and fixed effects estimators depending on the correlation between the individual effects and the regressors. The Hausman specification test seeks to determine whether there is significant correlation between the unobserved firm-specific random effects and the regressors. If no such correlation exists, then the random effects model may be more powerful. In the presence of such a correlation, however, then the random effects model would be inconsistently estimated and the fixed effects model would be the model of choice (Greene, 2008).

Thus, if the Hausman test identifies the fixed effects model as appropriate, then the researcher would test for inclusion of time-fixed effects in the study estimation. The time fixed effects tests if the dummies for all years are equal to zero and if they are, then there is no need for time fixed effects in the specification of the model to be estimated. To test whether the dummies for all years were equal to zero the study used the F-test in accordance with Greene (2008).

On the other hand, if the Hausman test chooses the random effects model as the more suitable one then there would be need to test whether the data have panel effects so as to determine whether to run a simple Ordinary Least Square (OLS) regression or the

random effects model. This study applied the Breusch-Pagan Lagrange multiplier test proposed by Breusch and Pagan (1980) to choose between the random effects model and the simple OLS model. The null hypothesis of this test was that variance across the entities was equal to zero; that is, there are no panel effects.

3.8.3 Test for Mediating effect

The mediating effect of internal cash flow available on the relationship between financial leverage, working capital management, and dividend policy and performance was tested using the Sobel–Goodman mediation test. The study applied the logic of Baron and Kenny (1986), which is a step-wise regression process. The first step involved regressing the dependent variable on the independent variables, that is, regressing performance on financial leverage (FINL), working capital management policies (WCMP), dividend policy (DIVP), and the control variables of company size and GDP growth rate. The second step involved regression of internal cash flow available (the mediating variable) on financial leverage, WCMP, DIVP, company size, and GDP growth rate.

In the third step, the study performed a regression of performance on the independent variables (now including the mediating variable). The fourth and last step was to determine whether or not available internal cash flow completely mediates the relationship between financing decisions and performance. If the relationship between financial leverage, WCMP, and DIVP on the one hand and performance on the other was fully mediated, then the path between the two sets of variables would be zero. If the path was significantly different from zero, however, then a condition of partial

mediation would exist. The panel mediation path diagram can be represented as shown in Figure 3.1.

Mediating variable (internal cash flow available)

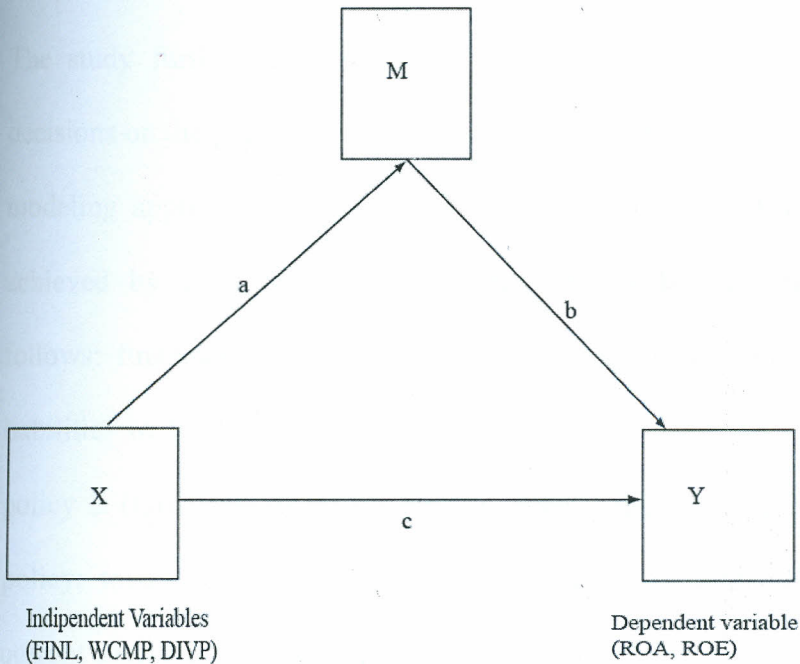


Figure 3.1: Mediation Analysis Model

Source: Baron and Kenny (1986, pp. 1176)

The researcher tested for mediation effects by performing four procedures. The first step was to establish whether paths *a*, *b* and *c* depicted in figure 3.1 were statistically significant. Secondly, the researcher established whether the independent variable (X) statistically predicts the mediator (M), controlling for other independent variables. Thirdly, the researcher established whether the mediator (M) statistically predicts the dependent variable (Y), controlling for other independent variables. Finally, the researcher established whether the independent variable (X) statistically predicts the dependent variable (Y) taking into account other independent variables. If any of the

paths, that is a , b and c was not statistically significant then the study would conclude that there was no mediation effect. The study used the z-test to determine the statistical significance of the three paths (Denis, 2010).

3.8.4 Test for Interaction Effects of Financing Decisions on Performance

The study further tested for the existence of any interaction effect of financing decisions on the performance of listed companies in the NSE. Product term interaction modeling approach was employed as recommended by Friedrich (1982). This was achieved by creating several interactive terms between the various variables as follows: financial leverage and working capital management policy1 (total current liabilities to total assets ratio); financial leverage and working capital management policy 2 (total current assets to total assets ratio); financial leverage and dividend policy; total current liabilities to total assets ratio and dividend policy; and total current assets to total assets ratio and dividend policy.

Thereafter, ROA and ROE were regressed on the following variables: financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, and dividend policy. The two independent variables were also regressed on the interactions between financial leverage and total current liabilities to total assets ratio; financial leverage and total current assets to total assets ratio; financial leverage and dividend policy; total current liabilities to total assets ratio; dividend policy and total current assets to total assets ratio; and dividend policy and the control variables. To determine whether the coefficient of the interaction term was statistically significant, the t -test and the p -value were applied. Further, to estimate the marginal effects of the

interacted terms, the study employed Lincom module in Stata since addition of interaction terms in linear models resulted in non-linear model.

Specifically, the effect of financial leverage, working capital management₁ (total current liabilities to total assets ratio), working capital management₂ (total current assets to total assets ratio) and dividend policy on performance in the interaction model was calculated by estimating the marginal effects and conditional standard errors using Lincom module in Stata. Various researchers evaluate marginal effects of interaction models at minimum, maximum or mean values (Friedrich, 1982). The study calculated marginal effects which were evaluated at minimum, mean and maximum values of financial leverage, working capital management₁, working capital management₂ and dividend policy.

3.8.5 Test for differences in financing decisions among sectors

In order to examine whether there is any significant difference in financing decisions behavior sectors of non-financial companies in the NSE, the thesis employed the *t*-test for group means and panel graphs. Since the study data were in panel form, the sectors were grouped into eight and graphs plotted for the period ranging between 2006 and 2012.

To determine the existence of significant difference in leverage, working capital management, and dividend policy between the various industries, pairs of sectors were created and the mean differences on those factors tested for statistical significance.

The study used the two-group mean comparison test where the test statistic was the *t*-test. The null hypothesis of the *t*-test was that the mean difference of a pair of

industries was equal to zero (Greene, 2008). Further, the *t*-test reports both the two-tail and the one-tail test but this study used the two-tail test to evaluate whether there was significant mean difference between the means of a pair of sectors or industries. Table 3.5 presents a summary of the data analysis techniques that were employed to achieve thesis objectives.

Table 3.5: Summary of Data Analysis Techniques

	Specific objective	Methodology
i.	To analyse the effect of financial leverage on performance of non-financial companies listed in the NSE, Kenya	Panel regression (FGLS Regression)
ii.	To determine the effect of working capital policies management on performance of non-financial companies listed in the NSE, Kenya	Panel regression (FGLS Regression)
iii.	To determine the effect of dividend policy on performance of non-financial companies listed in the NSE, Kenya	Panel regression (FGLS Regression)
iv.	To determine the mediating effect of internal cash flow available on the relationship between financial leverage, working capital management policy and dividend policy and performance of non-financial companies listed in the NSE, Kenya	Step-wise regression
v.	To determine the interaction effect of financial leverage, working capital management policy and dividend policy on performance of listed companies in the NSE	Panel regression
vi.	To examine whether there is any significant difference in financial leverage, working capital management policy and dividend policy between non-financial sectors of companies listed in the NSE, Kenya.	<i>t</i> -test and panel graphs

Source: Researcher (2013)

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of the study and discussions of the results. The findings are presented in form of tables and narrations.

4.2 Descriptive Statistics

Table 4.1 presents the descriptive statistics for the data used in the analysis.

Table 4.1: Descriptive Statistics

Variable	Observation	Mean	Std. Deviation	Min	Max
Return on assets	280	0.1172809	0.2963635	-1.614589	3.167213
Return on equity	281	0.1415472	1.252394	-18.11016	6.252167
Financial leverage	280	5.540158	56.28252	0	817.3594
Working capital management policy 1	281	0.3210174	0.2857892	0	2.762324
Working capital management policy 2	281	0.497626	.6554207	0.0025644	9.616251
Dividend policy	278	0.4665344	1.790956	0	26
Internal cash flow available	273	1.045432	7.610569	-4.364599	122.6961
GDP growth rate	282	4.580205	1.821908	1.528	6.99329
Total assets	282	18,400,000	39,300,000	0	307,000,000

Source: Study data (2013)

As indicated in table 4.1, the mean value of return on assets for 280 observations was 0.1172809 with a standard deviation of 0.2963635 and minimum and maximum values of -1.614589 and 3.167213 respectively. The positive return on assets indicates that the companies were on average profitable although some companies were

operating at a loss as reflected in the negative minimum observed value of return on assets. The mean value for return on equity was 0.1415472 with a standard deviation of 1.252394 and minimum and maximum values of -18.11016 and 6.252167 respectively for 281 observations. The negative minimum value observation for return on equity signifies that some companies were operating at a loss.

From the results output displayed in table 4.1, the mean value of financial leverage is 5.54016. This indicates that, on average, non-financial companies listed in the NSE were highly geared. The greatest proportions of their resources were financed by long term debt. The standard deviation of 56.28252 signifies a great variation in financial leverage as evidenced by the fact that the minimum observed financial leverage was 0 while the maximum was 817.3594. According to the economic survey (2013) the growth experienced in the banking sector increased credit to the private sector by 30.8 percent in 2011 and 11.8 percent in 2012. The increased access to credit may therefore explain the observed phenomenon on financial leverage.

The results in table 4.1 further indicate that, total current liabilities to total assets ratio (working capital management 1) had a mean value of 0.3210174 with minimum and a maximum values of 0 and 2.762324 respectively. This observation indicates that the companies used less current liabilities to finance assets build-ups. These results suggest that non-financial companies investigated followed a conservative financing working capital management policy. The maximum, value of 2.76234, however, indicates that there was a company that had adopted an extremely aggressive financing

working management policy in which the value of current liabilities was almost three times the value of total assets.

The results output shown in table 4.1 indicate that the mean value of total current assets to total assets ratio (working capital management 2) was 0.497626 with minimum and maximum values of 0.0002 and 9.616251 respectively. The mean value indicates that, on average, companies were neither very aggressive nor excessively conservative in their investing working capital management practices. The maximum observation of 9.616251 indicate that there was a company during the period under study that was following an extremely conservative investing working capital management policy by holding high levels of investment in current assets.

From table 4.1 dividend policy (dividend payout ratio) had a mean of 0.4665344 with a standard deviation of 1.790956. This observation indicates that on average non-financial companies listed in the NSE, Kenya preferred to retain more funds than to pay dividends to shareholders. The minimum and maximum values observed were 0 and 26 percent respectively. This evidence corroborates the mean observation that Kenyan companies do not follow the signaling dividend theory where companies pay high dividends to signal good prospects to prospective investors.

Table 4.1 indicates that the internal cash flow available had a mean of 1.045432 with a standard deviation of 7.610569. The minimum and maximum values were -4.364599 and 122.6961 respectively. The negative observation implies that some companies operated with negative cash holdings which indicate that they were operating on overdraft during 2006-2012. During the period covered by the study from 2006

to2012, the Kenyan economy grew on average by 4.580205 with minimum and maximum growth rates of 1.528 and 6.99329 respectively. Finally, the mean for the total assets for the firms under consideration was Kshs 18,400 million with a standard deviation of Kshs 39,300 million. The maximum value of the asset for the period covered was Kshs 307,000 million while the minimum value was zero.

4.3 Diagnostic Test Results

As indicated in Chapter three, the researcher conducted various diagnostic tests to ensure that the assumptions of CLRM were not violated and to choose the appropriate models for analysis in the event that CLRM assumptions were compromised. This section presents the results of the following diagnostic tests: test of multicolleniarity, autocorrelation test, panel unit root test, and Hausman specification test.

4.3.1 Multicollinearity Test Results

Table 4.2: Correlation Matrix

	Financial leverage	Working capital management 1	Working capital management 2	Dividend policy	Size	GDP growth rate
Financial leverage	1.0000					
Working capital management policy1	-0.0241	1.0000				
Working capital management policy2	-0.0191	0.4973	1.0000			
Dividend policy	-0.0174	0.2091	0.1386	1.0000		
Size	0.1109	0.0297	-0.0298	0.0535	1.0000	
GDP growth rate	-0.0054	-0.0579	0.0542	0.0483	-0.0931	1.0000

Source: Study data (2013)

As presented in table 4.2, the study used a correlation matrix to test for multicollinearity. The explanatory variables used in this study were financial leverage, total current liabilities to total assets ratio (working capital management 1), total current assets to total assets ratio (working capital management 2), and dividend policy, size of the company and GDP growth rate. The results indicate that 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).

4.3.1 Autocorrelation Test Results

The study used the Wooldridge test for autocorrelation to test the presence of autocorrelation in the data and the results are presented in appendix 4. The null hypothesis of this test was that there was no first order autocorrelation in the data. The test statistic reported was F test with one and thirty nine degrees of freedom and a value of 93.710. The p-value of the F test was 0.0000 implying the F test was statistically significant at 1 percent level. The results therefore indicate that there was a problem of first order autocorrelation in the data. Subsequently, the study corrected for this violation of classical linear regression model assumption by employing FGLS estimation approach.

4.3.2 Heteroskedasticity Test Results

The study tested for panel level heteroskedasticity using the Likelihood Ratio (LR) as shown in appendix 5. The null hypothesis of this test was that the error variance was homoskedastic. The likelihood-ratio test produced a chi-square value of 605.30 with a

p-value of 0.0000. The chi-square value was statistically significant at 1 percent level and hence the null hypothesis of constant variance was rejected to signify the existence of heteroskedasticity in the study data as recommended by Poi and Wiggins (2001). The study consequently employed the FGLS estimation technique to take care of this problem.

4.3.3 Panel unit root test

Panel unit root test was applied for all variables used in the analysis in order to avoid spurious regression results. The study applied Fisher-type test because it has more advantages than other panel unit root tests. The Fisher-type unit root test requires specification of Dickey-Fuller to test whether a variable has unit root. The full results of the panel unit root test for performance, financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy, size of the company and GDP growth rate are presented in appendix 6 and summarised in table 4.3.

Table 4.3: Panel Unit Root Test

Variables	Tests	Panel Means	Panel Means +Drift	Panel Means + Trend
Return on assets	Inverse chi-squared	342.3625 (0.0000)	172.5551 (0.0000)	539.0363 (0.0000)
	Inverse normal	-5.6816 (0.0000)	-7.0813 (0.0000)	-8.6872 (0.0000)
	Inverse logit	-11.9805 (0.0000)	-7.0059 (0.0000)	-21.8052 (0.0000)
	Modified inv. chi-squared	20.7416 (0.0000)	7.8317 (0.0000)	36.2900 (0.0000)
Return on equity	Inverse chi-squared	469.3111 (0.0000)	179.0162 (0.0000)	430.8954 (0.0000)
	Inverse normal	-7.1266 (0.0000)	-7.1437 (0.0000)	-5.2895 (0.0000)
	Inverse logit	-17.3358 (0.0000)	-7.2215 (0.0000)	-15.2358 (0.0000)
	Modified inv. chi-squared	30.7777 (0.0000)	8.3557 (0.0000)	27.7407 (0.0000)
Financial leverage	Inverse chi-squared	253.6901 (0.0000)	159.7306 (0.0000)	317.6863 (0.0000)
	Inverse normal	-3.8884 (0.0000)	-6.2880 (0.0000)	-1.8097 (0.0000)
	Inverse logit	-8.4821 (0.0000)	-6.2666 (0.0000)	-10.3037 (0.0000)
	Modified inv. chi-squared	13.7314 (0.0000)	7.3109 (0.0000)	18.7908 (0.0000)
Working capital management policy 1	Inverse chi-squared	374.0676 (0.0000)	176.3838 (0.0000)	559.8994 (0.0000)
	Inverse normal	-5.4209 (0.0000)	-6.7874 (0.0000)	-9.2147 (0.0000)
	Inverse logit	-12.7543 (0.0000)	-6.8872 (0.0000)	-22.8813 (0.0000)

	Modified inv. chi-squared	23.2481 (0.0000)	8.1422 (0.0000)	37.9394 (0.0000)
Working capital management policy 2	Inverse chi-squared	207.4211 (0.0000)	145.7703 (0.0000)	547.2493 (0.0000)
	Inverse normal	-0.9590 (0.1688)	-5.7502 (0.0000)	-9.5147 (0.0000)
	Inverse logit	-4.9383 (0.0000)	-5.5972 (0.0000)	-22.5529 (0.0000)
	Modified inv. chi-squared	10.0735 (0.0000)	5.6591 (0.0000)	36.9393 (0.0000)
Dividend policy	Inverse chi-squared	382.3009 (0.0000)	177.4790 (0.0000)	302.8772 (0.0000)
	Inverse normal	-6.0332 (0.0000)	-7.1269 (0.0000)	-5.9490 (0.0000)
	Inverse logit	-14.7629 (0.0000)	-7.6912 (0.0000)	-12.0055 (0.0000)
	Modified inv. chi-squared	23.8990 (0.0000)	9.3877 (0.0000)	17.6200 (0.0000)
Internal cashflow available	Inverse chi-squared	225.8319 (0.0000)	153.1570 (0.0000)	166.6977 (0.0000)
	Inverse normal	-2.7303 (0.0032)	-5.9553 (0.0000)	-2.0611 (0.0196)
	Inverse logit	-6.1990 (0.0000)	-5.9973 (0.0000)	-5.2796 (0.0000)
	Modified inv. chi-squared	11.5290 (0.0000)	6.7631 (0.0000)	6.8541 (0.0000)
Company Size	Inverse chi-squared	187.2344 (0.0000)	120.5255 (0.0009)	301.9570 (0.0000)
	Inverse normal	1.3221 (0.9069)	-3.3168 (0.0005)	-5.1447 (0.0000)
	Inverse logit	-1.5688 (0.0592)	-3.2027 (0.0008)	-11.1413 (0.0000)
	Modified inv. chi-squared	8.4776 (0.0000)	3.6115 (0.0002)	17.5472 (0.0000)

GDP growth rate	Inverse chi-squared	1010.0128 (0.0000)	300.5242 (0.0000)	2378.1669 (0.0000)
	Inverse normal	-27.5135 (0.0000)	-12.7424 (0.0000)	-46.6721 (0.0000)
	Inverse logit	-45.2723 (0.0000)	-13.4011 (0.0000)	-114.4623 (0.0000)
	Modified inv. chi-squared	72.4656 (0.0000)	18.2113 (0.0000)	179.3005 (0.0000)

Note Figures in parenthesis are the p values. Significant at 5 percent level

Source: Study data (2013)

As presented in table 4.3 the Fisher-type tests including inverse chi-squared, inverse normal, inverse logit and modified inverse chi-squared reported p-values that are less than 0.05 except for inverse normal which has a p value of 0.9069 for model of assets with no drift . These results led to rejection of the null hypothesis that all panels have unit root for return on assets, return on equity, financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy, internal cash flow available, size of the company and GDP growth rate as recommended by Choi (2001). The study therefore concluded that all the variables under consideration did not have unit root and were therefore used in levels instead of their first difference. This means that the results obtained were not spurious (Gujarati, 2003).

4.3.4 Hausman test

Table 4.4: Hausman Test for ROA

	Coefficients		(b-B)	sqrt(diag(V_ b-V_B))
	(b)	(B)		
	fe	Re	Difference	S.E.
Financial leverage	-0.0000904	-0.0000707	0.0000797	0.000322
Working capital management policy 1	0.1828465	0.137367	0.0454795	0.044605
Working capital management policy 2	0.0495055	0.0545505	-0.005045	0.010391
Dividend policy	0.0038403	0.0027655	0.0010748	0.0038787
Size(natural log of total assets)	-0.0092631	-0.0022692	-0.0069939	0.010805
GDP growth rate	0.0114597	0.0107327	0.0007271	0.0013798
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic Chi Square (6) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 2.13 Prob>chi2 = 0.9073				

Source: Study data (2013)

In order to choose between fixed and random effects model for model 1(ROA), the Hausman test was used as presented in 4.4. The null hypothesis of the Hausman test was that the random effects model was preferred to the fixed effects model. For ROA model, Hausman test reported a chi-square of 2.13 with a p-value of 0.9073 implying that at 10 percent level, the chi-square value obtained was statistically insignificant. The researcher therefore failed to reject the null hypothesis that random effects model was preferred to fixed effect model for ROA as recommended by Greene (2008).

Table 4.5: Hausman Test for ROE

	Coefficients			sqrt(diag(V_b-V_B))
	(b)	(B)	(b-B)	
Financial leverage	-0.0232803	-0.0224645	-0.0008159	0.0005882
Working capital management policy 1	-0.2299324	-0.1478927	-0.0820397	0.0875098
Working capital management policy 2	0.0583527	0.0675274	-0.0091747	0.0202462
Dividend policy	0.0258898	0.0188966	0.0069933	0.0075255
Size(natural log of total assets)	-0.0133873	0.0041694	-0.0175567	0.0207064
GDP growth rate	0.0148804	0.0137342	0.0011462	0.0015487
b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic Chi2 (6) = (b-B)'[(V_b-V_B)^(-1)](b-B) = -13.96 Prob>chi2 = 0.106 (V_b-V_B is not positive definite)				

Source: study data (2013)

In order to choose between the fixed and random effects models for model 2 (ROE), the Hausman test was used as presented in 4.5 above. The null hypothesis of the Hausman test was that the random effects model was preferred to the fixed effects model. Hausman test reported a chi-square value of -13.96 with a p-value of 0.106 implying that the chi-square value was statistically insignificant at 10 percent level of significance. This finding is also reinforced by the negative values of Chi-square implying a strong evidence of accepting the null hypothesis. Hence the researcher did not reject the null hypothesis that random effects model was preferred to fixed effect

model for ROE model as recommended by Greene (2008). Thus the researchers applied the models using random effects.

Table 4.6: Testing for Random Effects or simple OLS (ROA model)

Breusch and Pagan Lagrangian multiplier test for random effects		
roafinperf[companyid,t] = Xb + u[companyid] + e[companyid,t]Estimated results:		
	Var	sd = sqrt(Var)
Return on assets	0.0882112	0.2970037
E	0.0697959	0.2641892
U	0.0186821	0.1366826
Test: Var(u) = 0,		
Chibar2(01) = 24.56		
Prob > chibar2 = 0.0000		

Source: study data (2013)

Having chosen random effects model as indicated by the Hausman test, the researcher then tested whether the data had panel effects. The researcher employed the Breusch-Pagan Lagrangian multiplier test for random effects as shown in table 4.6. The null hypothesis of this test was that the data had no panel effects. The results of the test indicated that the data had panel effects. As shown in table 4.6, the chibar square for ROA model had a value of 24.56 and a p value of 0.0000 implying that the chibar square was statistically significant at 1 percent level of significance.

As shown in appendix 6 the chibar square for ROE model had a value of 7.72 and a p-value of 0.0027 implying that the chibar square was statistically significant at 1 percent level of significance Therefore, the null hypothesis that the data had no panel

effects was rejected. The study concluded that there were panel effects for both ROA and ROE. Thus to account for panel effects the study used random effects model as opposed to simple OLS model for both ROA and ROE as recommended by Greene (2008) and Breusch and Pagan (1980).

4.4 Hypothesis Testing

The various diagnostic tests performed during the study revealed that return on assets; return on equity; financial leverage; total current liabilities to total assets ratio; total current assets to total assets ratio; dividend policy; internal cash flow available; size of the company and GDP growth rate did not have unit root thus the study ran them in levels. Further, the tests indicated that the data had both autocorrelation and heteroskedasticity thus the study estimated equations 3.2 and 3.3 in Feasible Generalized Least Square in order to account for the problem. The estimation results for equations 3.2 and 3.3 are presented in Table 4.7 and Table 4.8.

4.4.1 FGLS Regression with ROA as the dependent variable

Using ROA as the dependent variable, the study considered a set of hypotheses pertaining to the relationship between performance of non-financial firms listed on the NSE and financial leverage, working capital management, and dividend policy. As indicated in Table 4.7, return on assets was regressed on financial leverage, total current liabilities to total assets ratio (working capital management policy 1), total current assets to total assets ratio, dividend policy, size of the company, and GDP growth rate. The hypotheses tested in this section included the following:

Hypothesis i

H₀: There is no statistically significant relationship between financial leverage and return on assets of non-financial companies listed in the NSE

H₁: There is a statistically significant relationship between financial leverage and return on assets of non-financial companies listed in the NSE

Test of Hypothesis ii a (working capital management 1)

H₀: There is no statistically significant relationship between working capital management (total current liabilities to total assets ratio) and return on assets of non-financial companies listed in the NSE

H₁: There is a statically significant relationship working capital management (total current liabilities to total assets ratio) and return on assets of non-financial companies listed in the NSE

Test of Hypothesis ii b :(working capital management 2)

H₀: There is no statistically significant relationship between working capital management policy (total current assets to total assets ratio) and return on assets of non-financial listed in the NSE

H₁: There is a statistically significant relationship working capital management (total current assets to total assets ratio) and return on assets of non-financial companies listed in the NSE

Test of Hypothesis iii:

H₀: There is no statistically significant relationship dividend policy and return on assets of non-financial companies listed in the NSE

H₁: There is a statistically significant relationship dividend policy and return on assets of non-financial companies listed in the NSE

Table 4.7: FGLS Regression Results (Dependent variable: ROA)

Variable	Coefficient	Standard Error	Z	P>z
Financial leverage	-0.0001392	0.000136	-1.02	0.306
Working capital management policy1	0.1174164*	0.0283824	4.14	0.000
Working capital management policy2	0.0335097**	0.0139033	2.41	0.016
Dividend policy	0.0070465***	0.0041807	1.69	0.092
Size	0.0018864	0.0029528	0.64	0.523
GDP growth rate	0.0034529**	0.0015597	2.21	0.027
Constant	0.0252196	0.0497393	0.51	0.612
Wald Chi Square (6) = 55.27 Prob > chi2 = 0.0000				
(*), (**) and (***) denote 1%, 5%, and 10% levels of significance respectively				

Source: Study data, 2013

With regard to hypothesis i, the regression results presented in table 4.7 indicate that the coefficient of financial leverage of -0.0001392 was statistically insignificant at 10 percent level with p-value of 0.306 that is greater than 0.1. The results indicate that

there was an insignificant negative relationship between financial leverage and return on assets of non-financial companies listed in the NSE.

These findings presented in table 4.7 were consistent with the capital structure irrelevance theory that was first postulated by Modigliani & Miller (1963). These traditional capital structure theories argue that the amount of debt in the capital structure does not affect performance and the value of the firm. Abdul (2012) however, concluded that financial leverage has a significant negative relationship with the firm performance as measured by return on assets (ROA). The findings of this present thesis contradicted the empirical results obtained by Saeedi & Mahmoodi (2011), who concluded that financial leverage is positively related to performance as measured by return on assets.

With regard to hypothesis ii a , the regression results shown in table 4.7 indicate that total current liabilities to total assets ratio (working capital management 1) is significant at 1 percent level. The coefficient of total current liabilities to total assets ratio is 0.1174164 and significant with a p-value of 0.000 which is less than 0.01. The results indicate that there was a significant positive relationship between total current liabilities to total assets and return on assets of non-financial companies listed in the NSE. The positive coefficient indicates that as more current liabilities were utilised aggressiveness increased and subsequently performance as measured by ROA improved. These results are inconsistent with Afza and Nazir (2007) who found a negative relationship between the aggressiveness of financing policy and accounting measures of profitability. In addition the findings contradicted the findings by Vahid,

Mohsen & Mohammadreza who concluded that aggressive financing policy and firm's profitability are negatively related and hence, utilizing more current liabilities to finance firm activities may negatively affect the firm's performance (ROA).

With regard to hypothesis ii b, the regression results presented in table 4.7 indicate that total current asset to total assets (working capital management 2) was significant at 5 percent level. The coefficient of the total current assets to total assets ratio was 0.0335097, with a p-value of 0.016 which is less than 0.05. This indicates that there was a statistically significant positive relationship between total current assets to total assets ratio and return on assets of non-financial companies listed in the NSE. This observation implies that holding other variables in the regression constant, a unit increase in total current assets to total assets ratio lead to an increase of 0.0335097 in ROA. The positive coefficient meant a negative relationship between aggressiveness in investing policy and ROA. As total current assets increased aggressiveness reduced and subsequently ROA increased. This observation corroborates the results by Afza and Nazir (2007).

With regard to hypothesis iii, the regression results presented in table 4.7 indicate that at 10 percent level of significance, dividend policy is statistically significant. The coefficient of dividend policy is 0.0070465 and a p-value of 0.092 which is less than 0.1. The results indicate as dividend pay-out ratio increased by one unit, increased ROA by 0.0070465. These results support those by Amidu (2007) who found a positive relationship between return on assets and dividend policy.

According to the regression results presented in table 4.7, size of the company is statistically insignificant with a p-value of 0.523 while GDP growth rate is statistically significant with a p-value of 0.027 implying that GDP growth rate had a significant positive effect on return on assets. According to the results presented in table 4.7, Wald Chi square has a value of 55.27 with a p- value of 0.0000 which is less than 0.01critical value implying that jointly all the independent variables determine return on assets.

4.4.2 FGLS regression with ROE as the dependent variable

Using return on equity (ROE) as the dependent variable, the study considered a set of hypotheses pertaining to the relationship between financial performance of non-financial firms listed on the NSE and financial leverage, working capital management, dividend policy and the two control variables of size of company and GDP growth rate. As indicated in Table 4.8, return on equity was regressed on financial leverage, total current liabilities to total assets ratio (Working capital management 1), total current assets to total assets ratio (working capital management 2), dividend policy, size of the company, and GDP growth rate to test the following hypotheses;

Hypothesis i

H₀: There is no statistically significant relationship between financial leverage and return on equity of non-financial companies listed in the NSE

H₁: There is a statistically significant relationship between financial leverage and return on equity of non-financial companies listed in the NSE

Test of Hypothesis ii a (working capital management 1)

H₀: There is no statistically significant relationship between working capital management (total current liabilities to total assets ratio) and return on equity of non-financial companies listed in the NSE

H₁: There is a statically significant relationship working capital management (total current liabilities to total assets ratio) and return on equity of non-financial companies listed in the NSE

Test of Hypothesis ii b :(working capital management 2)

H₀: There is no statistically significant relationship between working capital management policy (total current assets to total assets ratio) and return on equity of non-financial listed in the NSE

H₁: There is a statistically significant relationship working capital management (total current assets to total assets ratio) and return on equity of non-financial companies listed in the NSE

Test of Hypothesis iii:

H₀: There is no statistically significant relationship dividend policy and return on equity of non-financial companies listed in the NSE

H₁: There is a statistically significant relationship dividend policy and return on equity of non-financial companies listed in the NSE

Table 4.8: FGLS Regression Results (Dependent variable: ROE)

Variable	Coefficient	Standard Error	Z	P>z
Financial leverage	-0.0222606*	0.0006584	-33.81	0.000
Working capital management policy 1	-0.0647696	0.0488256	-1.33	0.185
Working capital management policy 2	0.0876082*	0.0185633	4.72	0.000
Dividend policy	-0.0007068	0.0089722	-0.08	0.937
Size	0.0036795	0.0052275	0.70	0.482
GDP growth rate	0.0043182**	0.0021154	2.04	0.041
Constant	0.0587487	0.0825654	0.71	0.477
Wald Chi Square (6) = 1170.23 Prob > chi2 = 0.0000 (*), (**) and (***) denote 1%, 5%, and 10% levels of significance respectively				

Source: Study data (2013)

With regard to hypothesis i, the regression result in table 4.8 indicate that the coefficient for financial leverage is - 0.0222606 and is statistically significant at 1 percent level, with p-value of 0.0000 .The results indicate that there was a significant negative relationship between financial leverage and return on equity of non-financial companies listed in the NSE. The findings implies that holding other variables in the regression constant, a unit increase in financial leverage would lead to a decrease of 0.0222606 in return on equity.

These results are consistent with capital structure relevance theories. The results also corroborate the empirical evidence obtained by Kaumbuthu (2011) who found a negative relationship between financial leverage and ROE. The finding however,

contradicts the findings by, Javed & Akhtar (2012) who found the relationship between debt to equity ratio and return on equity to be significantly positive. The findings additionally, contradicted the agency theory postulated by Jensen & Meckling (1976) and extended by Elliots (2002).The agency theory postulate that the use of leverage (long-term debt) in the capital structure can be used to mitigate the agency conflict by forcing managers in invest in profitable ventures that benefit the shareholders.

With regard to hypothesis ii a, the regression results presented in table 4.8 indicate that the coefficient for total current liabilities to total assets ratio (working capital management policy1) is -0.0647696 and is statistically insignificant at 10 percent level of significance. The results indicate that there was no statistically significant relationship between total current liabilities to total assets ratio and return on equity of non-financial companies listed in the NSE. According to Afza and Nazir (2007) a negative coefficient for *TCL/TA* points out to a negative relationship between an aggressive financing policy and return on equity. The higher the *TCL/TA* ratio, the more aggressive the financing policy, that yields negative ROE. These results are inconsistent with the results obtained by Vahid, Mohsen and Mohammadreza (2012) who concluded that following a conservative investment policy and aggressive financing policy has a negative impact on a firm's profitability.

With regard to hypothesis ii b, the regression results presented in table 4.8 indicate that the coefficient for total current assets to total assets ratio (working capital management policy 2) of 0.0876082 was statistically significant at 1 percent level. The

results indicate that there was as a statistically significant positive relationship between total current assets to total assets ratio and return on equity of companies listed in the NSE. This implies that holding other variables in the regression constant, a unit increase in total current assets to total assets ratio would lead to a 0.0876082 increase in return on equity. The findings imply that there was a statistically significant negative relationship between the aggressiveness of investing policy and return on equity. These results confirm the findings of Afza and Nazir (2007) who postulate that performance cannot be increased by being aggressive in managing the working capital requirements.

With regard to hypothesis iii, the regression results presented in table 4.8 reflect that the coefficient for dividend policy is -0.0007068 and is statistically insignificant at 10 percent level of significance. The results indicate that there was an insignificant negative relationship between dividend policy and return on equity of companies listed in the NSE. These findings corroborate the dividend irrelevant theories that postulate that dividend payment does not affect the value of the firm. The findings however contradict a local study by Murekefu and Ouma (2012) who found a positive relationship between dividend payout and performance of the listed companies. The inconsistency may be due to the measure used by their study of actual dividend paid rather than dividend payout ratio as used in the current study.

Further, the findings presented in table 4.8, indicate that, the size of the company does not determine return on equity. The coefficient for size of the company is 0.0036795 and is statistically insignificant at 10 percent level of significance. The result of the

study based on table 4.8, indicates that the coefficient for GDP growth rate is 0.0043182 and is statistically significant at 5 percent level of significance. Based on the regression results, GDP growth rate thus influenced the rate of return on equity among the non-financial companies listed on the NSE, Kenya.

4.5 Test of Mediating effect

In this study, the researcher sought to determine the mediating effect of internal cash flow available on the relationship between the financial leverage, working capital management policy and dividend policy and performance. The null hypothesis was that internal cash flow available does not significantly mediate the relationship between financing decisions and performance. In order to achieve this objective the researcher first tested whether the paths between the independent variables and the dependent variable, between the independent variables and the mediator and between the mediator and the dependent variable, were statistically significant. By specifying a model with return on asset as the dependent variable, the study tested whether financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy and the control variables of size of the company and GDP growth rate have statistical significant relationships with internal cash flow available. The regression results are presented in table 4.9.

Table 4.9: Regression of mediator with Independent Variables

Variable	Coefficient	Std. Err.	Z	P>z
Financial leverage	-0.0043497	0.0094581	-0.46	0.646
Working capital management policy 1	-2.514989	2.018023	-1.25	0.213
Working capital management policy 2	0.0722287	0.8097672	0.09	0.929
Dividend policy	0.0043014	0.2641066	0.02	0.987
Size	0.7952636**	0.3161234	2.52	0.012
GDP growth rate	-0.3209752	0.2426363	-1.32	0.186
Constant	-8.961241	5.168724	-1.73	0.083

R-sq: within = 0.0414, R-sq: between = 0.0421, R-sq: overall = 0.0363, Wald chi2(6) = 10.30, Prob > chi2 = 0.1124
 (*), (**) and (***) denotes 1%, 5% and 10% levels of significance respectively.

Source: Study data (2013)

The results presented in Table 4.9 reveal that the relationship between financial leverage and internal cash flow available (ICFA) is not statistically significant at 10 percent level. The coefficient of financial leverage is -0.0043497 and the p-value of 0.646 is greater than 0 critical value. The results presented in Table 4.9 also reveal that total current liabilities to total assets ratio has negative but insignificant relationship with ICFA at 10 percent level. The p-value is 0.213 which is greater than 0.1. The results presented in Table 4.9 further indicate that total current assets to total assets ratio has positive but insignificant relationship with ICFA at 10 percent level. The p-value of 0.929 is greater than 0.1. The results additionally indicate that dividend policy has a positive but insignificant relationship with ICFA at 10 percent level. The p-value

is 0.987 which greater than 0.1. Based on recommendations of Baron and Kenny (1986), the results at this stage indicate that internal cash flow available has no mediating effect on the relationship between financing decisions and performance.

The researcher supplemented this result by conducting tests to determine whether internal cash flow available predicts return on asset and whether financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy and the control variables (size and GDP growth rate) significantly determine return on asset. The results for testing for this relationship are presented appendix 8.

The results in appendix 8 indicate that internal cash flow available had a statistically significant influence on return on assets. These results contradict the agency cost theory advanced by Jensen (1986). The agency theory posits that negatively affecting performance. These results may be probably because companies with high cash ratio are in a better position to take advantage of arising opportunities. Combining the results in Table 4.9 and appendix 8, the study found that internal cash flow available has no mediating effect on return on assets as recommended by Baron and Kenny (1986).

Similarly, the study used return on equity as the dependent variable to test whether financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy and the control variables had any statistically significant relationship with internal cash flow available. Specifically, the study first conducted tests to determine whether financial leverage, total current liabilities to total

assets ratio, total current assets to total assets ratio, dividend policy and the control variables predicted internal cash flow available. The results for these tests are already presented in Table 4.9.

In order to complement this result, return on equity was regressed on internal cash flow available by controlling financial decisions, size of the company and performance. Thereafter, the researcher conducted tests to determine whether the financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio and dividend policy influenced return on equity. The results of these regressions are presented in appendix 9. The results revealed non-existence of any mediation effect.

For robustness of the analysis, the study used the Sobel–Goodman mediation test to further ascertain whether there is any mediation effect. The results of these tests are presented appendix 10 and 11 which presents the Sobel–Goodman mediation test where the standard errors were calculated based on Bootstrap with case resampling for each variable as proposed by Shrout and Bolger (2002). The dependent variable used in the mediation test presented in appendix 9 was return on assets. As alluded to before, the study tested whether internal cash flow available influences return on asset directly or indirectly through either financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy, size of the company or GDP growth rate. Based on the p-values that account for bootstrapped standard errors, the Sobel–Goodman mediation test suggests that internal cash flow available does not influence return on assets through either financial leverage, total

current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy, size of the company, or GDP growth rate.

Appendix 10 presents results of Sobel–Goodman mediation test where the dependent variable was return on equity. The study applied Sobel–Goodman mediation test to determine whether internal cash flow available influences return on equity through either financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio, dividend policy, size of the company or GDP growth rate for companies listed at NSE. The standard errors were bootstrapped using 1000 replications. Results for the Sobel-Goodman mediation test are contained in appendix 9. The findings indicate that internal cash flow does not have a mediating effect in the relationship between financing decisions and performance as recommended by Shrout and Bolger (2002). These results further confirm the step one test that internal cash flow available does not mediate the relationship between financial leverage and ROE; does not mediate the relationship between working capital management and ROE, and neither does it mediate the relationship between dividend policy and ROE.

4.6 Results for Interaction Effects of financing decisions on performance

To determine the interactive effect of financing decisions on performance of non-financial companies listed in the NSE, interactive terms were added as shown in equations 3.7 and 3.8. The study interacted financial leverage with total current liabilities to total assets ratio; financial leverage with total current assets to total assets ratio; financial leverage with dividend policy; total current liabilities to total assets ratio with dividend policy and finally total current assets to total assets ratio with

dividend policy. The results of these interactions using return on assets and return on equity as the dependent variables are presented in table 4.10, table 4.11, table 4.12 and table 4.13.

Table 4.10: Regression with Interaction Effects (Dependent variable: ROA)

Variable	Coefficient	Standard Error	Z	P>z
Financial leverage	-0.0124753*	0.0040324	-3.09	0.002
Working capital management policy1	-0.0144606	0.0387614	-0.37	0.709
Working capital management policy 2	0.1637215*	0.0277479	5.90	0.000
Dividend policy	-0.0207902	0.0152514	-1.36	0.173
Size	-0.0030249	0.0026441	-1.14	0.253
GDP growth rate	0.0036629**	0.0015815	2.32	0.021
Financial leverage and working capital management policy1	-0.0231657	0.0146878	-1.58	0.115
Financial leverage and working capital management policy2	-0.0247072	0.0189904	-1.30	0.193
Financial leverage and dividend policy	0.0400806*	0.010756	3.73	0.000
Working capital management policy 1 and dividend policy	0.2919164*	0.0598293	4.88	0.000
Working capital management policy 2 and dividend policy	-0.2057635*	0.0410885	-5.01	0.000
Constant	0.0858486	0.0469735	1.83	0.068
Wald chi2(11) = 86.80, Prob > chi2 = 0.0000				
(*), (**) and (***) denotes 1%, 5% and 10% level of significance respectively				

Source: Study data (2013)

Table 4.10 indicates that the interaction terms between financial leverage and working capital management 1 and financial leverage and working capital management 2 are statistically insignificant at 10 percent level. These results contradict the findings of

Ajibolade and Sankay (2013) who found a positive interaction effect between financial leverage and working capital management. These results further indicate that the interaction term between financial leverage and dividend policy is statistically significant at 1 percent level. These results corroborate the findings by Ince and Owers (2012) who demonstrated that there exists a significant interaction effect between financial leverage and dividend policy in relation to performance.

The interaction term between total current liabilities to total assets ratio and dividend policy was found to be significant at 1 percent level and had a positive relationship with ROA. The interaction term between dividend policy and total current assets to total assets ratio was significant at 1 percent level and had negative relationship with ROA. The results further corroborate the findings by Ince and Owers (2012) who demonstrated that there exists a significant interaction effect between financial leverage and dividend policy in relation to performance.

For robustness of the analysis the researcher analysed the interpretation of the coefficients of the individual financing decisions in the model with interaction terms as recommended by (Friedrich, 1982). The results shown in tables 4.10 indicate that the coefficient of financial leverage is -0.0124753. This coefficient unlike in the model without the interaction terms does not represent the unique effect of financial leverage on return on assets as pointed out by (Friedrich, 1982) on interpretation of coefficients of interaction terms. Instead, the coefficient implies that the effect of financial leverage on return on equity is different for different values of total current liabilities

to total assets ratio (working capital management 1), total current assets to total assets ratio and dividend payout ratio.

The effect of financial leverage, working capital management1, and working capital management2 and dividend policy on return on assets in the interaction model was calculated by estimating the marginal effects and conditional standard errors using Lincom module in Stata. Therefore, from the interaction model (Equation 3.7) the study estimated marginal effects for financial leverage, working capital management1, working capital management 2 and dividend policy as shown in Equation 4.1, 4.2, 4.3 and 4.4 respectively.

$$\frac{\partial \text{ROA}}{\partial \text{FINL}} = \beta_1 + \beta_7 \text{WCMP 1} + \beta_8 \text{WCMP2} + \beta_9 \text{DIVP} \dots \dots \dots (4.1)$$

$$\frac{\partial \text{ROA}}{\partial \text{wcmgt1}} = \beta_2 + \beta_7 \text{FINL} + \beta_{10} \text{DIVP} \dots \dots \dots (4.2)$$

$$\frac{\partial \text{ROA}}{\partial \text{wcmgt2}} = \beta_3 + \beta_8 \text{FINL} + \beta_{11} \text{DIVP} \dots \dots \dots (4.3)$$

$$\frac{\partial \text{ROA}}{\partial \text{divpolicy}} = \beta_4 + \beta_9 \text{FINL} + \beta_{10} \text{WCMP 1} + \beta_{11} \text{WCMP 2} \dots \dots \dots (4.4)$$

As evident in the above equations, there was need to choose some specific values for financial leverage, working capital management policy 1, working capital

management policy 2 and dividend policy in order to calculate marginal effects and their standard errors. Thus the study used minimum, maximum and mean values of financial leverage, working capital management policy 1, working capital management policy 2 and dividend policy as evaluation points. Various researchers evaluate marginal effects of interaction models at minimum, maximum or mean values (Bauer & Curran, 2005 & Friedrich, 1982). As shown in Table 4.11 the study calculated marginal effects which were evaluated at the minimum, mean and maximum values of financial leverage, working capital management policy 1, working capital management policy 2 and dividend policy.

Table 4.11: Marginal effects (Dependent variable: ROA)

Evaluation Point	$\frac{\partial \text{ROA}}{\partial \text{FINL}}$	$\frac{\partial \text{ROA}}{\partial \text{wcmgt1}}$	$\frac{\partial \text{ROA}}{\partial \text{wcmgt2}}$	$\frac{\partial \text{ROA}}{\partial \text{divpolicy}}$
Minimum	-0.0125 (0.002)	-0.0145 (0.709)	0.1637 (0.000)	-0.0213 (0.163)
Mean	-0.0135 (0.169)	-0.0066 (0.938)	-0.0692 (0.488)	0.1926 (0.001)
Maximum	0.7280 (0.005)	-11.3593 (0.361)	-25.3808 (0.110)	31.5671 (0.000)

P values are in the parenthesis

Source: Study data (2013)

From Table 4.11, financial leverage had a statistically significant negative effect on return on assets when working capital management1, working capital management policy 2 and dividend policy are evaluated at minimum. These results are consistent

with the findings of Abdul (2012) who found a significant negative relationship between financial leverage and return on assets. Abdul (2012), however, did not evaluate the marginal effect but rather the absolute effect of financial leverage on return on assets. The effect of financial leverage on return on assets was statistically significant and positive when working capital management 1, working capital management policy 2 and dividend policy were evaluated at maximum. These results implies that as leverage levels increase to high levels the effect changes from negative to positive. These results are consistent with the findings by Javed and Akhtar (2012) who found positive relationship between financial leverage and performance. The marginal effect of financial leverage on return assets is however insignificant, when working capital management1, working capital management policy 2 and dividend policy are evaluated at the mean.

Table 4.11 additionally indicate that the marginal effects of working capital management policy 1 on return on assets is statistically insignificant and negative when financial leverage and dividend policy are evaluated minimum, mean and maximum values. These results imply that the aggressiveness of financing policy had an insignificant negative effect on return on assets. These findings contradict the results of Vahid, Mohsen and Mohammadreza (2012) and Nazir and Afza (2009) who found a significant relationship between aggressiveness of financing policy and performance. These findings further contradict the results of the studies by Nyamao, Lumumba, Odondo and Otieno (2012) and Mathuva (2009) who established that working capital management practices influence performance.

Table 4.11 indicates that the marginal effects of working capital management 2 on return on assets is only significant when financial leverage and dividend policy are evaluated at minimum and insignificant when they were evaluated at mean and maximum values. The results at the mean and maximum values contradict the results of the studies by Vahid, Mohsen and Mohammadreza (2012) and Nazir and Afza (2009) who found a significant negative relationship between aggressiveness of investing policy and performance. The result at the minimum value was statistically significant and positive implying a negative relationship between aggressiveness of investing policy and return on assets. These findings at this point contradict Vahid, Mohsen and Mohammadreza (2012) who found a negative relationship between a conservative investing policy and performance.

Finally, table 4.11 indicate that the marginal effects of dividend policy on return on assets is statistically significant and positive when financial leverage working capital management policy1 and working capital management policy 2 are evaluated at the mean and maximum . These findings are consistent with Murekefu and Ouma (2012) and Amidu (2007) who found a significant positive relationship between dividend payout ratio and performance. The findings however indicate that the effect of dividend policy on return on assets is insignificant when financial leverage working capital management 4.11 policy 1 and working capital management policy 2 are evaluated the minimum values.

Table 4.12: Regression with Interaction Effects (Dependent variable: ROE)

Variable	Coefficient	Standard Error	Z	P>z
Financial leverage	-0.0356094*	0.0098043	-3.63	0.000
Working capital management policy1	-0.1392069***	0.0840023	-1.66	0.097
Working capital management policy 2	0.1868273*	0.0572881	3.26	0.001
Dividend policy	-0.0200241	0.0254469	-0.79	0.431
Size	0.0029246	0.0060414	0.48	0.628
GDP growth rate	0.0040417	0.0029631	1.36	0.173
Financial leverage and working capital management policy 1	-0.1486198*	0.0356258	-4.17	0.000
Financial leverage and working capital management policy2	0.0536812	0.046653	1.15	0.250
Financial leverage and dividend policy	0.071426*	0.0205688	3.47	0.001
Working capital management policy1 and dividend policy	0.2952529*	0.1152728	2.56	0.010
Working capital management policy 2 and dividend policy	-0.2069719**	0.0837058	-2.47	0.013
Constant	0.0775997	0.0938456	0.83	0.408
Wald chi2(11) = 24927.98, Prob > chi2 = 0.0000 (*), (**) and (***) denotes 1%, 5% and 10% level of significance respectively				

Source: Study data (2013)

Table 4.12 indicates that the interaction term between financial leverage and total current liabilities to total assets ratio is statistically significant at 1 percent level. The results are consistent with the findings of Ajibolade and Sankay (2013) to the extent that there is a statistically significant interaction effect between financial leverage and working capital management on profitability. However while Ajibolade and Sankay (2013) found a positive interaction effect between financial leverage and working capital management on performance, the results of this study indicate that the

interaction term between financial leverage and working capital management is negative. The interaction term between financial leverage and working capital management 2 was found to be statistically insignificant. However the interaction term between dividend policy and working capital management 1 was found to be statistically significant at 1 percent level while the interaction term between dividend policy and working capital management 2 was found to be statistically significant at 5 percent level.

For robustness of the analysis the researcher analysed the interpretation of the coefficients of the individual financing decisions in the model with interaction terms. Table 4.12 indicates the coefficient of leverage was negative 0.0356094 .This coefficient unlike in the model without the interaction terms ,does not represent the unique effect of financial leverage on return on equity as pointed out by ((Bauer& Curran, 2005 & Friedrich, 1982) on interpretation of coefficients of interaction terms. Instead, the coefficient implies that the effect of financial leverage on return on equity is different for different values of total current liabilities to total assets ratio (working capital management policy 1), total current assets to total assets ratio and dividend payout ratio.

The effect of financial leverage, working capital management policy 1, working capital management policy 2 and dividend policy on return on equity in the interaction model was calculated by estimating the marginal effects and conditional standard errors using Lincom module in Stata. Therefore, from the interaction model (Equation 3.8) the study estimated marginal effects for financial leverage, working capital

management policy 1, working capital management policy 2 and dividend policy as shown in Equation 4.5, 4.6, 4.7 and 4.8 respectively.

$$\frac{\partial \text{ROE}}{\partial \text{FINL}} = \beta_1 + \beta_7 \text{WCMP1} + \beta_8 \text{WCMP 2} + \beta_9 \text{DIVP} \dots \dots \dots (4.5)$$

$$\frac{\partial \text{ROE}}{\partial \text{wcmgt1}} = \beta_2 + \beta_7 \text{FINL} + \beta_{10} \text{DIVP} \dots \dots \dots (4.6)$$

$$\frac{\partial \text{ROE}}{\partial \text{wcmgt2}} = \beta_3 + \beta_8 \text{FINL} + \beta_{11} \text{DIV..P} \dots \dots \dots (4.7)$$

$$\frac{\partial \text{ROE}}{\partial \text{divpolicy}} = \beta_4 + \beta_9 \text{FINL} + \beta_{10} \text{WCMP1} + \beta_{11} \text{WCMP 2} \dots \dots \dots (4.8)$$

As evident in the above equations, there was need to choose some specific values for financial leverage, working capital management1, working capital management policy 2 and dividend policy in order to calculate marginal effects and their standard errors. Thus the study used minimum, maximum and mean values of financial leverage, working capital management policy 1, working capital management policy 2 and dividend policy as evaluation points. Various researchers evaluate marginal effects of interaction models at minimum, maximum or mean values (Friedrich, 1982). As shown in Table 4.13 the study calculated marginal effects which are evaluated at minimum, mean and maximum values of financial leverage, working capital management policy 1, working capital management policy 2 and dividend policy.

Table 4.13: Marginal effects (Dependent variable: ROE)

Evaluation Point	$\frac{\partial \text{ROE}}{\partial \text{FINL}}$	$\frac{\partial \text{ROE}}{\partial \text{wcmgt1}}$	$\frac{\partial \text{ROE}}{\partial \text{wcmgt2}}$	$\frac{\partial \text{ROE}}{\partial \text{divpolicy}}$
Minimum	-0.0355 (0.0000)	-0.1392 (0.097)	0.1868 (0.001)	-0.0206 (0.419)
Mean	-0.0233 (0.343)	-0.8248 (0.0000)	0.3877 (0.117)	0.3675 (0.001)
Maximum	1.9271 (0.001)	-113.9384 (0.0000)	38.6824 (0.317)	57.1860 (0.001)

P values are in the parenthesis

Source: Study data (2013)

Table 4.13 indicates that effect of financial leverage on return on equity is statistically significant when working capital management policy 1, working capital management policy 2 and dividend policy are evaluated at minimum and maximum. The effect at minimum values was negative while it was positive at maximum values of working capital management policy 1, working capital management policy 2 and dividend policy. At the minimum levels the results are consistent with Kaumbuthu (2011) who found a significant negative relationship between financial leverage and return on equity. However, the marginal effect is insignificant when working capital management1, working capital management 2 and dividend policy are evaluated at the mean. These findings are consistent with Modigliani and miller (1958) capital structure irrelevance theory which posits that the capital structure is irrelevant in determining the value of a firm.

Table 4.13 indicate that the marginal effects of working capital management policy 1 on return on equity is statistically significant and negative when financial leverage and dividend policy are evaluated minimum, mean and maximum values. This indicates that as aggressiveness of financing policy increase performance declines. These results are consistent with the findings of Vahid, Mohsen and Mohammadreza (2012) who found a negative relationship between increased aggressive financing policy and performance.

The marginal effects of working capital management policy 2 on return on equity was only significant when financial leverage and dividend policy were evaluated minimum and insignificant when they were evaluated at mean and maximum values. The results imply that at the minimum values of financial leverage and dividend policy as firm became more conservative in investing policy performance improved. These findings are consistent with the results obtained by Nazir and Afza (2009) who found that as aggressiveness of investing policy increases performance declines.

Finally, table 4.13 indicate that the marginal effects of dividend policy on return on equity is statistically insignificant when financial leverage working capital management policy1 and working capital management policy 2 are evaluated at minimum but is significant when financial leverage working capital management policy1 and working capital management policy 2 are evaluated mean and maximum values. This imply at high levels of leverage dividend payout has a positive significant effect on return on equity. These results are consistent with the study by Murekefu and

Ouma (2012) who found a positive relationship between dividend payout ratio and performance.

4.7 Results for sector-based differences in financing decisions

The thesis used *t*-test for group means and panel graphs to examine for the presence of any significant sector-based difference in the financing decisions of companies listed in the NSE, Kenya. The study adopted the criteria employed by the NSE to classify listed firms into different industries or sectors. The researcher came up with eight groups as follows: agriculture, commercial and services, telecommunications and technology, automobiles and accessories, construction, investment, manufacturing and allied, and finally energy and petroleum.

The study employed the *t*-test to determine whether there were any statistical differences in financial leverage, working capital management policy, dividend policy and performance between the sectors. The results of this analysis are presented in appendix 12. Specifically, the study investigated whether there were any differences in financial leverage within various sectors. The results shown in table A8(a) indicate that there was statistical difference in mean of financial leverage between the sectors of agriculture and communication, agricultural and automobile, agriculture and construction, agriculture and energy, communication and investment, and investment and construction.

According to the results of the analysis presented in A8(b) in the appendices regarding total current liabilities to total assets ratio, there was a statistically significant difference in the mean of total current liabilities to total assets ratio between

companies in the following sectors: agricultural and communication, agricultural and telecommunication, agricultural and automobile, agricultural and investment, agricultural and manufacturing, agricultural and construction, agricultural and energy, communication and automobiles, communication and investment, telecommunication and automobiles, telecommunication and investment, automobile and investment, automobile and manufacturing, investment and manufacturing, investment and construction, and investment and energy.

The results in table A8(c) in the appendices, further, indicate that the mean difference of total current assets to total assets ratio was statistically significant between companies in the following sectors: agricultural and communication, agricultural and automobile, agricultural and manufacturing, agricultural and construction, agricultural and energy, telecommunication and automobile, telecommunication and manufacturing, telecommunication and energy, automobile and investment, automobile and manufacturing, investment and manufacturing, investment and construction, and investment and energy.

Based on the results presented in table A8(d) in the appendices, the mean difference for dividend policy was statistically significant for the following pairs of sectors: agricultural and manufacturing, agricultural and energy, communication and investment, communication and manufacturing, communication and construction, communication and energy, telecommunication and manufacturing, telecommunication and construction, automobile and manufacturing, automobile and construction, investment and manufacturing, investment and construction, and

manufacturing and energy. Using the eight groups, the researcher further compared financial leverage, total current liabilities to total assets ratio, total current assets to total assets ratio and dividend policy for years 2006 to 2012 using panel graphs as shown in appendix 13.

Table 4.14: Summary of Hypotheses Tests (ROA as dependent variable)

Hypothesis Number	Causal Relationship	Reject H_0 /fail to reject H_0
i.	There is no statistically significant relationship between financial leverage and return on assets of non-financial companies listed in the NSE	Fail to reject H_0
ii.	There is no statistically significant relationship between working capital management policy(1) and return on assets of non-financial companies listed in the NSE-TCL/TA(aggressive financing policy)	Reject H_0
	There is no statistically significant relationship between working capital management policy(2) and return on assets of non-financial companies listed in the NSE-TCA/TA(aggressive financing policy)	Reject H_0
iii.	There is no statistically significant relationship between dividend policy and return on assets of non-financial companies listed in the NSE	Reject H_0
iv.	Available internal cash flow does not mediate the relationship between financing decisions and return on assets of non-financial companies listed in the NSE	Fail to reject H_0
v.	The coefficient of the interaction terms is not statistically significant implying that the interacted terms ,that is, financial leverage, working capital management and dividend policy had no effect on the return on assets of non-financial companies listed in the NSE	Reject H_0
vi.	There is no statistically significant industry/sector based difference in the financing decisions of non-financial companies listed in the NSE	Reject H_0

Source: Study data (2013)

Table 4.15: Summary of Hypotheses Tests (ROE as dependent variable)

Hypothesis number	Causal Relationship	Reject H_0 /fail to reject H_0
i.	There is no significant relationship between financial leverage and return on equity of non-financial companies listed in the NSE	Reject H_0
ii.	There is no significant relationship between working capital management policy(1) and return on equity of non-financial companies listed in the NSE-TCL/TA(aggressive financing policy)	Fail to reject H_0
	There is no significant relationship between working capital management policy(2) and return on equity of non-financial companies listed in the NSE-TCA/TA(aggressive investing policy)	Reject H_0
iii.	There is no statistically significant relationship between dividend policy and return on equity of non-financial companies listed in the NSE	Fail to reject H_0
iv.	Available internal cash flow does not mediate the relationship between financing decisions and return on equity of non-financial companies listed in the NSE	Fail to reject H_0
v.	The coefficient of the interaction terms is not statistically significant implying that the interacted terms ,that is, financial leverage, working capital management and dividend policy had no effect on the return on equity\ of non-financial companies listed in the NSE	Reject H_0
vi.	There is no statistically significant industry/sector based difference in the financing decisions of non-financial industries in the NSE	Reject H_0

Source: Study data (2013)

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the study, it also presents the conclusions drawn, the recommendations made and suggested areas for further research.

5.2 Summary

Despite the private sector and government effort to create an enabling business environment for doing business and investment, the corporate sector in Kenya has experience mixed performance with some companies reporting impressive performance while others performing dismally. The corporate managers have lacked guidance on financing decisions that result in the outcome reflected in performance. Specifically, managers have lacked clear guidance on levels of financial leverage, aggressiveness of working capital management and dividend policy. This study sought to empirically determine the effect of financing decisions on performance of non-financial companies listed on the NSE, Kenya. The study used a non-experimental research design. A census of 42 non-financial companies listed in the NSE, Kenya was taken. Panel data of the companies covering 2006 to 2012 was used in the analysis. This section gives a summary of the findings of this study.

The first objective of the study was to investigate the effect of financial leverage on performance of non-financial companies listed in the NSE, Kenya. Using FGLS estimation technique, the study established that there was an insignificant negative relationship between increased use of leverage and performance as measured by ROA,

but a significant negative effect on ROE. It was apparent that as a company increases its long term debt, the performance of the firm declines.

The second objective was to analyse the effect of working capital management on performance of non-financial companies listed in the NSE, Kenya. The study measured working capital management in terms of aggressive financing policy (working capital management policy 1) and aggressive investing policy (working capital management policy 2). Aggressive financing policy was measured by the total current liabilities to total assets ratio. A high ratio indicates an aggressive financing policy. The study established that the performance of the firm improved with adoption of an aggressive financing policy. Specifically, the findings of this study indicate that as the total current liabilities to total assets ratio increases the performance improves.

Aggressive investing policy was measured by total current assets to total assets ratio. A low ratio indicates an aggressive investing policy and a high ratio indicate a conservative investing policy. The findings of the study indicate that increasing the proportion of current assets in relation to total assets enhanced performance as measured by both ROA and ROE. These findings imply that there is a negative relationship between aggressive investing policy and performance.

The third objective of the study was to investigate the effect of dividend policy on performance of non-financial companies listed in the NSE. Dividend policy was measured in terms of dividend payout ratio. The study established that there was a significant positive relationship between dividend payment and performance as measured by ROA of non-financial companies listed in the NSE, Kenya. The study

however established that dividend payment had a statistically insignificant effect on performance as measured by ROE of non-financial companies listed in the NSE, Kenya.

The fourth objective was to establish whether internal cash flows mediate the relationship between financial leverage, working capital management policy and dividend policy and performance of non-financial companies listed in the NSE. Using stepwise regression, the Sobel-Goodman test established that internal cash flow available did not mediate the relationship between financing decisions and performance of non-financial companies listed in the NSE, Kenya. The results of the study, however, established that internal cash flow available had a significant positive relationship with performance of non-financial companies listed in the NSE, Kenya.

The fifth objective of the study was to establish the interactive effect of the financial leverage, working capital management policy and dividend policy on the performance of non-financial companies listed in the NSE, Kenya. Interaction terms between the components of the financing decisions were created consisting of the following elements: financial leverage and total current liabilities to total assets ratio, total current assets to total assets ratio, financial leverage and dividend policy, dividend policy and total current liabilities to total assets; and dividend policy and total current assets to total assets ratio. The study established that all coefficients of the interaction between financial leverage and dividend policy, interaction between total current liabilities to total assets ratio (working capital management policy 1) and the interaction between dividend policy and total current assets to total assets

ratio(working capital management policy 2) were all statistically significant, for ROA model. However the interaction between financial leverage and working capital management policy was insignificant.

For ROE model all the interaction terms were statistically significant except for the interaction between financial leverage and total current liabilities to total assets ratio and financial leverage and total current assets to total assets ratio. The study observed that before inclusion of interaction terms financial leverage had an insignificant negative effect on ROA, however after inclusion of the interaction terms the results indicated that it had a significant negative effect.

The sixth objective sought to examine if there were any significant differences between sectors regarding financial leverage, working capital management policy, and dividend policy. The study established that there were statistically significant differences in the means of financial leverage, working capital management policy, and dividend policy between the different sectors of companies listed in the NSE.

5.3 Conclusions

The study concluded that increased financial leverage has a negative effect on performance as measured by ROE of non-financial companies listed in the NSE, Kenya. The study however concluded that financial leverage had an insignificant effect on ROA. The results of the study therefore imply that the Agency theory which postulates that financial leverage mitigates against the agency problem is not applicable among non-financial companies listed in NSE, Kenya. The study

established that as a company increases financial leverage the performance as measured by ROE declines contrary to expectations based on the agency theory.

This study further established that increased aggressiveness of financing working capital management enhanced performance hence firms that maintain a high total current liabilities to total assets will perform better in terms of profitability measured by ROA than their counterparts that have a lower ratio. This study therefore concluded that the use of current liabilities to finance assets should be more preferable than using long term debt (financial leverage). This is probably because current liabilities are less costly than long-term debt.

The study additionally concluded that following an increasing aggressiveness of investing working capital management will affect the performance negatively. The study established that paying more dividends enhances performance as measured by ROA. The study further concluded that internal cash flow does not mediate the relationship between financing decisions and performance. Cash holding, however, has a significant direct effect on performance as measured by return on assets and return on equity contrary to the theoretical belief that increased cash holding increases the agency cost and has a negative effect on performance.

The study established that the interaction effect between financial leverage and dividend policy, financial leverage and working capital management policy and dividend policy and financial leverage for both ROA and ROE. The study hence concluded that financing decisions do not only affect performance directly but also interact with each other to jointly affect performance.

The findings of this study clearly indicate that it is necessary to measure different facets of performance as they respond differently to the various financing decisions. This conclusion is supported by the findings as follows: financial leverage has an insignificant negative effect on ROA while it has a negative significant effect on ROE; working capital management 1 (current liabilities to total assets ratio) has a significant effect on ROA but insignificant effect on ROE; Working capital management 2 (total current assets to total assets ratio) has a significant positive effect on both ROA and ROE; Dividend payout ratio has a significant positive effect on ROA but an insignificant negative effect on ROE. Different stakeholders may define performance from different perspectives which may not be necessarily the same.

5.4 Policy implications and recommendations of the study

The results of this study have significant policy implications at the firm, industry, and macro levels. Firstly, this study found out that performance reduced as financial leverage increased. Specifically results of hypothesis i testing imply that as financial leverage is increased return on equity reduces, however the level of financial leverage has no significant effect on return on assets. The study therefore recommends that corporate managers should reduce financial leverage in order to enhance return on equity. This study further recommends that the government should regulate the financial sector through various monetary and fiscal policies in order to reduce the cost of borrowing given that many companies rely on external borrowing to finance their cash requirements. The high interest rate in Kenya is an impediment to the projected growth of the corporate sector as envisioned by Kenya Vision 2030. Lowly geared firms perform better than their counterparts that are highly geared

Secondly, the findings of hypothesis ii (a) testing imply that as total current assets to total liabilities ratio increases return on assets improves, however working capital management financing policy has no significant effect on return on equity. This study therefore provides evidence that the use of more short-term financing enhances return on assets compared to the use of long-term debt (financial leverage). The study consequently recommends that management of non-financial companies should adopt aggressive financing policy in order to improve performance as measured by return on assets. This means that the managers of non-financial companies listed in the NSE, should concentrate on using more current liabilities to finance assets. The CMA should create redeemable short-term financing products in addition to corporate bonds which could be traded in the stock market.

Thirdly, the conclusions of hypothesis test ii (b) imply that as total current assets to total assets increases performance as measured by both return on assets and return on equity. The study therefore recommends that corporate managers should follow a conservative investment policy in order to enhance performance as measured by both return on assets and return on equity. This implies that the managers should maintain a higher level of investment in liquid assets relative to non-current assets.

Fourthly, the conclusions of hypothesis iii testing imply that increasing the dividend payout ratio enhances return on assets but has no significant effect on return on equity. The study therefore recommends that managers should pay more dividends from earnings in order to enhance return on assets. CMA should formulate policy guidelines

that will compel managers to pay dividends. Payment of dividends will encourage investments as well as enhance the performance of the company as measured by return on assets.

Fifthly, although the findings of hypothesis iv testing imply that internal cash flow does not mediate the relationship between the various financing decisions and performance, it does have a significant direct effect performance. Contrary to the belief that holding cash has a negative impact on performance, this study has shown that indeed, companies with high cash ratios perform better than those with less cash ratios. This is probably because companies with high cash ratio are in a better position to take advantage of arising opportunities. This study therefore recommends that managers of non-financial companies listed in the NSE should maintain a high cash ratio.

Finally, the findings of hypothesis v imply that financing decisions have an interaction effect on performance. The study consequently recommends that managers of non-financial companies should make financing decisions in relation to each other and not in isolation as their interaction effect on performance is significant. Specifically financial leverage decisions should be made in relation to dividend decisions. Similarly working capital management and dividend decisions should be made in relation to each other. Academicians in finance should enhance the robustness in analysing financing decisions by considering the interaction effect between the predictor variables on the dependent variable. The traditional capital structure theories should be re-evaluated using models that incorporate interaction.

5.5 Suggestion for Further Research

A study should be undertaken to compare the financings decisions of non-financial companies listed on the NSE and those not listed and the effects of these decisions on performance. In addition, future studies could be extended to analyse financial decisions and their effect on performance across the countries especially those in the East African Community.

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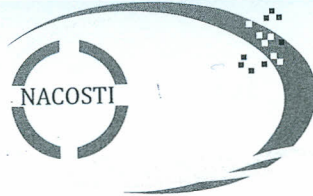
APPENDICES

Appendix 1: Companies Listed In the NSE

SECTOR/SEGMENT	COMPANY
AGRICULTURAL	1. Eaagads Ltd
	2. Kapchorua Tea Co. Ltd
	3. Kakuzi Ltd.
	4. Limuru Tea Co. Ltd
	5. Rea Vipingo Plantations Ltd
	6. Sasini Ltd
	7. Williamson Tea Kenya Ltd
COMMERCIAL AND SERVICES	8. Express Ltd
	9. Kenya Airways Ltd
	10. Nation Media Group
	11. Standard Group Ltd
	12. TPS Eastern Africa (Serena)
	13. Scangroup Ltd
	14. Uchumi Supermarket Ltd
	15. Hutchings Biemer Ltd
	16. Longhorn Kenya Ltd
TELECOMMUNICATION AND TECHNOLOGY	17. AccessKenya Group Ltd
	18. Safaricom Ltd
AUTOMOBILES AND ACCESSORIES	19. Car and General (K) Ltd
	20. CMC Holdings Ltd
	21. Sameer Africa Ltd
	22. Marshalls (E.A.) Ltd
BANKING	23. Barclays Bank Ltd
	24. CFC Stanbic Holdings Ltd
	25. I&M Holdings Ltd
	26. Diamond Trust Bank Kenya Ltd
	27. Housing Finance Co Ltd
	28. Kenya Commercial Bank Ltd
	29. National Bank of Kenya Ltd
	30. NIC Bank Ltd
	31. Standard Chartered Bank Ltd
	32. Equity Bank Ltd

	33. The Co-operative Bank of Kenya Ltd
INSURANCE	34. Jubilee Holdings Ltd
	35. Pan Africa Insurance Holdings Ltd
	36. Kenya Re-Insurance Corporation Ltd
	37. Liberty Kenya Holdings Ltd
	38. British-American Investments Company (Kenya) Ltd
	39. CIC Insurance Group Ltd
INVESTMENT	40. Olympia Capital Holdings ltd
	41. Centum Investment Co Ltd
	42. Trans-Century Ltd
MANUFACTURING AND ALLIED	43. B.O.C Kenya Ltd
	44. British American Tobacco Kenya Ltd
	45. Carbacid Investments Ltd
	46. East African Breweries Ltd
	47. Mumias Sugar Co. Ltd
	48. Unga Group Ltd
	49. Eveready East Africa Ltd
	50. Kenya Orchards Ltd
	51. A.Baumann CO Ltd
CONSTRUCTION AND ALLIED	52. Athi River Mining
	53. Bamburi Cement Ltd
	54. Crown Berger Ltd
	55. E.A.Cables Ltd
	56. E.A.Portland Cement Ltd
ENERGY AND PETROLEUM	57. KenolKobil Ltd
	58. Total Kenya Ltd
	59. KenGen Ltd Ord
	60. Kenya Power & Lighting Co Ltd
	61. Umeme Ltd

Source: Nairobi Securities Exchange (2013)



**NATIONAL COMMISSION FOR SCIENCE,
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Date:

When replying please quote

24th September, 2013

Our Ref: NACOSTI/RCD/14/013/1681

Lucy Wamugo Mwangi
Kenyatta University
P.O.Box 43844-00100
Nairobi.

RE: RESEARCH AUTHORIZATION

Following your application dated 11th September, 2013 for authority to carry out research on "*Effects of financing decisions on financial performance of Companies listed in Nairobi Securities Exchange,*" I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 31st December, 2013.

You are advised to report to the Managing Director, Nairobi Securities Exchange before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The Managing Director
Nairobi Securities Exchange.

Appendix 3(b): Document Review Guide; Data Abstraction Tool

Variable	Measurement	Formula	Data	Source; Financial statements 2006-2012
Financial leverage	Debt /equity ratio	Long term debt /equity	Long term liabilities	Statement of financial position
			Equity	Statement of financial position
Working capital management policy 1	Total current liabilities to total assets ratio(aggressive investment policy-AIP)	Total current liabilities/Total assets	Total current liabilities	Statement of financial position
			Total assets	Statement of financial position
Working capital management policy 2	Total current assets to total assets ratio.(aggressive financing policy-AFP)	Total current assets /Total assets	Total current asset	Statement of financial position
			Total assets	Statement of financial position
Dividend policy	Dividend payout ratio	<u>Dividend per share</u> earnings per share	Dividend per share	Notes to the accounts
			Earnings per share	Income statement
Internal cash flow available	Cash ratio	Cash +cash equivalents/current liabilities	Cash	Statement of financial position
			Cash equivalents	Statement of financial position
			Current liabilities	Statement of financial position
performance	ROA	Profit before interest and tax/total assets	Net profit before interest and tax	Income statement
			Total assets	Statement of financial position
Performance	ROE	Profit before interest and tax/equity	Net profit before interest and tax	Income statement
			Equity	Statement of financial position
Size of the firm	Total assets	Current assets +non-current assets	Total assets	Statement of financial position
State of the economy	GDP growth rate			Kenya bureau of statistics 2012

Source: Researcher (2013)

Appendix 4: Test for Autocorrelation

Table A1: Test for Autocorrelation

Wooldridge test for autocorrelation in panel data	
H0: no first-order autocorrelation	
F(1, 39) =	93.710
Prob > F =	0.0000

Source: Study data (2013)

Appendix 5: Test for Heteroskedasticity

Table A2: Test for Heteroskedasticity

Likelihood-ratio test	LR chi Square (42) =	605.30
(Assumption: homosk nested in hetero)	Prob > chi2	= 0.0000

Source: Study data (2013)

Appendix 6: Unit Root Test

Table A3 (a): Unit Root Test for ROA without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	342.3625	0.0000
Inverse normal	Z	-5.6816	0.0000
Inverse logit t(189)	L*	-11.9805	0.0000
Modified inv. chi-squared	Pm	20.7416	0.0000
Number of panels = 42		number of periods = 6.5	

Source: Study data (2013)

Table A3 (b): Unit Root Test for ROA with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	172.5551	0.0000
Inverse normal	Z	-7.0813	0.0000
Inverse logit t(189)	L*	-7.0059	0.0000
Modified inv. chi-squared	Pm	7.8317	0.0000
Number of panels = 42, Avg. number of periods = 6.52			

Source: Study data (2013)

Table A3 (c): Unit Root Test for FINL without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	253.6901	0.0000
Inverse normal	Z	-3.8884	0.0001
Inverse logit t(184)	L*	-8.4821	0.0000
Modified inv. chi-squared	Pm	13.7314	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (d): Unit Root Test for FINL with Drift

Test		Statistic	p-value
Inverse chi-squared(72)	P	159.7306	0.0000
Inverse normal	Z	-6.2880	0.0000
Inverse logit t(184)	L*	-6.2666	0.0000
Modified inv. chi-squared	Pm	7.3109	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3(d): Unit Root Test for WCMP1 without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	374.0676	0.0000
Inverse normal	Z	-5.4209	0.0000
Inverse logit t(189)	L*	-12.7543	0.0000
Modified inv. chi-squared	Pm	23.2481	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (e): Unit Root Test for WCMP1 with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	176.3838	0.0000
Inverse normal	Z	-6.7874	0.0000
Inverse logit t(189)	L*	-6.8872	0.0000
Modified inv. chi-squared	Pm	8.1422	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (f): Unit Root Test for WCMP2 without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	207.4211	0.0000
Inverse normal	Z	-0.9590	0.1688
Inverse logit t(189)	L*	-4.9383	0.0000
Modified inv. chi-squared	Pm	10.0735	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (g): Unit Root Test for WCMP2 with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	145.7703	0.0000
Inverse normal	Z	-5.7502	0.0000
Inverse logit t(189)	L*	-5.5972	0.0000
Modified inv. chi-squared	Pm	5.6591	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (h): Unit Root Test for DIVP without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	382.3009	0.0000
Inverse normal	Z	-6.0332	0.0000
Inverse logit t(159)	L*	-14.7629	0.0000
Modified inv. chi-squared	Pm	23.8990	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (i): Unit Root Test for DIVP with Drift

Test		Statistic	p-value
Inverse chi-squared(64)	P	177.4790	0.0000
Inverse normal	Z	-7.1269	0.0000
Inverse logit t(164)	L*	-7.6912	0.0000
Modified inv. chi-squared	Pm	9.3877	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (j): Unit Root Test for ICFA without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	225.8319	0.0000
Inverse normal	Z	-2.7303	0.0032
Inverse logit t(184)	L*	-6.1990	0.0000
Modified inv. chi-squared	Pm	11.5290	0.0000
Number of panels = 42		number of periods = 6.36	

Source: Study data (2013)

Table A3 (k): Unit Root Test for ICFA with Drift

Test		Statistic	p-value
Inverse chi-squared(72)	P	153.1570	0.0000
Inverse normal	Z	-5.9553	0.0000
Inverse logit t(184)	L*	-5.9973	0.0000
Modified inv. chi-squared	Pm	6.7631	0.0000
Number of panels = 42		number of periods = 6.36	

Source: Study data (2013)

Table A3 (l): Unit Root Test for ROE without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	469.3111	0.0000
Inverse normal	Z	-7.1266	0.0000
Inverse logit t(189)	L*	-17.3358	0.0000
Modified inv. chi-squared	Pm	30.7777	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (m): Unit Root Test for ROE with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	179.0162	0.0000
Inverse normal	Z	-7.1437	0.0000
Inverse logit t(189)	L*	-7.2215	0.0000
Modified inv. chi-squared	Pm	8.3557	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (m): Unit Root Test for Size without Drift

Test		Statistic	p-value
Inverse chi-squared(80)	P	187.2344	0.0000
Inverse normal	Z	1.3221	0.9069
Inverse logit t(184)	L*	-1.5688	0.0592
Modified inv. chi-squared	Pm	8.4776	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (n): Unit Root Test for Size with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	120.5255	0.0009
Inverse normal	Z	-3.3168	0.0005
Inverse logit t(189)	L*	-3.2027	0.0008
Modified inv. chi-squared	Pm	3.6115	0.0002
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (n): Unit Root Test for GDPGR without Drift

Test		Statistic	p-value
Inverse chi-squared(82)	P	1010.0128	0.0000
Inverse normal	Z	-27.5135	0.0000
Inverse logit t(189)	L*	-45.2723	0.0000
Modified inv. chi-squared	Pm	72.4656	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Table A3 (o): Unit Root Test for GDPGR with Drift

Test		Statistic	p-value
Inverse chi-squared(74)	P	300.5242	0.0000
Inverse normal	Z	-12.7424	0.0000
Inverse logit t(189)	L*	-13.4011	0.0000
Modified inv. chi-squared	Pm	18.2113	0.0000
Number of panels = 42		number of periods = 6.52	

Source: Study data (2013)

Appendix 7: Testing for Random Effects

Table A4: Testing for Random Effects or simple OLS for ROE

Breusch and Pagan Lagrangian multiplier test for random effects $roaefinperf[companyid,t] = Xb + u[companyid] + e[companyid,t]$ Estimated results:		
	Var	sd = sqrt(Var)
Return on equity	1.458731	1.207779
E	.2138253	.4624125
U	.0279552	.1671981
Test: $Var(u) = 0$ Chibar2 (01) = 7.72 Prob > chibar2 = 0.0027		

Source: Study data (2013)

Appendix 8: Mediation Test (ROA model)

Table A5 (a): Regressing ROA on Mediating Variable

Variable	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Internal cashflow available	-.0083626	.0022982	-3.64	0.000	-.012867	-.0038582
Financial leverage	-.0001197	.0003545	-0.34	0.736	-.0008144	.0005751
Working capital management 1	.1117465	.076194	1.47	0.142	-.037591	.261084
Working capital management 2	.0568311	.030054	1.89	0.059	-.0020736	.1157358
Dividend policy	.0026328	.0098178	0.27	0.789	-.0166098	.0218754
Size	.0072945	.0122745	0.59	0.552	-.016763	.031352
GDP growth rate	.0082121	.0089368	0.92	0.358	-.0093037	.0257278
Constant	-.0900865	.1989705	-0.45	0.651	-.4800615	.2998885
R-sq: within = 0.0887 Obs per group: min = 2 Between = 0.1332 avg = 6.4 Overall = 0.1015 max = 7 Wald chi2(7) = 27.58 corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0003 sigma_u .11688473 sigma_e .26366953 rho .16423946 (fraction of variance due to u_i)						

Source: Study data (2013)

Table A5 (b): Regressing Independent variables on ROA

Variable	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Financial leverage	-.0000707	.0003615	-0.20	0.845	-.0007792	.0006378
Working capital management 1	.137367	.077546	1.77	0.076	-.0146203	.2893543
Working capital management 2	.0545505	.0302846	1.80	0.072	-.0048062	.1139071
Dividend policy	.0027655	.0099107	0.28	0.780	-.0166591	.0221902
Size	-.0022692	.0124398	-0.18	0.855	-.0266507	.0221122
GDP growth rate	.0107327	.0088885	1.21	0.227	-.0066884	.0281538
Constant	.0295431	.2025153	0.15	0.884	-.3673796	.4264658
R-sq: within = 0.0557 Obs per group: min = 2 Between = 0.0252 avg = 6.5 Overall = 0.0445 max = 7 Wald chi2 (6) = 14.04 corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0292 sigma_u .1366826 sigma_e .2641892 rho .21114988 (fraction of variance due to u_i)						

Source: Study data (2013)

Table 5 (c): Regressing Independent variables on Mediator

	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Financial leverage	-.0043497	.0094581	-0.46	0.646	-.0228872	.0141879
Working capital management 1	-2.514989	2.018023	-1.25	0.213	-6.470241	1.440264
Working capital management 2	.0722287	.8097672	0.09	0.929	-1.514886	1.659343
Dividend policy	.0043014	.2641066	0.02	0.987	-.513338	.5219407
Size	.7952636	.3161234	2.52	0.012	.1756731	1.414854
GDP growth rate	-.3209752	.2426363	-1.32	0.186	-.7965337	.1545832
_cons	-8.961241	5.168724	-1.73	0.083	-19.09175	1.169272
R-sq: within = 0.0414 Obs per group: min = 2 Between = 0.0421 avg = 6.4 Overall = 0.0363 max = 7 Wald chi2 (6) = 10.30 corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.1124 sigma_u 2.6602126 sigma_e 7.1901618 rho .12040344 (fraction of variance due to u_i)						

Appendix 9: Mediation Test (ROE model)

Table A6 (a): Regressing ROE on Mediating Variable

Variable	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Internal cashflow available	-.0086342	.0040161	-2.15	0.032	-.0165057	-.0007628
Financial leverage	-.0224836	.0006101	-36.85	0.000	-.0236794	-.0212878
Working capital management 1	-.158847	.1292936	-1.23	0.219	-.4122578	.0945637
Working capital management 2	.0703257	.0525408	1.34	0.181	-.0326523	.1733037
Dividend policy	.0176397	.0171119	1.03	0.303	-.015899	.0511785
Size	.0139101	.0200174	0.69	0.487	-.0253234	.0531435
GDP growth rate	.0113968	.0160115	0.71	0.477	-.0199851	.0427787
Constant	-.0536674	.3263253	-0.16	0.869	-.6932533	.5859185
R-sq: within = 0.7694 Obs per group: min = 2 Between = 0.9721 avg = 6.4 Overall = 0.8411 max = 7 Wald chi2 (7) = 1381.11 corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000 sigma_u .13753291 sigma_e .46915504 rho .07913631 (fraction of variance due to u_i)						

Source: Study data (2013)

Table A6 (b): Regressing Independent variables on ROE

Variable	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Financial leverage	- .0224645	.00061	-36.83	0.000	-.02366	-.0212689
Working capital management 1	- .1478927	.1298419	-1.14	0.255	-.4023781	.1065927
Working capital management 2	.0675274	.0522552	1.29	0.196	-.0348908	.1699457
Dividend policy	.0188966	.0170399	1.11	0.267	-.014501	.0522942
Size	.0041694	.0200468	0.21	0.835	-.0351217	.0434604
GDP growth rate	.0137342	.0156675	0.88	0.381	-.0169734	.0444419
Constant	.0731926	.3277655	0.22	0.823	-.569216	.7156011

R-sq: within = 0.7688	Obs per group: min = 2
Between = 0.9692	avg = 6.5
Overall = 0.8368	max = 7
Wald chi2(6) = 1378.93	
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.0000
sigma_u .16719809	
sigma_e .46241251	
rho .11562222 (fraction of variance due to u_i)	

Source: Study data (2013)

Table A6 (c): Regressing Independent variables on Mediator
 Dependent Variable icfavailable

	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Financial leverage	-.0043497	.0094581	-0.46	0.646	-.0228872	.0141879
Working capital management 1	2.514989	2.018023	-1.25	0.213	-6.470241	1.440264
Working capital management 2	.0722287	.8097672	0.09	0.929	-1.514886	1.659343
Dividend policy	.0043014	.2641066	0.02	0.987	-.513338	.5219407
Size	.7952636	.3161234	2.52	0.012	.1756731	1.414854
GDP growth rate	-.3209752	.2426363	-1.32	0.186	-.7965337	.1545832
_cons	8.961241	5.168724	-1.73	0.083	-19.09175	1.169272

R-sq: within = 0.0414	Obs per group: min = 2
between = 0.0421	avg = 6.4
overall = 0.0363	max = 7
Wald chi2(6) = 10.30	
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.1124
sigma_u 2.6602126	
sigma_e 7.1901618	
rho .12040344 (fraction of variance due to u_i)	

Source: Study data (2013)

Appendix 10: Sobel–Goodman Mediation Test for ROA model

Table A7 (a): ICFA as mediator and FINL as Independent variable

Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=272
				F(1, 270)=0.28
Model	.025209569	1	.025209569	Prob > F=0.5972
Residual	24.3158825	270	.090058824	R-squared=0.0010
				Adj R-squared=-0.0027
Total	24.3410921	271	.089819528	Root MSE=.3001

Return on assets	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
Financial leverage	-.0001689	.0003193	-0.53	0.597	-.0007975 .0004596
_cons	.1179366	.0182868	6.45	0.000	.0819338 .1539395

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=272
				F(1, 270)=0.05
Model	2.65634898	1	2.65634898	Prob > F=0.8312
Residual	15751.4428	270	58.338677	R-squared=0.0002
				Adj R-squared=-0.0035
Total	15754.0991	271	58.1332072	Root MSE=7.638

Internal cashflow available	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
Financial leverage	-.0017339	.0081257	-0.21	0.831	-.0177317 .0142639
_cons	1.057469	.4654286	2.27	0.024	.1411383 1.9738

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=272
				F(2, 269)=9.12
Model	1.54553812	2	.772769062	Prob > F=0.0001
Residual	22.795554	269	.084741836	R-squared=0.0635
				Adj R-squared=0.0565
Total	24.3410921	271	.089819528	Root MSE=.2911

Return on assets	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Internal cashflow available	-.0098245	.0023195	-4.24	0.000	-.0143911	-.0052578
Financial leverage	-.0001859	.0003097	-0.60	0.549	-.0007957	.0004238
_cons	.1283257	.0179075	7.17	0.000	.0930689	.1635824

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.00001703	.00007993	.2131	.83123733
Goodman-1	(Aroian)	.00001703	.00008212	.2074	.83567667
Goodman-2		.00001703	.00007768	.2193	.82641762

		Coef	Std Err	Z	P>Z
a coefficient	=	-.001734	.008126	-.213385	.831027
b coefficient	=	-.009824	.002319	-4.23565	.000023
Indirect effect	=	.000017	.00008	.213115	.831237
Direct effect	=	-.000186	.00031	-.600378	.548254
Total effect	=	-.000169	.000319	-.529078	.596751

Proportion of total effect that is mediated: -.10084826

Ratio of indirect to direct effect: -.09160959

Ratio of total to direct effect: .90839041

Bootstrap replications (1000)

----- 1 ----- 2 ----- 3 ----- 4 ----- 5

Bootstrap results Number of obs = 272

Replications = 1000

Command: sgmediation roaфинperf, mv(icfavailable) iv(finlev)

 _bs_1: r(ind_eff)

 _bs_2: r(dir_eff)

	Observed Coef.	Bootstrap Std. Err.	Z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	.000017	.0004435	0.04	0.969	-.0008522	.0008863
_bs_2	-.0001859	.0024578	-0.08	0.940	-.0050032	.0046313

Source: Study data (2013)

Table A7 (b): ICF available as mediator and wcmgt1 as Independent variable
Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=272
				F(1, 270)=5.94
Model	.524236853	1	.524236853	Prob > F=0.0154
Residual	23.8168552	270	.088210575	R-squared=0.0215
				Adj R-squared=0.0179
Total	24.3410921	271	.089819528	Root MSE .297

Return on assers	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management 1	.1526961	.0626361	2.44	0.015	.0293789	.2760133
_cons	.0674023	.0271624	2.48	0.014	.0139253	.1208792

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs =272
				F(1, 270)=3.12
Model	179.817872	1	179.817872	Prob > F =0.0786
Residual	15574.2813	270	57.6825232	R-squared =0.0114
				Adj R-squared =0.0078
Total	15754.0991	271	58.1332072	Root MSE =7.5949

Internal cashflow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management 1	-2.828008	1.601719	-1.77	0.079	-5.981454	.3254388
_cons	1.965687	.6945912	2.83	0.005	.5981838	3.333191

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=272
				F(2, 269)=11.19
Model	1.8701528	2	.9350764	Prob > F=0.0000
Residual	22.4709393	269	.08353509	R-squared=0.0768
				Adj R-squared=0.0700
Total	24.3410921	271	.089819528	Root MSE=.28902

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflowavailable	-.0092962	.002316	-4.01	0.000	-.0138559	-.0047365
Working capital management 1	.1264064	.0613044	2.06	0.040	.005709	.2471038
_cons	.0856757	.0268219	3.19	0.002	.0328682	.1384832

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.02628969	.01626669	1.616	.10605804
Goodman-1	(Aroian)	.02628969	.01668429	1.576	.1150914
Goodman-2		.02628969	.01583807	1.66	.09693363

	Coef	Std Err	Z	P>Z
a coefficient	-2.82801	1.60172	-1.76561	.077462
b coefficient	-.009296	.002316	-4.01397	.00006
Indirect effect	.02629	.016267	1.61617	.106058
Direct effect	.126406	.061304	2.06195	.039213
Total effect	.152696	.062636	2.43783	.014776

Proportion of total effect that is mediated: .17217005

Ratio of indirect to direct effect: .20797756

Ratio of total to direct effect: 1.2079776

Bootstrap replications (1000)

1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

Bootstrap results Number of obs = 272

Replications = 1000

Command: sgmediation roaфинperf, mv(icfavailable) iv(wcmgt1)

_bs_1: r(ind_eff)

_bs_2: r(dir_eff)

	Observed Coef.	Bootstrap Std. Err.	Z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	.0262897	.088955	0.30	0.768	-.1480589	.2006383
_bs_2	.1264064	.1248889	1.01	0.311	-.1183713	.3711841

Source: Study data (2013)

Table A7 (c): ICF available as mediator and wcmgt2 as Independent variable
Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=272
				F(1, 270)=10.22
Model	.887889066	1	.887889066	Prob > F=0.0016
Residual	23.453203	270	.086863715	R-squared=0.0365
				Adj R-squared=0.0329
Total	24.3410921	271	.089819528	Root MSE=.29473

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management 2	.0862064	.0269637	3.20	0.002	.0331206	.1392922
_cons	.0737222	.0224136	3.29	0.001	.0295946	.1178499

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=272
				F(1, 270)=1.03
Model	59.9511042	1	59.9511042	Prob > F=0.3107
Residual	15694.148	270	58.1264742	R-squared=0.0038
				Adj R-squared=0.0001
Total	15754.0991	271	58.1332072	Root MSE=7.6241

Internal cash flow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management 2	-.7083674	.6975044	-1.02	0.311	-2.081606	.6648716
_cons	1.402997	.5798014	2.42	0.016	.26149	2.544503

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=272
				F(2, 269)=13.82
Model	2.26842167	2	1.13421083	Prob > F=0.0000
Residual	22.0726704	269	.082054537	R-squared=0.0932
				Adj R-squared=0.0865
Total	24.3410921	271	.089819528	Root MSE=.28645

Table A7 (d): ICF available as mediator and dividend policy as Independent variable
Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=269
				F(1, 267)=0.78
Model	.069514509	1	.069514509	Prob > F=0.3787
Residual	23.8712181	267	.089405311	R-squared=0.0029
				Adj R-squared= -0.0008
Total	23.9407326	268	.089331092	Root MSE=.29901

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Dividend policy	.0088496	.0100362	0.88	0.379	-	.0286098
					.0109105	
_cons	.1156289	.0188427	6.14	0.000	.0785298	.1527281

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=269
				F(1, 267)=0.05
Model	2.84078116	1	2.84078116	Prob > F=0.8265
Residual	15747.5492	267	58.9795849	R-squared=0.0002
				Adj R-squared= -0.0036
Total	15750.3899	268	58.7701117	Root MSE=7.6798

Internal cashflow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Dividend policy	-.0565727	.2577739	-0.22	0.826	-.5641008	.4509554
_cons	1.086672	.4839628	2.25	0.026	.1338029	2.03954

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=269
				F(2, 266)=9.47
Model	1.59198174	2	.795990868	Prob > F=0.0001
Residual	22.3487508	266	.08401786	R-squared=0.0665
				Adj R-squared=0.0595
Total	23.9407326	268	.089331092	Root MSE=.28986

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-	.0023098	-4.26	0.000	-.0143804	-.0052847
	.0098326					
Dividend policy	.0082934	.00973	0.85	0.395	-.0108642	.027451
_cons	.1263137	.0184378	6.85	0.000	.0900112	.1626163

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Size	.0008785	.0108782	0.08	0.936	-.0205395	.0222965
_cons	.1043691	.1692796	0.62	0.538	-.2289236	.4376617

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=269
				F(1, 267)=5.13
Model	296.8567	1	296.8567	Prob > F=0.0243
Residual	15454.1885	267	57.8808557	R-squared=0.0188
				Adj R-squared=0.0152
Total	15751.0452	268	58.7725566	Root MSE=7.6079

Internal cash flow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Size	.6210876	.2742502	2.26	0.024	.0811196	1.161056
_cons	-8.548905	4.267695	-2.00	0.046	-16.95152	-.1462884

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=269
				F(2, 266)=9.11
Model	1.55878945	2	.779394723	Prob > F=0.0001
Residual	22.7564874	266	.085550704	R-squared=0.0641
				Adj R-squared=0.0571
Total	24.3152768	268	.090728645	Root MSE=.29249

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-.0100413	.0023528	-4.27	0.000	-.0146738	-.0054087
Size	.007115	.0106444	0.67	0.504	-.0138431	.0280731
_cons	.0185273	.1653015	0.11	0.911	-.3069386	.3439932

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		-.0062365	.00311752	-2	.04544965
Goodman-1	(Aroian)	-.0062365	.0031836	-1.959	.05011889
Goodman-2		-.0062365	.00305001	-2.045	.04087979

	Coef	Std Err	Z	P>Z
a coefficient	.621088	.27425	2.26468	.023533
b coefficient	-.010041	.002353	-4.26775	.00002
Indirect effect	-.006236	.003118	-2.00047	.04545
Direct effect	.007115	.010644	.668424	.503863
Total effect	.000878	.010878	.080757	.935635

Proportion of total effect that is mediated: -7.0990502

Ratio of indirect to direct effect: -.87652873

Ratio of total to direct effect: .12347127

Bootstrap replications (1000)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

Bootstrap results Number of obs = 269

Replications = 1000

Command: sgmediation roaфинperf, mv(icfavailable) iv(lnasset)

_bs_1: r(ind_eff)

_bs_2: r(dir_eff)

	ObservedCoef.	BootstrapStd. Err.	Z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	-.0062365	.0082127	-0.76	0.448	-.0223331	.0098601
_bs_2	.007115	.0096979	0.73	0.463	-.0118925	.0261225

Source: Study data (2013)

Table A7 (f): ICFavailable as mediator and GDP growth rate as Independent variable

Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=270			
				F(1, 268)=0.91			
Model	.082542572	1	.082542572	Prob > F=0.3403			
Residual	24.2447081	268	.090465329	R-squared=0.0034			
				Adj R-squared=-0.0003			
Total	24.3272507	269	.090435876	Root MSE=.30077			
Return on assets		Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
GDP growth rate		.0095104	.0099563	0.96	0.340	-	.0291129
						.0100922	
_cons		.0741056	.0490294	1.51	0.132	-	.1706374
						.0224261	

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=270
				F(1, 268)=2.02
Model	117.715542	1	117.715542	Prob > F=0.1566
Residual	15634.3931	268	58.3372879	R-squared=0.0075
				Adj R-squared=0.0038
Total	15752.1087	269	58.5580249	Root MSE=7.6379

Internal cash flow available	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
GDP growth rate	-.3591495	.2528316	-1.42	0.157	-.8569383	.1386394
_cons	2.695684	1.245055	2.17	0.031	.2443516	5.147016

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=270
				F(2, 267)=9.09
Model	1.55117642	2	.775588208	Prob > F=0.0002
Residual	22.7760743	267	.085303649	R-squared=0.0638
				Adj R-squared=0.0567
Total	24.3272507	269	.090435876	Root MSE=.29207

Return on assets	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-.0096921	.0023358	-4.15	0.000	-.0142911	-.0050931
GDPgrowth rate	.0060295	.0097045	0.62	0.535	-.0130775	.0251365
_cons	.1002324	.0480247	2.09	0.038	.0056771	.1947876

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.0034809	.00259008	1.344	.17897009
Goodman-1	(Aroian)	.0034809	.00265656	1.31	.19009335
Goodman-2		.0034809	.00252186	1.38	.16749655

	Coef	Std Err	Z	P>Z
a coefficient	-.359149	.252832	-1.42051	.15546
b coefficient	-.009692	.002336	-4.14928	.000033
Indirect effect	.003481	.00259	1.34393	.17897
Direct effect	.006029	.009704	.62131	.534396
Total effect	.00951	.009956	.955208	.339473

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=273
				F(1, 271)=0.05
Model	2.64529405	1	2.64529405	Prob > F=0.8312
Residual	15751.7997	271	58.124722	R-squared=0.0002
				Adj R-squared=-0.0035
Total	15754.445	272	57.9207535	Root MSE=7.624

Internal cashflow available	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Financial leverage	-.0017303	.0081106	-0.21	0.831	-.0176982	.0142376
_cons	1.055256	.4637151	2.28	0.024	.142314	1.968198

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=273
				F(2, 270)=84.66
Model	169.077644	2	84.538822	Prob > F=0.0000
Residual	269.615733	270	.998576788	R-squared=0.3854
				Adj R-squared=0.3809
Total	438.693377	272	1.6128433	Root MSE=.99929

Return on equity	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-.0098039	.0079621	-1.23	0.219	-.0254795	.0058718
Financial leverage	-.013788	.0010632	-12.97	0.000	-.0158811	-.0116948
_cons	.2273517	.0613581	3.71	0.000	.1065505	.3481528

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.00001696	.0000807	.2102	.83351099
Goodman-1	(Aroian)	.00001696	.00010336	.1641	.8696351
Goodman-2		.00001696	.0000484	.3505	.72596193

Coef	Std Err	Z	P>Z
a coefficient=-.00173	.0081111	-.213332	.831068
b coefficient= -.009804	.007962	-1.23132	.218203
Indirect effect=.000017	.000081	.210201	.833511
Direct effect=-.013788	.001063	-12.9687	0
Total effect=-.013771	.001064	-12.9415	0

Internal cash flow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management1	-2.812883	1.596479	-1.76	0.079	-5.955961	.3301941
_cons	1.95595	.6910787	2.83	0.005	.5953849	3.316516

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=273
				F(2, 270)=0.37
Model	1.20609128	2	.60304564	Prob > F=0.6896
Residual	437.487285	270	1.62032328	R-squared=0.0027
				Adj R-squared=-0.0046
Total	438.693377	272	1.6128433	Root MSE=1.2729

Return on equity	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-.0082293	.0101994	-0.81	0.420	-.0283097	.0118511
Working capital management1	.0587531	.2695838	0.22	0.828	-.4720005	.5895067
_cons	.1284035	.1177363	1.09	0.276	-.1033944	.3602015

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.02314802	.03155466	.7336	.4632018
Goodman-1	(Aroian)	.02314802	.03550823	.6519	.51446194
Goodman-2		.02314802	.02702885	.8564	.39176609

	Coef	Std Err	Z	P>Z
a coefficient	-2.81288	1.59648	-1.76193	.078081
b coefficient	-.008229	.010199	-.806844	.419756
Indirect effect	.023148	.031555	.733585	.463202
Direct effect	.058753	.269584	.21794	.827476
Total effect	.081901	.26788	.305738	.759804

Proportion of total effect that is mediated: .28263374

Ratio of indirect to direct effect: .39398805

Ratio of total to direct effect: 1.3939881

Bootstrap replications (1000)

----- 1 ----- 2 ----- 3 ----- 4 ----- 5

Bootstrap results Number of obs = 273

Replications = 1000

Command: sgmediation roefinperf, mv(icfavailable) iv(wcmgt1)

_bs_1: r(ind_eff)

_bs_2: r(dir_eff)

	Observed Coef.	Bootstrap Std. Err.	Z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	.023148	.1365206	0.17	0.865	-.2444275	.2907235
_bs_2	.0587531	.185887	0.32	0.752	-.3055787	.4230848

Source: Study data (2013)

Table A8(c): ICFavailable as mediator and wcmgt2 as Independent variable

Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=273
				F(1, 271)=0.49
Model	.799617724	1	.799617724	Prob > F=0.4824
Residual	437.893759	271	1.61584413	R-squared=0.0018
				Adj R-squared=-0.0019
Total	438.693377	272	1.6128433	Root MSE=1.2712

Return on equity	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Working capital management 2	.0817605	.1162257	0.70	0.482	-.1470595	.3105805
_cons	.0979101	.0964396	1.02	0.311	-.0919559	.2877762

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=273
				F(1, 271)=1.03
Model	59.5669871	1	59.5669871	Prob > F=0.3114
Residual	15694.878	271	57.9146789	R-squared=0.0038
				Adj R-squared=0.0001
Total	15754.445	272	57.9207535	Root MSE=7.6102

Internal cashflow available	Coef.	Std. Err.	T	P>t	[95% Conf.Interval]	
Working capital management 2	-.7056756	.6958195	-1.01	0.311	-2.075575	.6642235
_cons	1.398513	.5773643	2.42	0.016	.2618231	2.535202

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=273
				F(2, 270)=0.56
Model	1.81876961	2	.909384807	Prob > F=0.5707
Residual	436.874607	270	1.6180541	R-squared=0.0041
				Adj R-squared=-0.0032
Total	438.693377	272	1.6128433	Root MSE=1.272

Return on equity	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Internal cashflow available	-.0080582	.0101535	-0.79	0.428	-.0280484	.0119319
Working capital management 2	.076074	.1165256	0.65	0.514	-.1533404	.3054883
_cons	.1091797	.0975446	1.12	0.264	-.0828651	.3012244

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.00568651	.00909825	.625	.53196377
Goodman-1	(Aroian)	.00568651	.01151924	.4937	.6215512
Goodman-2		.00568651	.00573267	.9919	.32122288

	Coef	Std Err	Z	P>Z
a coefficient	-.705676	.69582	-1.01416	.310504
b coefficient	-.008058	.010154	-.793639	.427406
Indirect effect	.005687	.009098	.625011	.531964
Direct effect	.076074	.116526	.652852	.513852
Total effect	.08176	.116226	.703463	.481767

Proportion of total effect that is mediated: .06955079

Ratio of indirect to direct effect: .0747497

Ratio of total to direct effect: 1.0747497

Bootstrap replications (1000)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

Bootstrap results Number of obs = 273

Replications = 1000

Command: sgmediation roefinperf, mv(icfavailable) iv(wcmgt2)

_bs_1: r(ind_eff)

_bs_2: r(dir_eff)

	Observed Coef.	Bootstrap Std. Err.	z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	.0056865	.0449296	0.13	0.899	-.082374	.093747
_bs_2	.076074	.084346	0.90	0.367	-	.2413891
					.0892411	

Source: Study data (2013)

Table A8 (d): ICFavailable as mediator and divpolicy as Independent variable

Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=270
				F(1, 268)=0.41
Model	.617948738	1	.617948738	Prob > F=0.5203
Residual	399.730809	268	1.49153287	R-squared=0.0015
				Adj R-squared=-0.0022
Total	400.348758	269	1.48828535	Root MSE=1.2213

Return on equity	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Dividend policy	.0263821	.0409873	0.64	0.520	-.054316	.1070802
_cons	.1003208	.0768098	1.31	0.193	-.0509066	.2515483

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=270
				F(1, 268)=0.05
Model	2.80799104	1	2.80799104	Prob > F=0.8271
Residual	15747.9423	268	58.7609786	R-squared=0.0002
				Adj R-squared=-0.0036
Total	15750.7503	269	58.5529749	Root MSE=7.6656

Internal cash flow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Dividend policy	-.0562382	.2572632	-0.22	0.827	-.5627522	.4502759
_cons	1.084187	.4821087	2.25	0.025	.1349846	2.033389

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=270
				F(2, 267)=0.54
Model	1.61038565	2	.805192825	Prob > F=0.5839
Residual	398.738372	267	1.49340214	R-squared=0.0040
				Adj R-squared=-0.0034
Total	400.348758	269	1.48828535	Root MSE=1.222

Return on equity	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Internal cash flow available	-.0079385	.0097382	-0.82	0.416	-.0271119	.0112348
Dividend policy	.0259357	.0410167	0.63	0.528	-.0548216	.1066929
_cons	.1089277	.0775797	1.40	0.161	-.0438182	.2616735

Sobel-Goodman Mediation Tests

		Coef	Std Err	Z	P>Z
Sobel		.00044645	.00211444	.2111	.83277652
Goodman-1	(Aroian)	.00044645	.0032783	.1362	.8916768
Goodman-2		.00044645	.	.	

	Coef	Std Err	Z	P>Z
a coefficient	-.056238	.257263	-.218602	.82696
b coefficient	-.007939	.009738	-.815198	.414959
Indirect effect	.000446	.002114	.211142	.832777
Direct effect	.025936	.041017	.63232	.527178
Total effect	.026382	.040987	.643665	.519793

Proportion of total effect that is mediated: .01692237

Ratio of indirect to direct effect: .01721367

Ratio of total to direct effect: 1.0172137

Bootstrap replications (1000)

----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5

Bootstrap results Number of obs = 270

Replications = 1000

Command: sgmediation roefinperf, mv(icfavailable) iv(divpolicy)

_bs_1: r(ind_eff)

_bs_2: r(dir_eff)

	Observed Coef.	Bootstrap Std. Err.	z	P>z	Normal-based [95% Conf. Interval]	
_bs_1	.0004464	.0232918	0.02	0.985	-.0452046	.0460975
_bs_2	.0259357	.1426601	0.18	0.856	-.253673	.3055443

Source: Study data (2013)

Table A8 (e): ICF available as mediator and size as Independent variable
Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=270
				F(1, 268)=2.22
Model	3.2856014	1	3.2856014	Prob > F=0.1376
Residual	396.951172	268	1.48116109	R-squared=0.0082
				Adj R-squared=0.0045
Total	400.236773	269	1.48786905	Root MSE=1.217

Return on equity	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Size	-.0653371	.0438685	-1.49	0.138	-.1517079	.0210338
_cons	1.130552	.6825877	1.66	0.099	-.2133642	2.474469

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=270
				F(1, 268)=5.15
Model	297.051134	1	297.051134	Prob > F=0.0240
Residual	15454.3531	268	57.6654967	R-squared=0.0189
				Adj R-squared=0.0152
Total	15751.4042	269	58.5554061	Root MSE=7.5938

Internal cashflow available	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Size	.6212519	.2737223	2.27	0.024	.0823324	1.160171
_cons	-8.552951	4.259076	-2.01	0.046	-16.93845	-1.67448

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=270
				F(2, 267)=1.31
Model	3.89538406	2	1.94769203	Prob > F=0.2710
Residual	396.341389	267	1.48442468	R-squared=0.0097
				Adj R-squared=0.0023
Total	400.236773	269	1.48786905	Root MSE=1.2184

Table A8 (f): ICFavailable as mediator and GDP growth rate as Independent variable

Model with dv regressed on iv (path c)

Source	SS	Df	MS	Number of obs=271
				F(1, 269)=0.26
Model	.38739073	1	.38739073	Prob > F=0.6105
Residual	400.795527	269	1.4899462	R-squared=0.0010
				Adj R-squared=-0.0027
Total	401.182918	270	1.48586266	Root MSE=1.2206

Return on equity	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
GDP growth rate	.0206031	.0404058	0.51	0.611	-.0589487	.1001549
_cons	.0221993	.198929	0.11	0.911	-.3694566	.4138552

Model with mediator regressed on iv (path a)

Source	SS	Df	MS	Number of obs=271
				F(1, 269)=2.03
Model	117.728912	1	117.728912	Prob > F=0.1558
Residual	15634.7343	269	58.1216888	R-squared=0.0075
				Adj R-squared=0.0038
Total	15752.4632	270	58.3424563	Root MSE=7.6238

	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Gdp	-.3591697	.2523639	-1.42	0.156	-.8560292	.1376899
_cons	2.693617	1.242459	2.17	0.031	.2474365	5.139797

Model with dv regressed on mediator and iv (paths b and c')

Source	SS	Df	MS	Number of obs=271
				F(2, 268)=0.44
Model	1.31707709	2	.658538546	Prob > F=0.6436
Residual	399.865841	268	1.49203672	R-squared=0.0033
				Adj R-squared=-0.0042
Total	401.182918	270	1.48586266	Root MSE=1.2215

Appendix 12: Sector Differences

Table A9 (a): Differences in Financial Leverage

Groups Pair	Mean Difference	T statistic	P value
Agriculture& communication	-.4276044*	-3.5966	0.0005
Agriculture& Telecommunication and technology	-.0464333	-0.7790	0.4391
Agriculture &Automobile and accessories	-.2520546***	-1.7450	0.0851
Agriculture & Investment	-.0492407	-0.5088	0.6124
Agriculture &Manufacturing and Allied	-17.32511	-1.0870	0.2796
Agriculture & Construction	-.3807494*	-3.8193	0.0003
Agriculture & energy	-.177575*	-2.8094	0.0063
Commercial and Services &Telecommunication	.381171	1.5456	0.1276
Commercial and Services &Automobile and accessories	.1755498	0.8217	0.4139
Commercial and Services &Investment	.3783637***	1.9711	0.0526
Commercial and Services & Manufacturing	-16.8975	-1.0491	0.2966
Commercial and services & Construction	.046855	0.2725	0.7859
Commercial and Services & Energy and Petroleum	.2500293	1.4601	0.1485
Telecommunication and technology & automobile and accessories	-.2056212	-0.6800	0.5006
Telecommunication and Technology & investment	-.0028074	-0.0134	0.9894
Telecommunication and technology &manufacturing	-17.27867	-0.5335	0.5955
Telecommunication &Construction	-.3343161	-1.5828	0.1205
Telecommunication & Energy and petroleum	-.1311417	-0.9054	0.3711
Automobile and accessories & Investment	.2028139	0.8503	0.3992
Automobile and accessories & Manufacturing	-17.07305	-0.8076	0.4217
Automobile and accessories &Construction	-.1286948	-0.5990	0.5514
Automobile and accessories & Energy and petroleum	.0744795	0.3537	0.7250
Investment & Manufacturing	-17.2758	-0.7719	0.4426
Investment & Construction	-.3315087***	-1.8527	0.0690
Investment & Energy and petroleum	-.1283343	-0.8281	0.4116
Manufacturing & Construction	16.94436	0.8971	0.3722
Manufacturing & Energy and petroleum	17.14753	0.7964	0.4282
Construction & Energy and petroleum	.2031744	1.3387	0.1857

Source: Study data (2013)

Table A9 (b): Differences in total current liabilities to total assets ratio

Groups Pair	Mean Difference	T statistic	P value
Agriculture& communication	-.246347*	-8.6313	0.0000
Agriculture& Telecommunication and technology	-.1877086*	-6.9204	0.0000
Agriculture &Automobile and accessories	-.3724404*	-11.6997	0.0000
Agriculture & Investment	-.0525491***	-1.9701	0.0527
Agriculture &Manufacturing and Allied	-.227186*	-6.1323	0.0000
Agriculture & Construction	-.2658402*	-3.8999	0.0002
Agriculture & energy	-.3184923*	-5.1640	0.0000
Commercial and Services &Telecommunication	.0586384	1.0772	0.2858
Commercial and Services &Automobile and accessories	-.1260934*	-2.8471	0.0057
Commercial and Services &Investment	.1937979*	4.6007	0.0000
Commercial and Services & Manufacturing	.019161	0.4442	0.6579
Commercial and services & Construction	-.0194932	-0.2652	0.7915
Commercial and Services & Energy and Petroleum	-.0721453	-1.0427	0.3005
Telecommunication and technology & automobile and accessories	-.1847317*	-3.1136	0.0035
Telecommunication and Technology & investment	.1351595*	2.8978	0.0064
Telecommunication and technology &manufacturing	-.0394774	-0.5422	0.5895
Telecommunication &Construction	-.0781316	-0.5703	0.5713
Telecommunication & Energy and petroleum	-.1307837	-1.0611	0.2955
Automobile and accessories & Investment	.3198913*	6.6617	0.0000
Automobile and accessories & Manufacturing	.1452543*	2.7009	0.0084
Automobile and accessories &Construction	.1066002	1.1273	0.2640
Automobile and accessories & Energy and petroleum	.053948	0.6150	0.5412
Investment & Manufacturing	-.1746369*	-3.2669	0.0016
Investment & Construction	-.2132911**	-2.1961	0.0321
Investment & Energy and petroleum	-.2659432*	-3.0004	0.0042
Manufacturing & Construction	-.0386542	-0.5081	0.6127
Manufacturing & Energy and petroleum	-.0913063	-1.2319	0.2217
Construction & Energy and petroleum	-.0526521	-0.4591	0.6478

Source: Study data (2013)

Table A9 (c): Differences in total current assets to total assets ratio

Groups Pair	Mean Difference	T statistic	P value
Agriculture& communication	-.3245298***	-1.6869	0.0949
Agriculture& Telecommunication and technology	.0266411	0.5112	0.6111
Agriculture &Automobile and accessories	-.3922258*	-7.5117	0.0000
Agriculture & Investment	.0467004	1.0780	0.2846
Agriculture &Manufacturing and Allied	-.2637262*	-6.8988	0.0000
Agriculture & Construction	-.2737076*	-3.0018	0.0036
Agriculture & energy	-.3089386*	-3.6798	0.0004
Commercial and Services &Telecommunication	.3511709	0.9030	0.3702
Commercial and Services &Automobile and accessories	-.067696	-0.2637	0.7928
Commercial and Services &Investment	.3712302	1.3765	0.1729
Commercial and Services & Manufacturing	.0608036	0.3297	0.7423
Commercial and services & Construction	.0508222	0.2097	0.8345
Commercial and Services & Energy and Petroleum	.0155912	0.0579	0.9540
Telecommunication and technology & automobile and accessories	-.4188669*	-4.6403	0.0000
Telecommunication and Technology & investment	.0200593	0.3092	0.7590
Telecommunication and technology &manufacturing	-.2903673*	-4.3900	0.0000
Telecommunication &Construction	-.3003487	-1.6785	0.1002
Telecommunication & Energy and petroleum	-.3355797**	-2.0753	0.0450
Automobile and accessories & Investment	.4389262*	6.2775	0.0000
Automobile and accessories & Manufacturing	.1284996**	2.2415	0.0278
Automobile and accessories &Construction	.1185181	0.9434	0.3492
Automobile and accessories & Energy and petroleum	.0832872	0.7061	0.4832
Investment & Manufacturing	-.3104266*	-6.0702	0.0000
Investment & Construction	-.320408**	-2.5298	0.0142
Investment & Energy and petroleum	-.355639*	-3.0666	0.0035
Manufacturing & Construction	-.0099814	-0.1103	0.9124
Manufacturing & Energy and petroleum	-.0452124	-0.5316	0.5965
Construction & Energy and petroleum	-.035231	-0.2358	0.8144

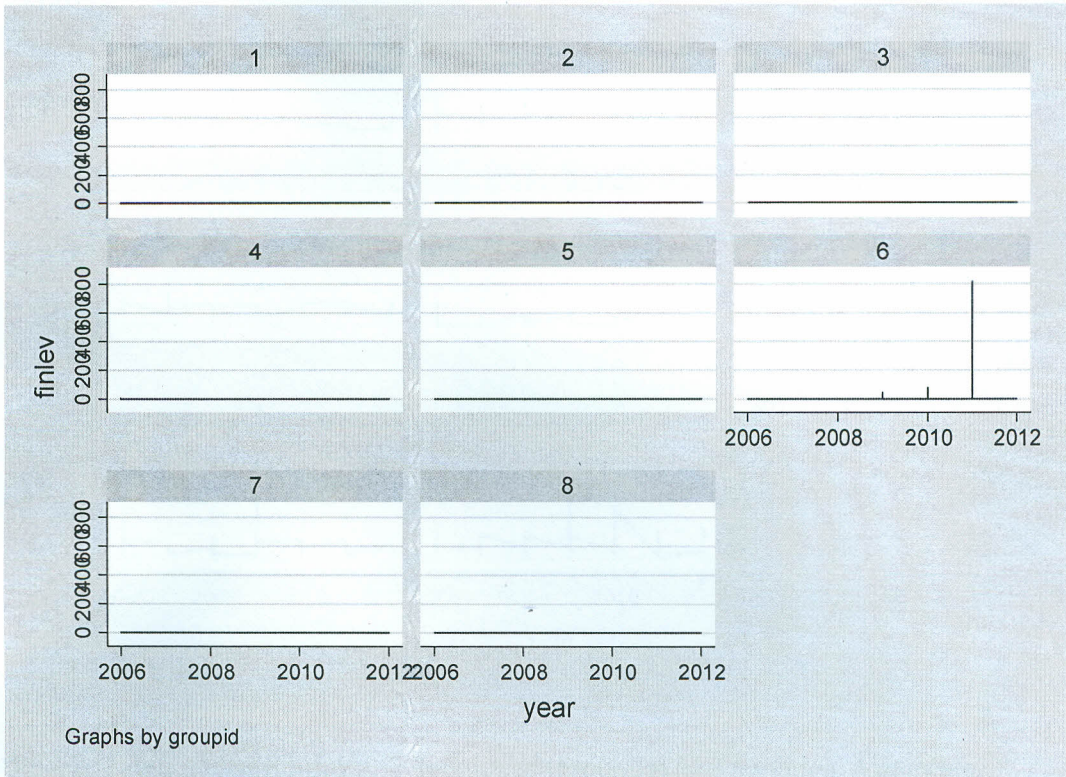
Source: Study data (2013)

Table A9 (d): Differences in dividend policy

Groups Pair	Mean Difference	T statistic	P value
Agriculture& communication	.0383722	0.4880	0.6267
Agriculture& Telecommunication and technology	.0632548	0.4290	0.6695
Agriculture &Automobile and accessories	.0873337	0.8231	0.4130
Agriculture & Investment	.16341	1.5810	0.1183
Agriculture &Manufacturing and Allied	-.1720475**	-2.0223	0.0458
Agriculture & Construction	-.1016966	-1.0966	0.2760
Agriculture & energy	-1.56551***	-1.9739	0.0521
Commercial and Services &Telecommunication	.0248826	0.3472	0.7297
Commercial and Services &Automobile and accessories	.0489615	0.7486	0.4565
Commercial and Services &Investment	.1250383**	2.3741	0.0203
Commercial and Services & Manufacturing	-.2104197*	-3.4571	0.0008
Commercial and services & Construction	-.1400688**	-2.5522	0.0126
Commercial and Services & Energy and Petroleum	-1.603882***	-1.9917	0.0502
Telecommunication and technology & automobile and accessories	.0240789	0.2178	0.8287
Telecommunication and Technology & investment	.1001556	1.3380	0.1895
Telecommunication and technology &manufacturing	-.2353023**	-2.1343	0.0367
Telecommunication &Construction	-.1649515***	-1.8334	0.0734
Telecommunication & Energy and petroleum	-1.628765	-1.0102	0.3190
Automobile and accessories & Investment	.0760767	0.9554	0.3439
Automobile and accessories & Manufacturing	-.2593812*	-3.1013	0.0027
Automobile and accessories &Construction	-.1890303**	-2.3900	0.0200
Automobile and accessories & Energy and petroleum	-1.652844	-1.5755	0.1211
Investment & Manufacturing	-.3354579*	-4.3000	0.0000
Investment & Construction	-.2651071*	-4.0492	0.0002
Investment & Energy and petroleum	-1.728921	-1.5578	0.1256
Manufacturing & Construction	.0703508	0.9723	0.3336
Manufacturing & Energy and petroleum	-1.393463***	-1.8514	0.0678
Construction & Energy and petroleum	-1.463814	-1.5640	0.1231

Source: Study data (2013)

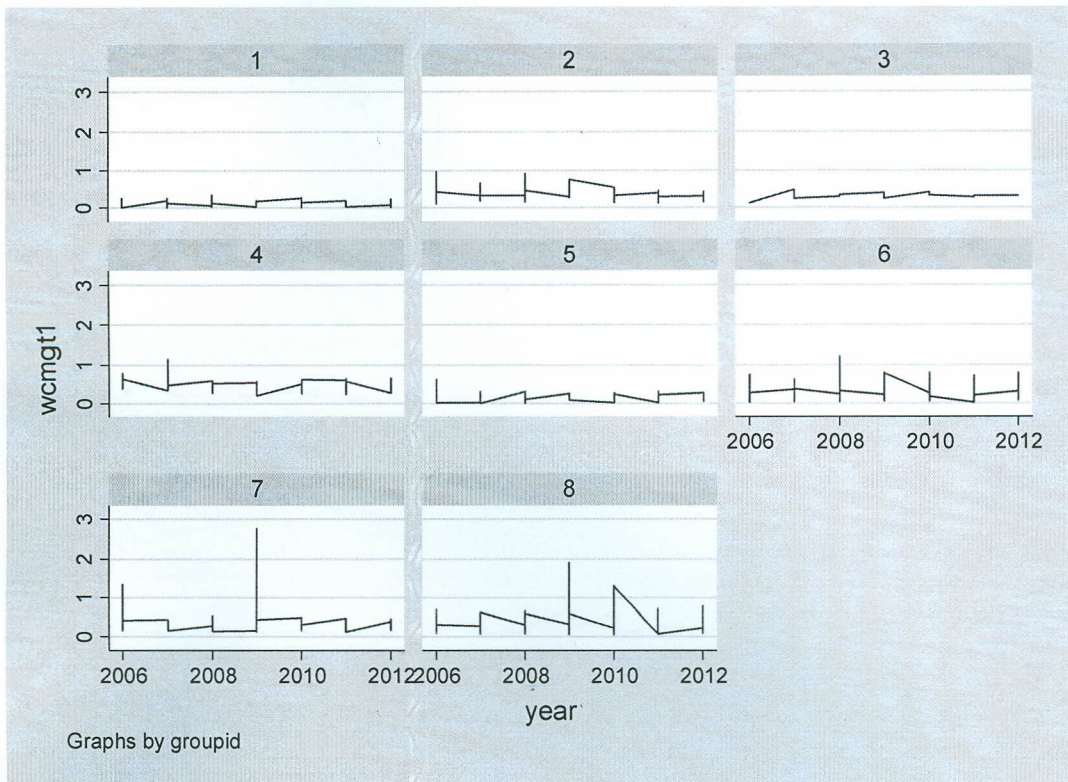
Appendix 13: Sector Trends for 2006 to 2012



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1 (a): Trend for Financial Leverage 2006 to 2012

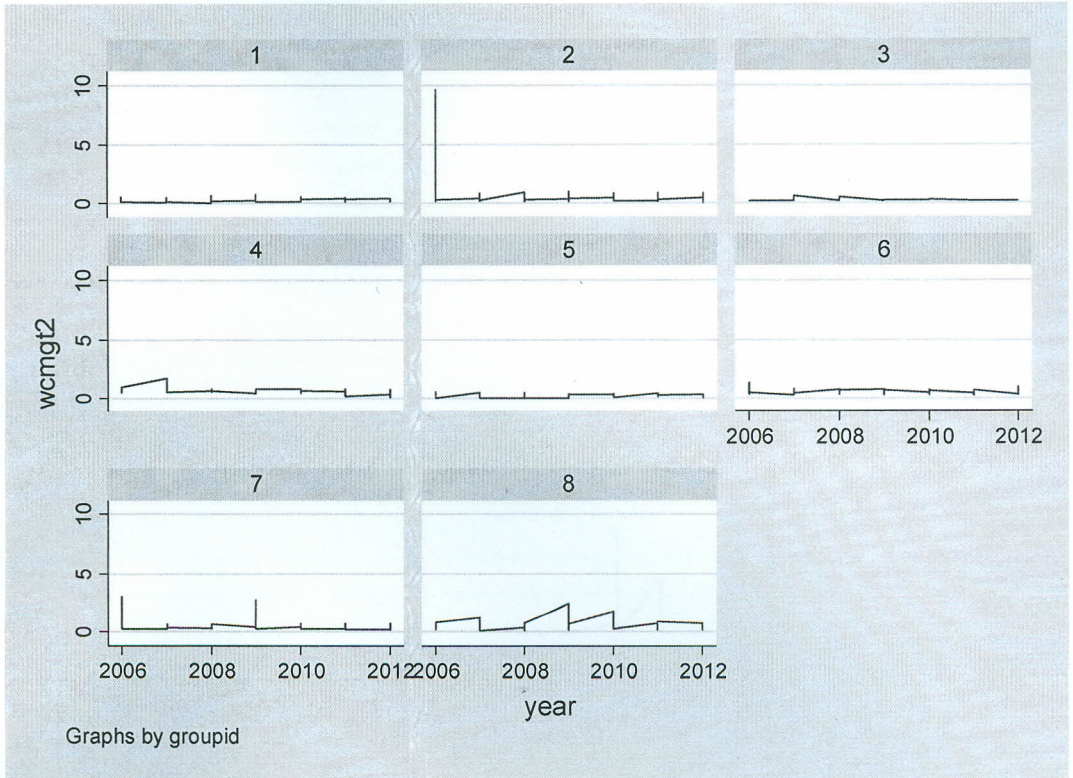
Source: Study data (2013)



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1 (b): Trend for total current liabilities to total assets ratio 2006 to 2012

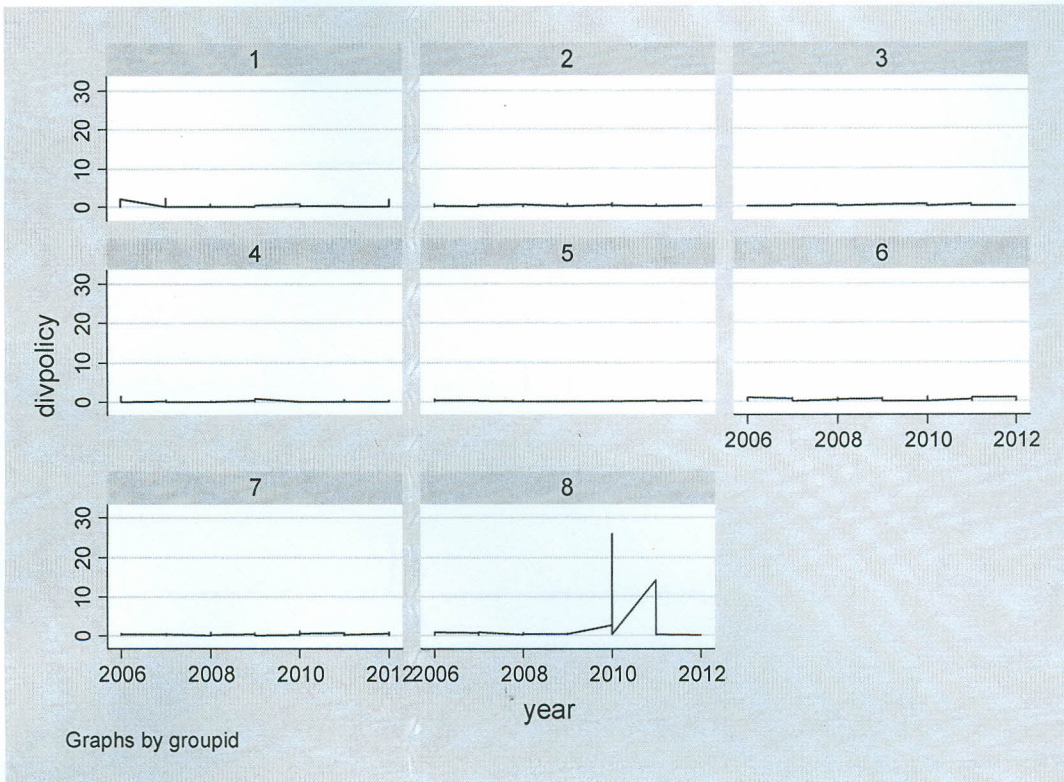
Source: Study data (2013)



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1(c): Trend for total current assets to total assets ratio, 2006 to 2012

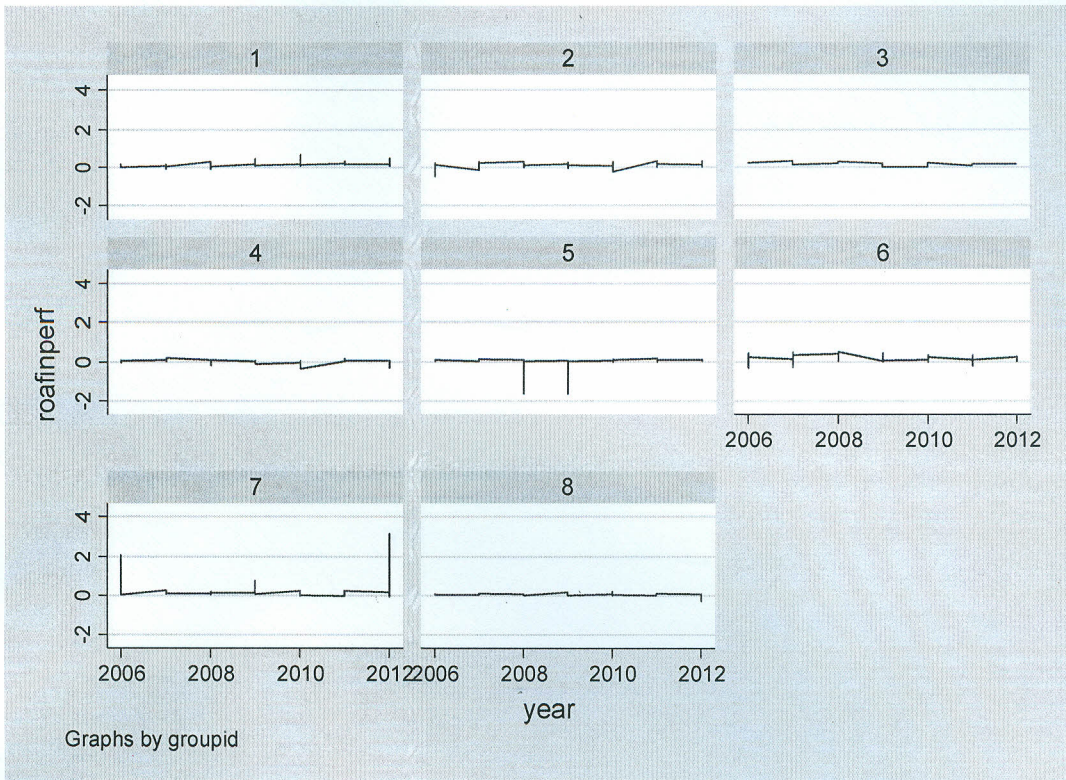
Source: Study data (2013)



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1 (d): Trend for dividend policy, 2006 to 2012

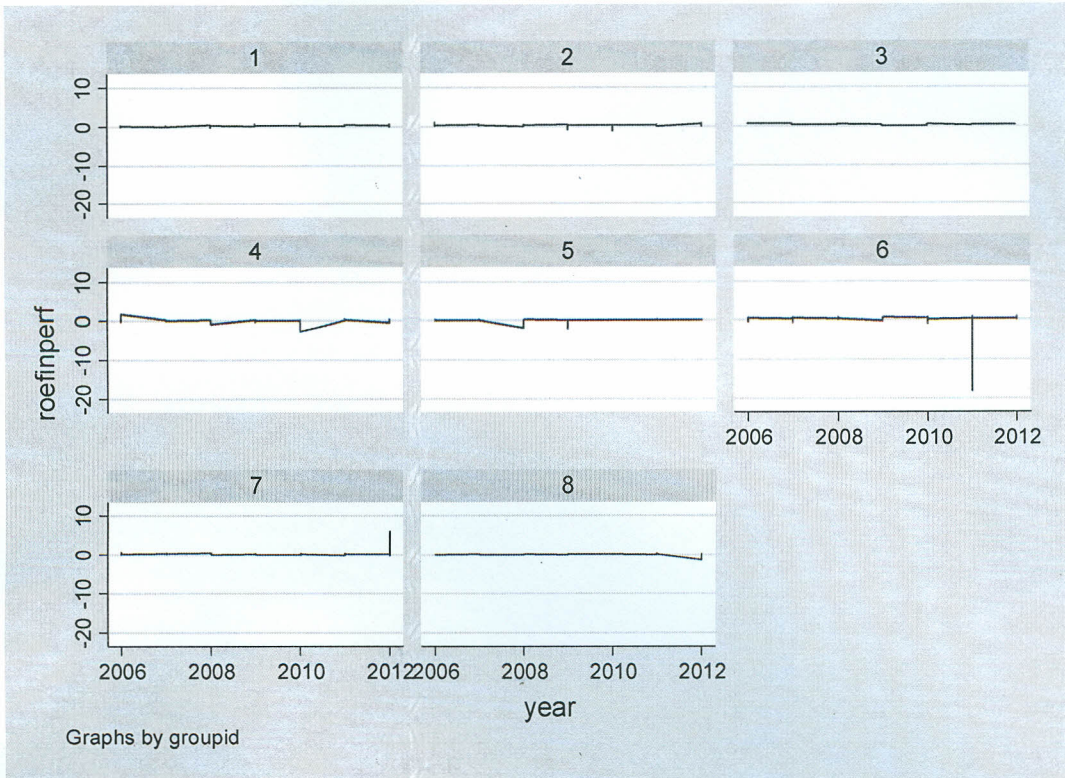
Source: Study data (2013)



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1 (e): Trend for ROA, 2006 to 2012

Source: Study data (2013)



Where: 1 denotes agriculture, 2 denotes commercial and services, 3 denotes telecommunications and technology, 4 denotes automobiles and accessories, 5 denotes investment, 6 denotes manufacturing and allied, 7 denotes construction, and finally 8 denotes energy and petroleum.

Figure A1 (f): Trend for ROE, 2006 to 2012

Source: Study data (2013)