FINANCIAL FLEXIBILITY AND CORPORATE INVESTMENT AMONG NON FINANCIAL COMPANIES LISTED ON NSE, KENYA

BY

KOORI MAIMBA JEREMIAH, MBA, CPA, BED (ARTS)
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DECLARATION

This thesis is my original work and it has not been presented for a degree in any other university or any other award. No part of this thesis may be reproduced without prior authority of the author and / or Kenyatta University.

Signature …… Date……

Koori Jeremiah Maimba D86/CTY/21950/2010

Department of Accounting & Finance

SUPERVISORS

We confirm that the work reported in this thesis was done by the candidate under our supervision.

Signature …… Date……

Dr. Julius Korir

Lecturer, Department of Economic Theory

School of Economics

Kenyatta University

Signature …… Date……

Dr. Paul Gachanja

Senior Lecturer, Department of Economic Theory

School of Economics

Kenyatta University

DEDICATION

To my son William and daughter Grace.

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OPERATIONAL DEFINITION OF TERMS

Agency problem- Managers with substantial free cash flow might overinvest increase personal compensation and benefits. Managers might also underinvest when they fear that investments might not generate enough cash to pay the interest and principal of debt that is required to fund investments.

Cash flow – The total amount of money being transferred into and out of a business related to operational activities

Cash Holdings- This refers to liquid asset holdings by firms defined as cash and marketable securities measured as the ratio of cash and marketable securities to total assets minus cash and marketable securities. These cash holdings are based on a firm's ability to generate future profits.Cash holding is proxied by free cash flow, firm size and earnings volatility

Ownership Concentration -This is the percentage of shares held by the first five major shareholders.

Corporate Investment - This is the capital expenditure on noncurrent assets expressed as a percentage change in investment expenditure in the current period divided by total assets in prevoius period.

Debt Capacity- This is the spare borrowing capacity or room to maneuver financially with respect to additional borrowing, as events unfold and future exigencies require. Debt capacity is proxied by leverage, asset tangibility and financial distress

Dividend Decisions- This relates to decisions regarding the distribution of profits in the form of dividends and retention of profits for

investment purposes. Factors influencing these decisions include growth opportunities, profit after tax and dividend payout ratio.

Financial flexibility- It combines stockpiling of reserve borrowing power, financial slack, and dividend payout policy with a view of making informed decisions regarding investment funding. That is, the ability to dynamically adjust capital structure in order to access financing at low cost.

Financially Flexible Firm- This is a firm whose indicators of financial flexibility allow the firm to access finance efficiently and cost effectively.

Market to Book Value ratio- Is a proxy with information content with respect to investment opportunities. It represents a set of growth options. Firms with greater ratio have more growth opportunities.

Overinvestment- This is said to occur when the investment level is above the expected level of investment.

Non financial companies These are companies whose item of trade is cash or near cash

Unconstrained firms- These are firms that have high debt capacity and low cash holdings.

Underinvestment This is said to occur when the investment level is below the expected level of investment.

ABBREVIATIONS AND ACRONYMS

EAT	Earnings After Tax
EBIT	Earnings Before Interest and Tax
CFOs-	Chief Finance Officers
CMA-	Capital Market Authority
CG-	Corporate Governance
FGLS-	Feasible Generalised Least Square
LLC	Levin, Lin and Chu
MBV-	Market to Book Value
MMR-	Modified Multiple Regression
MM-	Modigliani and Miller
NSE-	Nairobi Securities Exchange
OLS-	Ordinary Least Square
KNBS	Kenya National Bureau of Statistics
ROK	Republic of Kenya

ABSTRACT

The existing evidence indicates that listed companies on the Nairobi Securities Exchange Kenya are financially flexible. However, these firms have not managed to undertake corporate investments of the magnitude achieved by other countries where firms are financially flexible. Previous studies have shown that financial slack, spare debt capacity and dividend decisions directed at maintaining financial flexibility in corporate entities can enhance investment ability of the firms. This disparity therefore motivated this study which sought to link the measures of financial flexibility and corporate investment in the Kenyan context between 2002 and 2013. This study therefore sought to establish the effects of debt capacity, cash holdings, and dividend decisions on corporate investments. The study further sought to establish the moderating effects of ownership concentration on the relationship between financial flexibility and corporate investment. The pecking order theory underpins this thesis since the management of companies have to make investment decisions based on the financial resources available both from internal and external sources with a view of maximizing the wealth of the shareholders. The respective variable indicators were used to determine the effects. Explanatory and non experimental research design was used to fulfill the research objectives. All 28 non financial companies listed on the NSE and fulfilled the set conditions in the period under the study were considered. Secondary panel data collected was sourced from annual financial reports of quoted companies and records maintained at Nairobi Securities Exchange. The study applied panel data model (fixed effects) based on the outcome of Hausman specification tests to determine the effects of financial flexibility on investment decisions of non financial listed companies on NSE, Kenya. Feasible generalized Least Square regression results revealed that leverage and asset tangibility being indicators of debt capacity had a positive association with investment decisions. Free cash flow, an indicator of cash holdings, had positive relationship with investment decisions whereas; profitability an indicator of dividend decisions had positive relationship with investment decisions. The study also found out that the moderating effects of ownership concentration on the relationship between financial flexibility and investment decisions had no effect. The study recommends that managers of listed non-financial companies should maintain accumulating reserves of borrowing power that allows them to have a better access to the capital market when faced with positive shocks to their investment opportunity. The study also recommends that managers of non financial listed companies should increase free cash flow as it has been established that investment ability of these companies rely heavily on it. Having established that free cash flow increases the ability to invest, there is need to carry out further study in order to establish whether the investments undertaken are value adding or whether they are just an expression of empire building.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

In Kenya, corporate firms play a significant role in contributing to economic growth. In order to achieve this objective, firms need to efficiently manage their funds. To respond to global competition, firms need to make massive capital investment in modern technologies, product development and product promotion (GOK, 2012). Such investments may promote productivity and efficiency. Therefore a firm needs to be financially flexible in order to meet capital expenditure funds requirements.

In imperfect capital markets, financial flexibility – the ability to respond in a timely and value-maximizing manner to unexpected changes in cash flows and investment opportunities among firms – is valuable (Marchica & Mura, 2010). Consequently, in the presence of such imperfections, firms can be expected to choose financial policies that preserve the flexibility to respond to unexpected periods of insufficient financial resources. In fact, the chief finance officers surveyed in Graham and Harvey (2001) state that financial flexibility is the most important determinant of capital structure among United States of America listed firms and hence levels of investments. Further, investment behaviour relates to how the firms' management judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis (Alfredo & Vicente, 2010).

The financial markets world over have experienced tremendous change during the 1990s and 2000s. Technological advances in computers, have led to deregulations, and

have increased competition for financial resources throughout the world. While these developments have been largely positive, they have also created problems for the policy makers. Modern financial markets expose national economies to shocks from new and unexpected sources and with little if any time lag. Large amounts of capital move quickly around the world in response to changes in interest rates and exchange rates (Eun & Bruce, 2011). These movements can disrupt local institutions and economies. For instance the South Eastern Crisis of 1998, The US bubble of 2007-2009.

Due to financial crisis of 2007, the supply of external capital was radically restricted and companies were forced to rely on internal sources. The high cost of borrowing and shallow financial deepening are major challenges facing firms in developing countries. Consequently, the capacity of business entities to undertake investments is directly affected by financial resources available (Fung & Wing, 2011). The changing economic circumstances resulting from the financial crisis raises the question of the preparedness to mitigate economic shocks by the listed firms in the event it happens. Therefore, there is need to examine the effect of different sources of financial flexibility on corporate investment.

Studies on capital structure decisions (Bancel and Mitto, 2004, Marchica and Mura, 2010 and Chua, 2012) suggest that it is financial flexibility that primarily drives chief finance officers' leverage choices. Respondents, the finance managers, consider financial flexibility as very important in enabling their companies to undertake investment in the future, when asymmetric information and contracting problems might otherwise force them to forego profitable growth opportunities. In other words,

companies may adopt a conservative leverage policy to maintain "substantial reserves of untapped borrowing power" (Modigliani and Miller, 1963) allowing them to access the capital market in the event of positive shocks to their investment opportunity set. The maintenance of spare borrowing capacity is a relatively common policy which can be interpreted as a consistent response to difficulties likely to be associated with the existence of agency costs (Allen, 2000). However, financial flexibility theory may also explain why firms tend to hoard high amounts of cash even though high economic costs, such as taxes are associated with cash holdings. Thus, not only free debt capacity provides a company with financial flexibility but also cash (Hochmuth, 2010). Similarly, a firm's dividend policy affects financial flexibility since paying dividends takes out money out of management control and hence fewer funds are available for investment projects (Blau & Fuller, 2008). The overall goal of establishing financial flexibility for a firm for both sourcing scenarios is the same: to enable mobilization of financial resources in case of unanticipated positive and negative shocks, for instance; earnings shortfalls, crises and investment opportunities (Kalinin, 2012).

Despite its perceived importance, the primary sources of financial flexibility and their impact on corporate financial policies with regard to investment remain controversial. Under one view, costly external financing leads the firm to maintain healthy cash balances that can serve as a buffer in times of financial needs such as unexpected investment opportunities. Under this view, cash flow shortfalls are met first by reductions in cash balances and, in some cases, by reductions in dividends. External financing is used only as a last resort unless the firm can issue risk-free debt (Gdala, 2009). This view has its roots in the model of Myers & Majluf (1984) and has had its

intertemporal implications developed in the empirical literature that analyzes investment-cash flow sensitivities, the sensitivity of cash balances to cash flow, and the value of cash holdings.

An alternative view is that cash holdings themselves are costly because of potential agency problems. This leads value-maximizing firms to maintain relatively low cash balances and to preserve unused debt capacity that can be used in times of financial need. Dividends are kept relatively stable so as to allow the firm continued access to the capital market. Under this view, cash flow shortfalls are met primarily by new borrowings; reductions in cash balances are empirically less important and the maintenance of dividends is a first-order priority (Daniel, Denis & Naveen, 2010). When a firm has unused debt capacity, borrowing is less costly. However, preserving cash is cheaper but this attracts agency problems as shareholders would prefer the excess cash to be paid as dividends. Unused debt capacity, preserving cash and dividend payout policy aim at achieving financial flexibility although their effectiveness on facilitating investment is controversial which this study seeks to examine.

The recent global recessions have served to make corporate cash holdings even more important. Ang and Smedema (2011) show that cash rich firms are better able to prepare for a recession when compared to firms which are low on cash, because the excess cash allows a higher degree of financial flexibility. An additional benefit provided by higher cash holdings is the possibility to take advantage of bargain acquisition opportunities in the current financial climate, without having to resort to costly outside capital. Indeed some cash rich firms such as Oracle, Merck, and Pfizer

(Marano, 2012) have used their cash reserves to finance acquisitions. This recent increase in cash holdings fits into the much broader trend of gradually increasing firm cash holdings in the U.S., which has been widely examined in finance literature.

Bates, Kahle and Stulz (2009) find that that this increase is concentrated among firms that do not pay dividends, firms which have gone public more recently and firms in industries that have experienced the greatest increase in idiosyncratic volatility. After establishing the profound increase in cash holdings, their findings show that the main reasons for the increase of the cash ratio are a decrease in inventories, increasing firm cash flow risk, falling capital expenditures, and a rise in R&D expenditures. Similarly, Kalinin (2012) demonstrates that the average cash ratio of European firms has increased from 10.9 percent in 1989 to 13.9 percent in 2010. This increase is most pronounced in small firms, firms in more risky industries, and non-dividend paying firms. The researcher finds that the change in cash ratios can be largely explained by changes in the underlying firm characteristics, and not so much by changes in the relationship between firm characteristics and the cash ratio. In other words this increase is shown to be related to changes in specific firm characteristics rather than changes in the relationship between these firm characteristics and the cash ratio.

Bates *et al.*, (2009) also finds that as firms in U.S increase cash holdings, there is a corresponding falling trend in debt capacity during the same time period which almost mirrors that of cash holdings in the opposite direction. Both cash and debt capacity provide reliable sources of liquidity for firms but the relationship between them is "neither simple nor mechanical" (Lin, Ma, Malatesta & Xuan, 2010). While papers

studying cash policies have surged in recent corporate finance research, credit line and debt capacity are not in the limelight for the practical reason of data unavailability and measurement difficulty respectively (Chua, 2012). Sufi (2009) analysed the interaction between cash and bank lines of credit (both total credit and unused credit) and finds that the relationship between the two is influenced by a firm's cash flow and cash flow volatility. In other words, although the two instruments are used in internal liquidity management, cash and bank credit are not perfect substitutes for each other depending on firm's cash flow position.

Another action taken by firms to mitigate the financial crisis was to adjust dividend payout to shareholders since it is believed to be a shock absorber. The trend of stable dividend policy was abandoned and some companies in US drastically decreased their dividend payouts. The number of companies that decreased the dividend payouts on the US stock markets increased from 44 in 2007 to more than 500 in 2009 (JPMorgan,2011). Accordingly, a firm facing financing frictions in forms of high costs of external finance and high/or high volatility in its investment opportunity set, tend to adopt a policy of low equity payouts (Sayyad & Ulvenas, 2012).

Past studies indicate that ownership concentration does affect monitoring and control of various decisions made by the top management (Mule, Mukras & Ogunda, 2013). Cash holdings can also be explained by behavioral theory, including agency theory, which postulates that managers have more discretion when firms keep more cash (Hillier, 2010; Tempel, 2012). Use of debt implies interest payments are mandatory and not paying them leads to default and eventually bankruptcy. Therefore the management

might keep the level of debt as low as possible (Hillier, 2010). Likewise, ownership structure has been found to positively influence dividend payout (Abor & Fiador, 2013). This implies that ownership concentration influences the firms' corporate behavior in terms of corporate investment.

1.1.1 Financial Flexibility

Financial flexibility relates to a firm's overall financial structure and whether there is sufficient flexibility to take advantage of or counter unforeseen opportunities or conditions. Gamba and Triantis (2008) defined financial flexibility as the "ability of a firm to access and restructure its financing at a low cost; these firms are able to avoid financial distress in the face of negative shocks, and to fund investment readily when profitable investment opportunities arise" (pg 243 2008). Financial flexibility enables firms to respond in a timely manner to maximise firm value (Byoun, 2008). In addition to dividend payout policy, other proxies used to measure financial flexibility are cash-on-hand and leverage in terms of used/unused credit line and debt capacity. This internal component is influenced by the volatility of cash and earnings, and managerial discretion and preference over a firm's liquidity position. In general, cash holdings and expected future cash flow are used to assess firms' ability to meet downside risk, while credit line and debt capacity are used in appraising firms' performance through their investment ability at the upside (Chua, 2012). Further, past studies done in Kenya, for instance, the study by Iraya, Onyango and Amenya (2012), have concentrated on the analysis of capital structure, in terms of cash and debt capacity. The study provides evidence that firms listed on the NSE have financial flexibility policy as captured by debt ratio and as such the general expectation for these firms is that their corporate

investment should be enhanced. Marchica & Mura (2010) provide an empirical support that a financial flexibility strategy improves the ability of firms to invest in and pursue new projects when they come along.

1.1.2 Ownership Concentration

Crespí-Cladera and Gispert (2003) touch on three issues specific to the firm; the structure and composition of ownership, how the corporate board is composed, and the control that creditors wield. Himmelberg, Hubbard and Palia (1999), building on Demsetz and Lehn (1985), suggest that insider ownership and performance are both determined by similar observed and unobserved variables in a firm's contracting environment. Mule *et al.,* (2013) provide evidence that ownership concentration is negatively related to all the measures of performance in firms listed on the NSE. For the companies listed on NSE, Kenya the highest ownership concentration is 96.310 percent, while the lowest is 11.040 percent, with an average ownership concentration of 64.286 percent and variability of 17.292 percent implying that the percentage of shares held by those considered as large shareholders range between 96.310 percent and 11.040 percent.

Gompers, Ishii and Metrick (2004) provide evidence that those firms with stronger shareholders rights have higher firm value, higher profits, lower capital expenditure and make fewer corporate acquisitions. As a consequence of the problems associated with separation of ownership and control; financing decisions and hence investment activities are influenced by share ownership. In contrast, Marchica and Mura (2010) find that average board ownership of shares for UK listed firms is around 10% for all

clusters of firms and as such they do not have significant effect on investment ability of firms. These studies suggest a causal link from ownership to performance. Following (Mule *et al*., 2013), this thesis sought to determine the moderating effects of ownership concentration on performance as measured using corporate investment

1.1.3 Non Financial Firms Listed on NSE

There are sixty one companies listed at the Nairobi Securities Exchange (NSE) in Kenya presently (NSE, 2014). In the year 2000, it introduced segments under which companies could trade based on capital requirements, working capital requirements and financial instruments. These companies are grouped into four market segments; the Main Investment Market Segment (MIMS) which is the main quotation market; Alternative Investment Segment (AIMS) which provides alternative methods for raising capital to small, medium sized and young companies and Fixed Income Market Segment (FIMS) which provides an independent market for fixed income securities such as treasury bonds, corporate bonds, preference shares and debenture stocks and the Growth and Enterprise Market Segment (GEMS) (NSE,2014).

Nairobi Stock Exchange Limited changed its name to the Nairobi Securities Exchange Limited (NSE, 2011). The change of name reflected the strategic plan of the Nairobi Securities Exchange to evolve into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments. Hence the classification shifted from the four segments to the one based on sectors. Currently there are eight sectors comprising of 61 firms. The financial ones include investment, insurance and banking. Financial firms were excluded from the

study because these firms face different regulations and have capital requirements that may not be solely due to economic or business reason. The non financial companies belong to the following sectors; agricultural, commercial and services, telecommunication and technology, automobiles and accessories, manufacturing and allied (Appendix 1). Listed companies use the NSE platform to raise capital for expansion of their operations.

1.1.4 Corporate Investment

A firm's growth and even its ability to remain competitive and to survive depends on a constant flow of ideas for new products, making existing products better and operating at lower cost (Hillie, Jaffe, Jordan, Ross & Westerfield, 2010). Investment in tangible assets such as property, plant and equipment ensures firms growth in productivity and profitability (Mudida & Ngene, 2010). The growth ensures the shareholders' wealth maximization goal realization. According to the KNBS, (ROK, 2012), investment measure the increase in capital spending such as buying new machines, building bigger factories. Investment is a component of aggregate demand and therefore boosts economic growth. If investment is effective, it should also increase the productive capacity of the economy. Investment in new technology and capital goods can increase the productive capacity of the economy leading to an increase in the long run trend rate of economic growth. Investment also increases the competitiveness of an economy (Ahuja, 2007).

A company can experience situations of underinvestment and overinvestment depending on the expected investment levels in a given year (Richardson, 2006 &

Zhang, 2009). Companies with substantial fee cash flow can invest in negative net present value (NPV) projects when all the positive NPV projects are taken resulting to over-investment. Over-investment is likely to occur in situations when growth opportunities are low, because managers want to increase the firm size despite the lack of positive NPV projects (Gdala, 2009).

On the other hand, debt overhang tend to decrease investment due to the cost of external capital and the possibility of default. When the growth opportunities are high and the management intention is to fund those growth opportunities with debt, lenders might see firms turning to debt as a signal, indicating that the firm has a low future cash flow and a low profitability (Zhang, 2009). This might result in management passing up valuable investment opportunities that could make a positive net contribution to the market value of the firm. The capital market might not recognize these growth opportunities due to information asymmetry and hence the need for firms to preserve financial flexibility.

The inability to borrow externally forces many firms to bypass attractive investment opportunities (Campello, Graham & Harvey, 2009a). Studies done previously have indicated that an average firm can invest approximately 37 percent more after acquiring financial flexibility status (Chua, 2012 and Marchica and Mura,2010). The uncertain future regarding financing of investment projects give credence to financial flexibility policy by firms which this thesis sought to examine.

1.1.4.1 Corporate investment trends by non financial firms listed on NSE,Kenya

Table 1.1: Percentage change in noncurrent assets and overall average change

Sector	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	Average% change
Agri	5.01	4.85	2.00	33.32	-1.07	21.68	6.66	4.44	-5.55	11.50	29.10		10.18%
Auto & Acc	7.59	5.45	1.85	18.42	4.35	11.48	3.43	6.46	11.25	11.11	-9.15		6.57%
Comm & Ser	56.86	2.35	1.18	5.05	2.70	-1.79	11.37	48.54	49.05	33.32	18.50		20.65%
Cons & Allied	8.58	20.95	11.84	14.74	29.04	27.13	6.18	18.79	1.84	2.56	-0.77		12.81%
Man & Allied	3.75	15.18	29.58	8.87	13.33	15.49	15.98	12.61	3.00	2.51	3.08		10.31%
Ener & Petr	32.35	27.23	22.67	14.60	38.79	41.13	19.92	4.11	0.59	6.72	5.39		19.41%
Average % change	26.27	16.15	14.35	11.98	17.44	16.23	12.52	22.68	13.18	11.12	11.05		**15.25%**

Source: NSE, 2013

Table 1.1 shows corresponding percentage changes in the noncurrent assets of the non financial listed firms between years 2002 and 2013. The total noncurrent assets increased from sh. 82.2 billion in 2002 to over sh. 400 billion in 2013. The percentage change in noncurrent assets per year on average over this period was 15.25 percent. (Appendix 2)

The financial crisis of 2007-2009 resulting from consumer defaults on subprime mortgages had remarkable effects on the US financial sector and later on the whole economy (Financial Times, 2010). The supply of external capital was radically restricted and companies were forced to rely on internal sources. The high cost of borrowing and shallow financial deepening are major challenges facing firms in developing countries. It is important for firms in developing countries to be able to finance their investment activities and grow over time if they are ever to play an increasing and predominant role of providing employment as well as income in terms of profits, dividends and wages to households (Abor, 2008).The changing economic circumstances resulting from the financial crisis, although it had insignificant effects on

Kenya's economy, question arises as to the preparedness by the listed companies in the event it happens. Hence the need to examine the effect of different sources of financial flexibility on corporate investment

1.2 Statement of the Problem

Past studies done in Kenya on financial flexibility provide evidence that firms listed on the NSE have financial flexibility policy as captured by debt ratio. Evidence also indicates that one of the ways of ensuring access to financial resources is that firms adopt financial flexibility policy (Iraya *et al.*, 2012). Firms that have achieved a financial flexibility status are able to increase their investment substantially. For instance, Marchica and Mura (2010) found out that financially flexible firms can increase investment levels by approximately 37 percent. However, non financial listed firms in Kenya increased investment by a modest 15 percent for the period between year 2002 and 2013. (NSE HandBook, 2013). This disparity therefore motivated this study which sought to link the measures of financial flexibility and corporate investment in the Kenyan context. The period between 2002 and 2013 was associated with increased uncertainty in financial environment where there has been increased global competition and increased cost of borrowing by firms (ROK, 2014). It is therefore important that finance managers device ways of accessing less costly and value adding financial resources that will enable firms to undertake investment projects that increase the shareholders wealth. Firms can adopt financial flexibility policy with a view of ensuring access to less costly investment funds. The components of financial flexibility include debt capacity, cash holdings and dividend decisions.

Although cash holdings, debt capacity and dividend decisions contribute to better investment and greater firm value in the long run, the link between these measures of financial flexibility and corporate investment are not well understood in the Kenyan context. Hence the study sought to examine the effects of various sources of financial flexibility on corporate investment. This study therefore bridged the gap by linking financial flexibility, a capital structure decision, with corporate investment decisions in Kenya.

1.3 Objectives of the study

1.3.1 General objective

The purpose of this study was to investigate the effects of financial flexibility on corporate investment of non financial companies listed on NSE, Kenya.

1.3.2 Specific Objectives

The specific objectives of this study were:

i. To analyse the effect of debt capacity on corporate investment of non financial companies listed on NSE, Kenya.

ii. To assess the effect of cash holdings on corporate investment of non financial companies listed on NSE, Kenya.

iii. To analyse the effect of dividend decisions on corporate investment of non financial companies listed on NSE, Kenya.

iv. To determine the moderating effects of ownership concentration on the relationship between financial flexibility and corporate investment of non financial companies listed on NSE, Kenya.

1.3.3. Hypotheses

Ho_1: There is no relationship between debt capacity and corporate investment of non financial companies listed on NSE, Kenya.

Ho_2: There is no relationship between cash holdings and corporate investment of non financial companies listed on NSE, Kenya.

Ho_3: There is no relationship between dividend payout policy and corporate investment of non financial companies listed on NSE, Kenya.

Ho_4: Ownership concentration has no influence on the relationship between financial flexibility and corporate investment of non financial companies listed on NSE, Kenya.

1.4 Significance of the Study

1.4.1 Policy Implication

The outcome of the study will form a basis for policy formulation and implementation with regards to non financial companies listed on NSE, Kenya. The outcome of the study will help policy makers to take into consideration financial flexibility components that significantly impact on financing decisions for corporate investment. The implementation of such policies will benefit not only the non financial listed firms but

also other non financial private companies since all of them seek to access finance for investment with ease and at low cost.

1.4.2 The Stakeholders of Firms

The study will also benefit stakeholders in these corporate entities. These include the managers, the creditors, the shareholders and the government. For instance, the study will be good basis for finance managers in their formulation of financing strategies. This is because the outcome of the study will help them in planning and controlling functions and hence meet the financial needs of the firms. The outcome of the study will also help the shareholders to understand the importance of financial flexibility and how it affects the corporate investment which has a direct effect on profitability of the firms and hence the return on their investment.

1.4.3 Academicians and Researchers

This study will also contribute to the existing financial literature in a several ways. This study aims to investigate the effect of financial flexibility on corporate investment and will be performed in the under explored Kenyan setting. The findings will enrich available literature by performing the study about financial flexibility in unexplored time frames (2002-2013) and setting.

1.5 Scope of the Study

This study focused on the non financial firms quoted at Nairobi Securities Exchange in Kenya between years 2002 and 2013. A total number of 336 firm year observations were used from 28 non financial companies listed at NSE. Financial companies were excluded from the study because central bank prudential and banking requirements

regulate their financing and liquidity. These regulations do not apply to non financial companies. Common tax system, same bankruptcy policies, comparable market rules and similar financial customs enable research on correlation between financial flexibility and corporate investment to provide realistic findings (Mwangi, *et al.*, 2014). The main variables included debt capacity, cash holdings, dividend decisions and corporate investments.

1.6 Limitations of the Study.

The main limitations of the study comprised of the size of the study population. The number of companies listed on NSE, Kenya is relatively small and hence the study used panel data to increase the quantity and quality of the data available for analysis.

1.7 Organization of the Study

This thesis is structured as follows: The foregoing chapter one provides the research background, research objectives, research hypothesis, significance of the study, scope, and the limitations expected to be encountered in the course of the study. Chapter two presents the review of theoretical and empirical literature review on financial flexibility and corporate investments. Then chapter three deals with the methodology that was employed in the study to achieve the objectives. Chapter four presents and discusses the result of the study. Chapter five outlines the summary, the conclusions and recommendations based on the findings of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a critical review of empirical literature relating to financial flexibility and corporate investments. The association between financial flexibility and corporate investment is 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 contextualizing the study.

2.2 Theoretical Review

This section discusses the relevant theories that support the research problem. This ensured that the study construct was informed by a sound theoretical model.

2.2.1 The Trade off Theory

According to Myers (1984), the trade-off theory explains that optimal debt level is obtained when present value of tax shield with debt financing is just offset by increase in the present value of cost of distress. Trade-off theory, deals with financial distress and tax advantage of debt financing. Financial distress indicates a condition when promises to pay creditors are broken or honoured with difficulty and it can lead to bankruptcy. Cost of financial distress depends on the likelihood of distress and cost of bankruptcy. According to MM's propositions, firm can have 100 percent debt in its capital structure thereby receiving utmost benefit of tax shield but in reality capital structure composing of entirely debt is not possible. Consequently, trade off theory suggests a limited amount of debt and proposes that the optimal leverage ratio of the

firm is determined by the trade-off between tax shields with debt financing against higher bankruptcy cost.

According to trade off theory, optimal debt ratio varies from firm to firm. Firm having safe and tangible assets and plenty of taxable income have high debt ratio. Such firms will be in a position to provide collateral for debts and in case of default, tangible assets will be apprehended but still firm may be in a place to avoid bankruptcy. According to theory profitable firms take more benefit of the tax shield by debt financing because there is less chance for them to go bankrupt therefore profitable firms are capable of raising their debt ratio more than less profitable firms. This theory contrast MM theory. Given that financial flexibility requires firm to have unused debt capacity, the theory does not address this concern as it advocates for optimal debt level. Neither does the theory advocate for equity finance such as retained earnings. However, the theory explains use of debt financing is more applicable to firms with tangible assets, the industry a firm belongs and firms with less financial distress. Based on the arguments of the trade off theory, this study sought to establish whether the use of debt financing had any effects on corporate investment of non financial companies listed on the NSE.

By utilizing trade-off theory on the case of cash holding, the theory implies that there is an optimal cash level which results from weighing its marginal benefits and costs. Cash holding generates costs and benefits and is very important in financing the growth opportunities of the firm. The important benefit of holding cash is that, it constitutes a safety buffer which permits firms to avoid the costs of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities.

Insufficient cash forces firms to forgo profitable investment projects or to support abnormally high costs of financing. Two principal costs are associated with cash holding. These costs depend on whether managers maximize shareholders' wealth or not. If managers' decisions are in line with shareholders' interests, the only cost of cash holding is its lower return relative to other investments of the same risk. If managers do not maximize shareholders' wealth, they increase their cash holding to increase assets under their control and so to be able to increase their managerial discretion. In this case, the cost of cash holding will increase and include the agency cost of managerial discretion and hence this study sought to establish whether cash holdings had any effect on the corporate investment of non financial companies listed on the NSE.

2.2.2 Pecking Order Theory (Information Asymmetry Theory)

According to Myers and Majluf (1984), pecking order theory advocates for an order in the choice of finance due to different degrees of asymmetry and agency costs present in various sources of finance. This theory operates on the premise that there is no target capital structure. It assumes that finance is raised according to a preferred hierarchy. This hierarchy generally suggests that financing investments from retained earnings is the most preferred. Additional funds will then be raised in order of preference from straight debt and finally through the issue of new equity. This preferred hierarchy of financing reflects two attributes that finance managers value: financial flexibility and control. Accordingly, retained earnings are considered first in the financing pecking order because they are cheaper and are rarely affected by asymmetry of information.

Second, debt is considered next since it carries low asymmetry which serves as a monitoring device against wasteful spending by the management. Finally, external equity is used as a last option because of its adverse selection effect. The model also asserts that outside investors can rationally discount the firm's stock price when managers issue equity instead of riskless debt. This is because of the perception that a firm only issues equity when in financial trouble. In order to avoid this discount, managers avoid issuance of equity as much as possible. Therefore firms restrain themselves from issuing debt to avoid the costs of financial distress and to maintain financial slack. The implication of the pecking order approach shows that the excess cost of external finance causes some firms to be liquidity constrained, so that cash flow becomes an important determinant of investment spending. Based on the arguments of pecking order theory, this study sought to establish the effects of this hierarchy on corporate investment of non financial companies listed on the NSE.

2.2.3 Agency Cost Theory

Jensen and Meckling (1976) pioneered the agency cost theory. The model identifies two conflicts of interest; conflict between managers and shareholders and debt holders and shareholders. The study suggests that since managers possess less than 100 percent residual claims on the company it can cause a conflict.

On the other hand, conflict between debt holder and shareholder can arise when issuance of debt gives more incentive to shareholders as compared to debt holders. Debt finance attracts a fixed charge and hence debt investment is more likely to accrue benefits to shareholders than to debt-holders. On the other hand in the event that

investment fails then shareholders escape unscathed with the only setback being bankruptcy while debt-holders bear most of consequences. Such conflicts of interest could create agency costs and requires some remedial measures.

The researchers distinguished among various costs that are likely to arise, these include; monitoring costs arising from monitoring of expenditures incurred by agents and bonding costs arising from drawing up contractual agreement between principal and agent. This act leaves the agent with little room to operate which could prove costly to the firm.

Grossman and Hart (1982) further support this view and maintain that usage of debt reduces conflict between managers and shareholders. Their model puts a spotlight on bankruptcy situation in a debt scenario. The study shows that managers are torn between investing in projects with positive Net Present Value (NPV) and consuming perks, but since excessive consumption of perks is likely to bankrupt the firm and by extension job losses for managers, debt therefore creates an enticement for managers to make better investment decisions and consume less perks.

This view is further supported by Harris and Raviv (1991) who agree that managers prefer to continue with current firm operations even if investors prefer otherwise. The theory by implication advocates the use of debt financing. However it offers possible solutions to resolve the agency conflicts. For instance, payment of excess cash as dividends to the shareholders leaves less cash balances to the firms. Similarly, majority shareholders can influence the financing decisions (Foroughi and Fooladi, 2011). Hence high level of ownership concentration can create operational risk and cause major

shareholders to expropriate the firms' resources for their own interests. This has effects on financial flexibility and hence investment ability of the firm. Based on the arguments of agency theory, this study sought to establish whether ownership concentration had any effect on the relationship between financial flexibility and corporate investment of non financial companies listed on NSE.

2.2.4 The Free Cash Flow Theory

The Free Cash Flow Theory (Jensen, 1986) explains that managers have an incentive to hoard cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. With the cash holding, they do not need to raise external funds and could undertake investments that have a negative impact on shareholders' wealth. Thus, management may hold excess cash simply because it is risk averse. The possibility that management could be using cash for its own objectives raises the costs of outside funds, because outsiders do not know whether management is raising cash to increase firm value or to pursue its own objectives. Finally, management may accumulate cash because it does not want to make payouts to shareholders, and wants to keep funds within the firm. Having the cash, however, management must find ways to spend it, and hence chooses poor projects when good projects are not available (Opler, 1999). Based on the arguments of the theory, this study sought to establish whether the free cash flow had any effect on corporate investment of non financial companies listed on NSE.

2.2.5 Residual Dividend Policy Theory

According to Lintner (1956), the residual theory of dividend policy states that the firm will only pay dividends from residual earnings, that is, from earnings left over after all suitable (positive NPV) investment opportunities have been financed. Retained earnings are the most important source for financing for most companies. A residual approach to the dividend policy, as the first claim on retained earnings will be the financing of the investment projects. With the residual dividend policy, the primary focus of the firm's management is indeed on investment, not dividends. Dividend policy becomes irrelevant, if it is treated as a passive rather than an active, decision variable. The view of management in this case is that the value of firm and the wealth of its shareholders will be maximized by investing the earnings in the appropriate investment projects, rather than paying them out as dividends to shareholders.

Thus managers will actively seek out, and invest the firm's earnings in, all acceptable (in terms of risk and return) investment projects, which are expected to increase the value of the firm. Dividends will only be paid when retained earnings exceed the funds required to finance the suitable investment projects. Conversely when the total investment funds required exceed retained earnings, no dividend will be paid.

The motives for a residual policy, or high retentions dividend policy therefore includes a high retention policy which reduces the need to raise fresh capital, (debt or equity), thus saving on associated issues and floatation costs. A high retention policy may enable a company to finance a more rapid and higher rate of growth. When the effective rate of tax on dividend income is higher than the tax on capital gains, some

shareholders, because of their personal tax positions, may prefer a high retention/low payout policy. This study therefore sought to determine the effects of dividend decisions on corporate investment.

2.3 Empirical Review

This section discusses the relevant empirical literature that supports the research problem. This ensured that the study content was informed by past studies related to the study being undertaken.

2.3.1 Effect of Debt Capacity on Corporate investment

Gutierez, Azofra and Olmo (2014), carried out a study to analyse the influence of financial distress on investment behavior of listed companies from Germany, Canada, Spain, France, Italy UK and USA between 1996 to 2006. The study applied panel data estimation using Generalized Method of Moments (System-GMM) listed. Investment behaviour was proxied by investment opportunities and financial distress was measured using Altman Z-score where companies with z-score higher than 2.6 were considered as financially healthy. Z-score of between 1.1 and 2.6 were considered to be in grey zone and those below 1.1 were considered to be in distress zone. The study concluded that financial distress has a significant negative relationship with investment opportunities. The study further showed that the influence of financial distress on investment was different according to the investment opportunities available to companies. This study however did not consider the actual influence of incentives to invest on investment levels.

Chua (2012) investigated the effect of debt capacity on investment ability of companies listed in US security exchange. Using a sample of 677 public firms from all US over the period 1980 to 2008, the researcher analysed the effects of firm's internal flexibility using investment model analysis. To measure the actual impact of debt capacity, the researcher used the actual investment variable measured in two ways; Net investment measured as the sum of capital expenditure, acquisitions, increase in investment less sale of property plant and equipment and sale of investment scaled by beginning period total assets. Then gross investment measured as investment in fixed assets scaled by beginning period total assets. The independent variables are cash holdings, debt capacity, the interaction term between cash holding and debt capacity, Tobin's Q and cash flow. The study found a significant positive relationship between debt capacity and investment ability. The study further found that the impact of debt capacity on investment to be 1.73 for a firm with average cash holdings of 21 percent; while the impact of cash on investment was 0.52 for a firm owning average debt capacity of 29 percent . Debt capacity had greater impact on investment compared to cash. The current study extended the study by Chua by incorporating the indicators of debt capacity to determine their relationship with corporate investment.

Marchica and Mura (2010) using a sample of 677 from all United Kingdom listed firms from 1965 to 2008 tested the hypothesis that a conservative leverage policy directed at maintaining financial flexibility could enhance investment ability using investment regression model analysis. The study adopted non experimental explanatory research design. Investment is the dependent variable measured as investment in fixed assets to capital stock. The independent variables include cash flow (the ratio of operating profits

before tax, interest and preference dividends plus depreciation of fixed assets to capital stock), Tobin's Q (the ratio of book value of total assets less book value of equity plus market value of equity to capital stock), financially flexible firms were defined as having debt that was below the level predicted by a leverage equation (equal to one when a firm has spare debt capacity for a minimum of three years otherwise zero) and the interaction term between cash flow and financially flexible firms.

The findings of the study provided evidence that an average company that maintained a low leverage policy for 3 years could increase its capital expenditures by around 37 percent. Further, their tests showed that the longer the period of conservative debt policy, the lower the economic impact of financial flexibility on the firm's investment ability. The study found a significant positive relationship between reserves of borrowing power and ability to invest. This study however maintained that companies with spare debt capacity can raise external funds to finance projects and are therefore less dependent on their internal funds. However, the study did not consider the moderating effects of ownership concentration on the relationship between financial leverage and investment decision. The current study extended the study by Marchica and Mura by incorporating free cash flow and ownership concentration in the investment model.

Barbosa & Moraes (2005) conducted a study to determine the effects of asset tangibility on access to finance for capital expenditure. This study contend that collateral is an important factor for companies to access debt finance among micro, small and medium enterprise. Collateral reduces the risk of a loan by giving the financial institution a

claim on tangible asset without diminishing its claim on the outstanding debt. This assertion is supported by IFC (2011) that collateral and credit information are critical elements of functioning credit system. The lack of these elements creates information asymmetry and a risk premium for borrowers who want to access credit. The study found a significant positive relationship between tangibility and corporate investment. The companies that have high level of tangible assets tend to have higher borrowing capacity and hence ability to invest. The current study covered all non financial companies listed on the NSE to determine the effects of asset tangibility on corporate investments.

2.3.2 Effect of Cash Holdings on Corporate Investment

Chua (2012) investigated the effect of cash holding on investment ability of companies listed in US security exchange. Using a sample of 677 public firms from all US over the period 1980 to 2008, the researcher analysed the effects of firm's internal flexibility using investment model analysis. Cash holding was proxied by free cash flow to firm and measured as EBIT (1- tax rate) + depreciation – change in non cash working capital – capital expenditure. To measure the actual impact of cash holdings, the corporate investment was proxied by net investment measured as the sum of capital expenditure, acquisitions, increase in investment less sale of property plant and equipment and sale of investment scaled by beginning period total assets. Then the other proxy by gross investment measured as investment in fixed assets scaled by beginning period total assets. The study concluded that cash holdings had significant positive effect on

investment ability. The current study extended the study by Chua by incorporating free cash flow, firm size and earnings volatility as proxies for cash holdings.

Vogt (2010) explored the relationship between free cash flow and capital investment spending of manufacturing firms in US. The study operationalised capital spending as capital spending to the beginning of the period gross noncurrent assets and cash flow as cash scaled to noncurrent assets, sales scaled to noncurrent assets and tobin's Q. The study adopted causal research design where panel data procedure was used to analyse the data. According to the study, free cash flow has a significant positive relationship with capital spending. The findings of the study are consistent with agency and pecking order theories. However, this study isolated the other determinants of cash holdings and focused only on free cash flow.

Bates *et al.*, (2009) explored the relationship between cash holdings and capital expenditure for all United States firms incorporated from 1980 to 2006. The financial firms and utilities were excluded from the sample yielding a panel of 117,438 year observations from 13,599 firms. The study applied regression analysis and found that over the stated period, average cash ratio for US firms had dramatic increase from 1980 to 2006. However, there was a significant negative relationship between cash ratio and capital expenditure. The findings of the study are consistent with agency theory. The present study extended the study by Bate *et al.*,(2009) by incorporating cash holdings proxies - free cash flow and earnings volatility. The study also examined sector differences on cash holdings.

Almeida and Campello (2007) conducted a study to investigate the effects of cash flow on capital expenditure. The study which focused on the firms listed on NYSE in US, used correlation and regression tests on the financial data. The study found that there was positive significant positive relationship between cash flow and capital net investment. The study however did not consider the effect of earning volatility on capital expenditure.

2.3.3 Effect of Dividend Decisions on Corporate Investment

Ameer (2014) carried out a study to determine the relationship between financial constraints and corporate investment for non financial listed firms in six Asian countries over the period of 1991 to 2004. The study applied a panel smooth transition regression model and found that low dividend payout policy has a significant positive relationship with corporate investments. The findings are consistent with residual dividend policy theory. The current study extended the study by Ameer by incorporating investment opportunities and profitability. The study also examined the sector differences on corporate investments.

Blau & Fuller, 2008, in USA made a study on flexibility and dividends. The objective of the study was to establish how a firm's dividend policy affects management's flexibility and how dividend policy will be influenced by the flexibility tradeoffs perceived by the management. The researchers used a model for optimal dividend policy which is a function of firm's dividend yield, the firm's yearly raw dividend payments; the firm's dividends standardized by net income and dividend payment divided by firm's financial slack. The researchers used sample statistics of 2,407

dividend paying and non dividend paying firms listed from 1980 to 2000. The result of the study indicated that high dividend payment has a significant negative impact on the management ability to invest in projects with positive NPV. The study however did not consider other indicators of dividend decisions in the analysis including profitability and availability of investment opportunities.

2.3.4 Moderating effect of Ownership Concentration.

Mule *et al.,* (2013) used a balanced panel data for 53 firms listed at the NSE spanning the period 2007 to 2011 to establish the effect of ownership concentration on financial performance of these firms. The study pursues three measures of performance of firms i.e. the Return on equity, return on assets and the Tobin's Q. In addition to ownership concentration, the study expanded the list of explanatory variables that have been argued to impact on performance. These variables include asset tangibility, firm's size, firm's age, firm's profitability and firm's management efficiency. The study used panel data used to estimate the model. The panel least squares results show that ownership concentration is negatively related to all the measures of performance in firms listed at the NSE. This negative effect means that higher ownership concentration provides majority shareholder with more opportunity and incentive to expropriate firm's resources at the expense of minority shareholders which is in line with expropriation hypothesis. The current study extended the study by Mule by incorporating ownership concentration as a moderating variable on the relationship between financial flexibility and corporate investment.

Marchica and Mura (2010) using a sample of 677 from all United Kingdom listed firms from 1965 to 2008 tested the hypothesis that a conservative leverage policy directed at maintaining financial flexibility could enhance investment ability using investment regression model analysis. A leverage model is one of the components of financial flexibility where leverage is the independent variable measured as total debt to total assets. The variables focusing on governance characteristics include board ownership, board composition and average blockholding. The researchers find that no cluster of firms whether financially flexible or not financially flexible or always financially flexible seems particularly affected by "entrenched managers" in financing decision making. In other words the ownership structure has insignificant effect on leverage decision and therefore generates no incentive to behave conservatively. The result of the study, however contradicts study by Mule *et al* (2013). The divergent result gives room for examining the moderating effect of ownership concentration on the relationship between financial flexibility and corporate investment.

In a study to investigate the determinants of corporate cash holdings of Swiss firms Drobetz & Gruninger (2006) considered an unbalanced panel of 156 non financial listed firms over the period 1995 and 2004. The researchers use fixed and random effects panel model to analyse the determinants of cash ratio. The researchers analyze the impact of corporate governance variables on cash holdings. The researchers' results suggest that a higher percentage of managerial ownership leads to lower cash holdings, indicating reduced agency conflicts between managers and shareholders. In contrast, when managerial ownership becomes large (in absolute terms), cash holdings increase. The researchers interpret this result as reflecting managers' risk aversion. Finally, CEO

duality is associated with higher cash holdings. The current study extended the study by Drobetz & Gruinger by considering the overall top five shareholding percentages as a moderating variable on the realationship between financial flexibility and corporate investment.

2.4 Summary of Literature and Research Gaps

Financial flexibility indicators comprise of debt capacity, cash holdings and dividend decisions. The empirical literature reviewed relating financial flexibility variables to corporate investment have focused on only one aspect of financial flexibility on corporate investment. Some studies, for instance, have focused on the effects of financial leverage alone on corporate investment (Marchica & Mura, 2010, Chua, 2012). Other studies have considered effects of cash holding only on corporate investment (Vogt,2010 & Bates *et al* 2009). Other studies have considered the effects of dividend decisions alone on corporate investment (Ameer,2014 & Blau & Full, 2008). The present study contributed to the knowledge gap by incorporating all the indicators of financial flexibility in the examination of the relationship between financial flexibility and corporate investment. This involved analyzing the effect of indicators of financial flexibility in one model on corporate investment of non financial companies listed on the NSE, Kenya.

Further, empirical studies reviewed only attempted to establish the direct relationship between certain indicators of financial flexibility and corporate investment but did not consider the moderating effects linking financial flexibility and corporate investment. This study, therefore, attempted to fill this gap in literature by determining the

moderating effects of ownership concentration on the relationship between financial flexibility and corporate investment.

Despites the numerous studies that have been done in Kenya relating some indicators of financial flexibility to performance of non financial companies listed on NSE, the relationship between financial flexibility and corporate investment is not clearly understood. A number of studies have focused on the effects financing decisions on return on asset, return on equity (Mwangi *et al.,* 2014, Kibet *et al.,* 2011). Other studies, Mule *et al.,* (2013) have focused on the effects of ownership concentration on return on asset and return on equity. The current study considered the effects of indicators of financial flexibility on ability to invest of non financial companies listed on the NSE, Kenya.

From the above summary it is clear that the literature supports the observed trend that there is increased uncertainty in financial environment and therefore the need to make financial decisions that enables firms to access capital in order to undertake investment opportunities. The literature also indicates that market imperfections constrain corporations from accessing capital markets at any time. Therefore there is need to focus on the financial policies that listed companies apply to overcome these constrains through their capital structure decisions. Finally literature has scanty information with regard to linkage of financing decisions with investment decisions in Kenya financial markets. The literature is also contradictive because empirical evidence has been found to be supporting and not supporting the agency problems. Literature is also contradictive about the effects of insider share ownership on the agency problems.

Insider shareholders can align the interests of managers and shareholders and decrease overinvestment but increasing insider share ownership might lead to the expropriation of minority shareholders and increase overinvestment. Insider ownership might reduce underinvestment because of alignment of interests between managers and shareholders, but might also decrease the underinvestment problem due to the risk of default combined with the risk of declining share prices. It is therefore, noteworthy that some skewness exists between the developed and developing countries in assessing the effects of financial flexibility on corporate investment.

2.5 Conceptual Framework

The conceptual framework demonstrating the relation between the independent variables and dependent variable distilled from literature review by the researcher is shown on Figure 1 below.

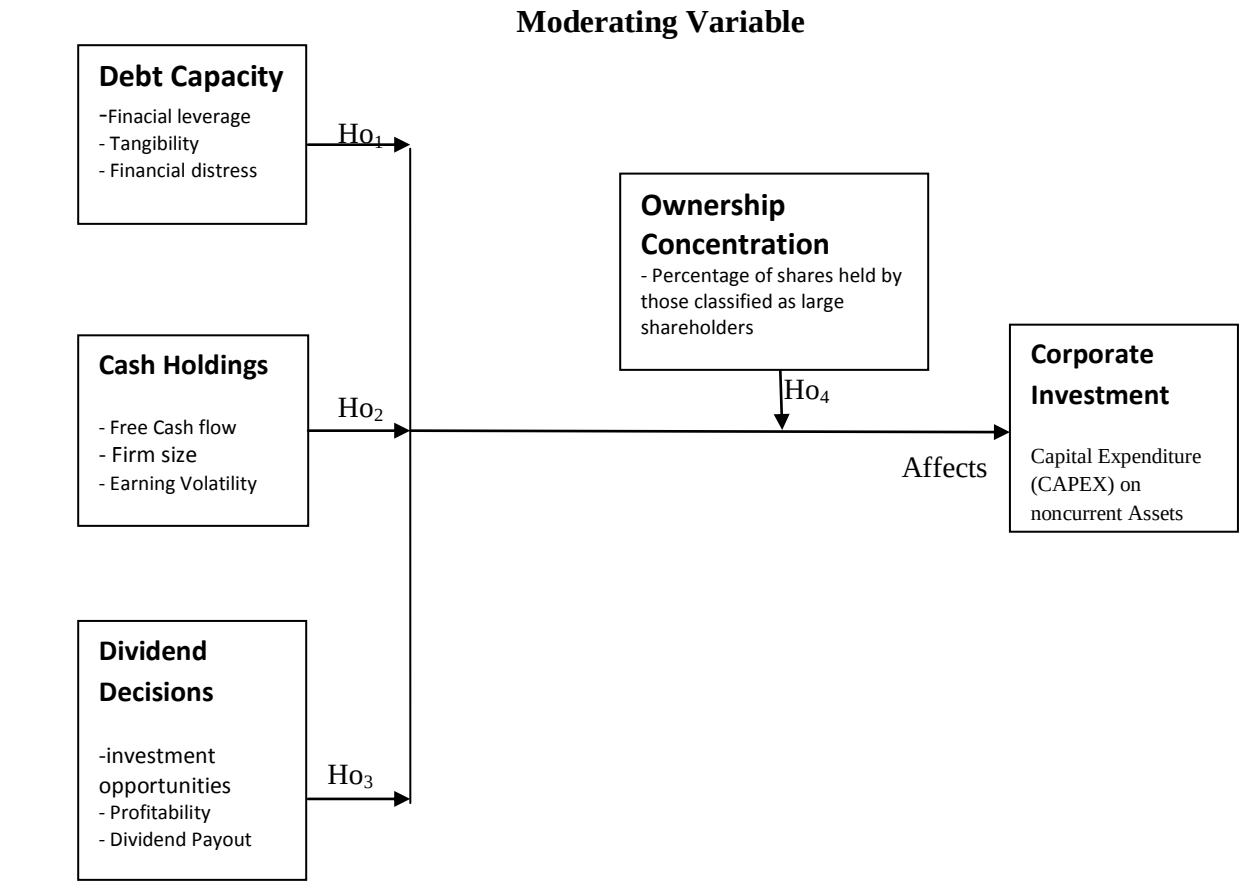

Figure 1: Conceptual Framework

Source: Researcher, 2014

The independent variables used in the study were debt capacity, cash holdings and dividend decisions. Indicators of debt capacity included financial leverage, asset tangibility and financial distress. Indicators of cash holdings included free cash flow, firm size and earnings volatility. Investment opportunities, profitability and dividend payout ratio were used as indicators of dividend decisions. Based on the past studies, the current study hypothesized that the independent variables have direct effect on corporate investment of a business entity. The dependent variable in the study was

corporate investment being the capital expenditure on noncurrent assets scaled to total assets.

The ownership concentration of shareholdings was used as a moderating variable. Given the high ownership concentration by large shareholders of companies listed on NSE, Kenya, the researcher conceptualized that this may have a moderating effect on the relationship between financial flexibility and corporate investment. Ownership concentration was measured as a percentage of shares held by five greater shareholders. The hypothesized relationship is shown in Figure 1.

CHAPTER THREE: RESEARCH 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 Philosophy

Research philosophy is important in the development of the research background, research knowledge and its nature (Saunders & Thornhill, 2009). This study philosophy was guided by research paradigm of positivism. It can be described as a paradigm which involves a broad framework, which comprises perception, beliefs and understanding of several theories and practices that are used to conduct research (Cohen, Manion & Morrison, 2000). This thesis utilized a quantitative paradigm to investigate the effect of financial flexibility on corporate investment of non financial companies listed at the Nairobi Securities Exchange, Kenya. The thesis was guided by the idea that observation and measurement is the core of scientific endeavor. The thesis followed a deductive approach because it was based on testing established theories (Saunders & Thornbill, 2009). Similarly, the research was guided by the fact that all observation is fallible and has error and that all theory is revisable. Hence the need to use triangulation to facilitate multiple measures and observations in a bid to get a better bead on what happens in reality.

3.2.1 Research Design

The study used an explanatory and non experimental research design to analyse the effects of financial flexibility on corporate investment of non financial companies listed on NSE, Kenya. Explanatory research seeks to establish causal relationship between variables (Saunders *et a.l,* 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 and 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 therefore sought to establish the relationship between financial flexibility and corporate investment and the researcher did not manipulate the independent variables as their manifestations had already occurred.

3.3 Empirical Model Specifications and Definitions

3.3.1Model Specifications

In order to analyse the effects of financial flexibility on corporate investment of firms listed in the NSE, the study modified the model used by Marchica and Mura (2010) as shown in equation 3.1.The study was guided by a panel regression model that involved analyzing the explanatory variables and the moderating variable.

According to Mwangi *et al.,* (2014) using panel data yields much larger data set with more variability and less collinearity among variables than is characteristic of cross-

section or time series data. More reliable estimates and more complicated behavioural models can be estimated with less limiting assumptions due to expanded and more informative data. Panel data sets are also better 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 28 non-financial companies listed in the NSE, using cross section data would have given a small size but after incorporating the time dimension of twelve years, the sample was expanded to 336 year observations. The resultant large sample made it possible for the study to satisfy asymptotic requirements.

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

$$Y_{i,t}= \alpha_0+\alpha_1 Q_{1i,t}+ \alpha_2 Q_{2i,t} + \alpha_3 Q_{3i,t} + \varepsilon_{i,t} \quad \text{.....(3.1)}$$

Where $Y_{i,t}$ is the dependent variable denoting corporate investment of company *i* at time *t*. *i* denotes the observation (company), *i* = 1,…..28 while *t* the time period *t*= 2002…….,2013. $Q_1 i,t$ denotes vector of debt capacity, $Q_2 i,t$ vector for cash holdings and $Q_3 i,t$ vector for dividend decisions. $\varepsilon_{i,t}$ is the composite error term.

Equation 3.1 was further expanded to obtain equation 3.2 which was used for estimation.

$$Y_{i,t}=\beta_0+\beta_1 X_{1i,t}+\beta_2 X_{2i,t}+\beta_3 X_{3i,t}+\beta_4 X_{4i,t}+\beta_5 X_{5i,t}+\beta_6 X_{6i,t}+\beta_7 X_{7i,t}+\beta_8 X_{8i,t}+\beta_9 X_{9i,t}+\varepsilon_{i,t} \quad \text{….(3.2)}$$

Where:

β_0 – is a constant, the concept explaining the level of success and it is Y when all the indicators (X_1, X_2 X_3, X_4 X_5, X_6, X_7, X_8 and X_9) are zero.

β_1, β_2 β_3 β_4 β_5 β_6 β_7 X_8 and β_9 are coefficients representing the conditions of the independent variables to the dependent variable.

Y= Change in noncurrent assets in current period of firm *i* to Total assets$_{i,t-1}$

$X_{1i,t}$ = Leverage of firm *i* in period *t*

$X_{2i,t}$ = Tangibility of firm *i* in period *t*

$X_{3i,t}$ = Financial Distress of firm *i* in period *t*

$X_{4i,t}$ = Free Cash Flows of firm *i* in period *t*

$X_{5i,t}$ = Firm Size of firm *i* in period *t*

$X_{6i,t}$ = Earnings volatility of firm *i* in period *t*

$X_{7i,t}$ = Investment opportunities of firm *i* in period *t*

$X_{8i,t}$ = Profitability of firm *i* in period *t*

$X_{9i,t}$ = Dividend Payout of firm *i* in period *t*

ε_{it}= Composite error term explaining the variability of corporate investment changes as a result of other factors not accounted for.

3.3.2 Moderating Effects Model

To test the moderating effects of ownership concentration, moderated multiple regression (MMR) analysis which is inferential procedure consisting of comparing two different least square regression equations (Aquinis, 2004) was utilised. Using MMR analysis, the moderating effect of the variable (product term) was analysed by interpreting the R^2 change obtained from the model summaries and the regression coefficients for the product obtained from the coefficient tables. Prior to conducting the MMR analysis, preliminary analyses was conducted to ensure that there was no

violation of the assumptions of normality, linearity and homogeneity of error variance (Sazali *et al*., 2009). In this study, equation (3.3) below was used to represent the variables in FGLSmodel:

(FGLS model): $Y_{i,t-1} = \beta 0 + \beta 1 X_{i,t} + \beta 2 Z_{i,t} + \varepsilon_{i,t}$ ..... (3.3)

To determine the presence of moderating effect, the OLS model was then compared with the MMR model which is represented by equation (3.4):

(MMR model): $Y_{i,t} = \beta_0 + \beta_1 X_{i,t} + \beta_2 Z_{i,t} + \beta_3 X_{i,t} * Z_{i,t} + \varepsilon_{i,t}$ .....(3.4)

Where,

Y = Corporate Investment as the dependent variable,

X = All the nine variables (indicators)

Z = A hypothesized ownership concentration moderator

X*Z = the product between the predictors (independent variables * ownership concentration),

B_0 = the intercept of the line-of-best-of-fit which represents the value of Y when X = 0,

β_1 = the least-squares estimate of the population regression coefficient for X,

β_2 = the least-squares estimate of the population regression coefficient for Z,

β_3 = the sample-base least-squares estimates of the population regression coefficient for the product term, and

ε_{it} = the error term

3.4 Operationalisation and Measurement of Variables

Table 3.1 contains a list of the study variables, operationalisation and the measurements used to estimate these variables. The measures adopted have been used and validated by other researchers.

Table 3.1:Operationalisation and Measurement of Variables

Variable	Category	Operationalisation	Measurement	Hypothesized direction
Corporate Investment	Dependent	The capital expenditure on noncurrent assets to total assets	(change in capital expenditure on noncurrent $asset_t$)/total assets $_{t-1}$	Positive/negative
Leverage	Independent	Amount of long-term debt in the total capital	$Debt_{it}$ /(Debt + Equity)$_{it}$	Positive/negative
Tangibility	Independent	The more the tangible assets the higher the ability to borrow	(fixed $asset_{it}$ /Total assets $_{it}$)	Positive/negative
Financial Distress	Independent	Is an index that reveals a firm's exposure to bankruptcy risk.	Altman's Z-score$_{it}$	Positive/negative
Free Cash Flow	Independent	This is the cash available for investment before any additional financing is considered	Ebit(1-t) + depr-change in non cash working capital – capital expenditure	Positive/negative
Firm size	Independent	Is a proxy for the size of a company	the natural logarithm of net assets at time t	Positive/negative
Earnings Volatility	Independent	The higher the volatility of cash the higher the cash holding	Standard deviation of operating cash $flow_{it}$/ total $assets_{it}$	Positive/negative
Growth Opportunities	Independent	It is a proxy for future investment opportunities	(Tobin'sQ)$_{it}$: (Market capitalization)/ total assets)) $_{it}$	Positive/negative
Profitability	Independent	The profit generated by each shilling invested in assets	(EAT/total assets) $_{it}$	Positive/negative
Dividend payout ratio	Independent	Ordinary Dividend paid in a given financial year.	(Ordinary Dividend paid) /Total Assets)$_{it}$	Positive/negative
Ownership Concentration	Moderating	This is the percentage of shares held by those classified as large shareholders	The percentage of shares held by five greater shareholders firm *i* in period *t*	Positive/negative

Source: Researcher (2015)

3.5 Target Population and Sampling

The target population of the study comprised of all non financial companies listed on the NSE between years 2002 to 2013. As at 30th March 2014 there were 42 non financial listed companies on the NSE (Appendix 1). The 42 companies were screened against various factors which included availability of data for the period under review and integrity of data, that is, unqualified audit report. Fourteen companies were dropped as they did not meet the criteria thus the remaining 28 companies became the target population of the study which was done on a census. The 28 companies were classified as shown in Table 3.2 based on NSE categorization of segments.

Table 3.2: Distribution of the target population

	Sectors	**Number of listed companies**	**Firms meeting the threshold**	**Percentage**
1	Agricultural	7	7	25%
2	Automobiles & Accessories	4	4	14%
3	Commercial & Services	12	4	14%
4	Construction & Allied	6	5	18%
5	Energy & Petroleum	4	3	11%
6	Manufacturing and Allied	9	5	18%
	Total	**42**	**28**	**100%**

Source: NSE Website (2014)

Table 3.2 represents the target population of the non financial listed firms from six sectors. 25 percent of the companies were from the agricultural sector while 14 percent were from automobile and accessories sector. Commercial and services sector, 14

percent of the target population whereas construction and allied sector comprised of 18 percent. 11 percent of the companies were in the energy and petroleum sector while 18 percent of the companies were in the manufacturing and allied sector. This distribution indicates that majority of the listed non financial companies came from the agricultural sector while the least number of companies came from energy and petroleum sector.

The financial firms were excluded from the study to remove any anomalies associated with the sector which includes high regulation by the central bank prudential on issues of liquidity, asset and capital holding and provision for bad debts among other factors (Mwangi *et al.*, 2014). The financial leverage of financial companies is not comparable to those of non financial companies. Moreover, cash is the trading asset of financial institutions and hence the levels of cash holdings are expected to be significantly higher than firm in other sectors.

According to Marchica and Mura (2010), study on correlation between financial flexibility and corporate investment should be based on companies that are subject to common tax system, same bankruptcy policies, comparable market rules and similar financial customs. However, the non financial firms that started their operation in the middle of the period under review were excluded. Hence of the 42 firms, 28 firms were used for this study (Appendix 3).

3.6 Sampling Design

A census approach was adopted for this study due to relatively small number of non financial listed companies in the NSE. According to Saunders *et al.*, (2009) a census

approach enhances validity of the collected data by including certain information rich cases for study. 28 non financial listed companies in the NSE were used in the study.

3.7 Data Collection Procedures

The researcher obtained a research permit (Appendix 4) from National Commission for Science, Technology and Innovation to allow utilization of data from published financial statements of non financial listed firms listed in the NSE. The data was balanced panel data which consisted of time series and cross-sections. The cross sectional data consisted of the companies while the time series were years 2002 to 2013. A combination of time series with cross- sections enhances the quality and quantity of data levels that would otherwise be impossible to achieve with only one of the two dimensions (Gujarati,2003). The data was obtained from the NSE handbooks for the period of reference. The specific financial statements from which data were extracted included the income statement, statement of financial position, cash flow statements and notes to the accounts. The researcher used a document review guide presented in Appendix 5(a) & 5(b) to extract and complete the required data for analysis from the financial statements.

3.7 Data Analysis Method

Descriptive statistics, correlation analysis and panel multiple regression analysis were used to analyse the data obtained. The panel methodology was aided by STATA software. After extracting data from the financial statements, excel program was used to compute the relevant ratios for each of the companies across time. The data was then formatted in STATA long forms before being imported to STATA from excel.

Descriptive statistics were used to summarise and profile the status of debt capacity, cash holdings, dividend decisions and corporate investment of non financial companies listed on the NSE. The multiple regression model fulfilled the assumptions of the classical linear regression model. Panel data can be estimated using any of the following models: a pooled effects, random effects and fixed effects. Polled effects model assumes that parameters do not vary across observations. The random effects model assumes that coefficients are randomly characterized from the population that the random sample is drawn. That is, they have a common mean value for the intercept. The fixed effects model on the other hand assumes that each cross section intercept does not vary over time, that is, it is time invariant. After estimating the models, the Hausman test was used to determine the appropriate model for estimating the panel data in the study.

3.7.1 Pre-estimation and Post estimation Tests

During the study, it was necessary to ensure non-violation of the assumptions of the classical linear regression model (CLRM) in estimating equation 3.2 and 3.3. When the assumptions of classical linear regression model are violated, the study runs the risk of obtaining biased, inefficient and inconsistent parameter estimates. As a consequence, the following pre-estimation and post-estimation tests were conducted to ensure proper specification of equations 3.2 and 3.3: unit root test, normality test, multicollinearity, heteroskedasticity and autocorrelation tests.

3.7.1.1 Panel 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 biased 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). Most economic variables are usually non-stationary in nature and prior to running a regression analysis. Unit root tests were thus conducted using the LLC test to establish whether the variables were stationary or non-stationary. The purpose of this is to avoid spurious regression results being obtained by using non-stationary series. The null hypothesis for this test was that all panels had unit root. If any of the variables had unit root, the researcher would difference it and run equation 3.2 and 3.3 using the differenced variable.

3.7.1.2 Mulitcollinearity

Multicollenarity was tested in the study using correlation matrix whereby the cut off point for severe multicollinearity was 0.8 (Cooper and Schindler,2008). Failure to account for perfect multicollinearity results into indeterminate regression coefficients and infinite standard errors while existence of imperfect multicollenearity 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 muilticollinearity but rather its severity. A correlation coefficient greater than 0.8, thus indicates the presence of severe multicollinearity.

3.8.1.3 Autocorrelation

This study used the Woolridge test for serial correlation to test for the presence of autocorrelation in the linear panel data. Serial correlation 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 Woolridge (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 ineffeciaent parameter estimates. The null hypothesis for this test was that the data had no serial autocorrelation. If the serial autocorrelation was detected in the study data, then generalized least squire estimation procedure would be adopted.

3.7.1.4 Heteroskedasticity

Heteroskedasticity is an assumption of classical linear regression model (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 and invalid standard errors. Panel level heteroskedasticity was tested for, using the Breusch - Pagan test. 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.

3.7.2 Test for Fixed and Random Effects

When using panel data analysis, a decision has to be made 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 was 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 sought to determine whether there was significant correlation between the unobserved firm specific random effects and the regressors. If no such correlation exists, then the random effects model would be inconsistently estimated and the fixed effects model would be the model of choice (Greene, 2008).

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 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 (2002).

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 regression or the random effects model. The null hypothesis for this test was that random effects model is appropriate.

3.7.3 Test for Moderating Effects

The study further tested for the existence of any moderating effects of financial flexibility on the investment decisions of non financial companies listed in NSE. The study used moderated multiple regression analysis consisting of comparing two different least square regression equations (Aquinis,2004). Using MMR analysis,the moderating effect of the variable (product term) was analysed by interpreting the R^2 change obtained from the model summaries and the regression coefficients for the product obtained from the coefficient tables.

3.9 Ethical considerations

When reporting the results of the study, the researcher ensured that the research report accurately and represent what was observed after proper analysis of all the data collected.

CHAPTER FOUR: EMPIRICAL FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results as per the objectives and hypotheses. The findings are presented in tables and narrations as per the specific objectives. The chapter presents descriptive statistics, trend analysis, and the pre-estimation and post-estimation tests. The chapter further presents the results of the model that was adopted in order to achieve the study's objectives.

4.2 Descriptive Statistics

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

Table 4.1: Descriptive Statistics

Variable	No. of Observations	Mean	Std Deviation	Min	Max
Corporate Investments (CAPEX1)	336	0.0726	0.1617	-1.0811	2.1480
Leverage	336	0.2467	0.1855	0.0012	0.9484
Asset Tangibility	336	0.3962	0.4002	0.0087	6.6238
Firm Size	336	15.2977	1.5771	10.7837	20.0243
Earnings Volatility	336	0.0280	0.0392	0.0001	0.3915
Growth Opportunities	336	1.1172	1.2519	0.0218	10.6537
Profitability	336	0.0740	0.0914	0.3061	0.6257
Dividend payout	336	0.0396	0.0534	0.0000	0.3925
Financial Distress	336	0.2530	0.4354	0.0000	1.000
Free Cash Flow	336	0.3929	0.4891	0.0000	1.000
Ownership Concentration	336	0.7167	0.1422	0.2339	0.9801

Source: Study Data (2015)

Results in Table 4.1 show the summary of the descriptive statistics of corporate investments, leverage, asset tangibility, firm size, earnings volatility, growth opportunity, profitability, dividend payout and ownership concentration. Free cash flow and financial distress variables are dummies. (Actual data in appendix 6).

The total mean of corporate investments for the period 2002 to 2013 was 0.0726 with a standard deviation of 0.1617 indicating a small variability in corporate investments over time. The minimum and maximum values of corporate investments over the same period of time were -1.0811 and 2.1480 respectively. The positive investment indicates that the companies were on average increasing their levels of investments although some companies were divesting as reflected by negative minimum observed value of corporate investments.

The total mean of leverage for the period 2002 to 2013 was 0.2467. This indicates that on average, the proportion of debt to total capital was low over that period as the variation was relatively low as evidenced by a standard deviation of 0.1855 indicating small variability in leverage over time. The minimum and maximum values of leverage over the same period of time were 0.0012 and 0.9484 respectively. There was a great variation in leverage as evidenced by the fact that the minimum observed leverage was 0.0012 while the maximum was 0.9484. This implies that some companies were able to increase their access to credit facilities over the period.

The results in Table 4.1 further indicate that, the total mean of asset tangibility for the period 2002 to 2013 was 0.3962. This indicates that on average non financial listed companies in NSE have low levels of tangible assets. The greatest proportion of the

total assets comprises of non tangible assets. However there is significant variation in tangibility as evidenced by the fact that the standard deviation was 0.4002. This indicates that some companies have high levels of tangible assets. The minimum and maximum values of tangibility over the same period of time were 0.0087 and 6.6238 respectively.

Further, the results show that the total mean of firm size for the period 2002 to 2013 was 15.2977 with a standard deviation of 1.5771 indicating small variability in firm size over time. The minimum and maximum values of firm size over the same period of time were 10.7837 and 20.0243 respectively.

From the results displayed by Table 4.1, the total mean of earnings volatility for the period 2002 to 2013 was 0.028 with a standard deviation of 0.0392 indicating a small variability in earnings volatility over time. However, the minimum and maximum values of earnings volatility over the same period of time were 0.0001 and 0.3915 respectively. This indicates that companies experienced great variations in their earnings patterns over the same period.

The results also show that the total mean of growth opportunity for the period 2002 to 2013 was 1.1172 with a standard deviation of 1.2519 indicating variability in growth opportunity over time. This indicates that the market signaled high growth prospects for the non financial listed companies in NSE. However these growth prospects had mixed results over the period as evidenced by values for the minimum and maximum growth opportunities over the same period of 0.0218 and 10.6537 respectively.

The total mean of profitability for the period 2002 to 2013 was 0.0740 with a standard deviation of 0.0396 indicating small variability in profitability over time. The minimum and maximum values of profitability over the same period of time were -0.3061 and 0.6257 respectively. The negative observation implies that some companies reported losses which indicate that they could not implement investment projects from internal sources of finance during the period.

The total mean of dividends for the period 2002 to 2013 was 0.0396 with a standard deviation of 0.0534 indicating a small variability in dividends over time. This observation indicates that on average non financial listed companies in NSE, Kenya preferred to retain more funds than to pay dividends to shareholders. This evidence corroborates the mean observation that Kenyan companies do not follow signaling dividend theory where companies pay high dividends to signal good prospects to prospective investors. The Minimum and Maximum values of dividends over the same period of time were 0.0000 and 0.3925 respectively.

Further Table 4.1 shows that the total mean of ownership concentration for the period 2002 to 2013 was 0.7167. This indicates that a small percentage of shareholders own the majority of the shares of the non financial companies listed in NSE. The small variability in ownership concentration is corroborated by a relatively low standard deviation of 0.1422. As a consequence, the decision making through voting is done by the same small percentage of shareholders. The minimum and maximum values of ownership opportunity over the same period of time were 0.2339 and 0.9801 respectively.

4.3 Diagnostic Test Results

This section presents the results of the following diagnostic tests: test of multicollinearity, autocorrelation test, panel unit root test and Hausman specification test.

4.3.1 Multicollinearity Test Result

Table 4.2: Correlation Matrix

	CAPEX1	LEV	TANG	DIST	FCF	SIZE	ERNVOL	GROPP	PROF	DIV	OWNSP
CAPEX1	1.0000										
LEV	0.2825	1.0000									
TANG	0.7246	0.2961	1.0000								
DIST	0.0763	0.5059	0.1036	1.0000							
FCF	0.2627	0.2164	0.1104	0.1907	1.0000						
SIZE	0.1439	0.2363	0.0901	0.2835	0.1299	1.0000					
ERNVOL	-0.0019	-0.1478	0.0483	-0.1187	-0.0123	-0.0445	1.0000				
GROPP	0.3245	-0.0789	0.3401	-0.3680	-0.1371	-0.1254	-0.0517	1.0000			
PROF	0.3755	-0.1783	0.2539	-0.3334	-0.2384	0.0014	0.0327	0.5624	1.0000		
DIV	0.1428	-0.1149	0.0999	-0.2762	-0.2622	0.0595	-0.0437	0.5945	0.5532	1.0000	
OWNSP	-0.0833	0.0684	-0.0383	-0.2059	-0.0554	-0.3718	-0.0471	0.0820	-0.0642	0.0193	1.0000

As presented in Table 4.2, the study used a correlation matrix to test for multicollinearity. The explanatory variables used in the study were leverage, tangibility, financial distress, size, growth opportunity, profitability, dividend payout ratio, earning volatility and free cash flow. Capital expenditure (corporate investment) is the regressor. The results indicate that there was no presence of severe multicollinearity since all the coefficients were less than 0.8 as recommended by Gujarati (2010).

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 capital expenditure, leverage, financial distress, firm size, growth opportunity, profitability, dividend payout ratio, earnings volatility and free cash flows are presented in appendix 7 and summarized in the Table 4.3.

Table 4.3: Panel Unit Root Test

Table 4.3(a): Panel Unit Root Test

Variable	**Test**	**At level**		**At First Difference**	
		statistics	significance	statistics	significance
Capital expenditure	Levin, Lin & Chu t*	-4.34843	0.0000		
	Im, Pesaran and Shin W-stat	-2.51088	0.0060		
	ADF - Fisher Chi-square	91.0198	0.0021		
	PP - Fisher Chi-square	164.390	0.0000		
Leverage	Levin, Lin & Chu t*	-17.3370	0.0000		
	Im, Pesaran and Shin W-stat	-6.94609	0.0000		
	ADF - Fisher Chi-square	109.140	0.0000		
	PP - Fisher Chi-square	94.2329	0.0011		
Tangibility	Levin, Lin & Chu t*	-6.02309	0.0000		

	Im, Pesaran and Shin W-stat	-2.35187	0.0093		
	ADF - Fisher Chi-square	93.5303	0.0012		
	PP - Fisher Chi-square	85.7274	0.0065		

Table 4.3(b): Panel Unit Root Test continues…..

Financial distress	Levin, Lin & Chu t*	-0.38966	0.3484	-2.59060	0.0048
	Im, Pesaran and Shin W-stat	-0.46998	0.3192	-2.39995	0.0082
	ADF - Fisher Chi-square	15.4442	0.4924	35.6568	0.0078
	PP - Fisher Chi-square	21.3386	0.1659	81.8911	0.0000
Firm Size	Levin, Lin & Chu t*	-1.71223	0.0434	-3.93956	0.0000
	Im, Pesaran and Shin W-stat	3.26793	0.9995	-3.25607	0.0006
	ADF - Fisher Chi-square	28.0336	0.9994	99.8122	0.0003
	PP - Fisher Chi-square	20.3597	1.0000	230.714	0.0000
Growth opportunities	Levin, Lin & Chu t*	-5.72690	0.0000		
	Im, Pesaran and Shin W-stat	-2.51780	0.0059		
	ADF - Fisher Chi-square	85.0126	0.0075		

	PP - Fisher Chi-square	116.029	0.0000		
Profitability	Levin, Lin & Chu t*	-12.6541	0.0000		
	Im, Pesaran and Shin W-stat	-2.63908	0.0042		
	ADF - Fisher Chi-square	81.4384	0.0148		
	PP - Fisher Chi-square	118.672	0.0000		

Table 4.3(c): Panel Unit Root Test continues…..

Variable	**Test**	**At level**		**At First Difference**	
		statistics	significance	statistics	significance
Dividend payout ratio	Levin, Lin & Chu t*	-3.37044	0.0004	-6.66098	0.0000
	Im, Pesaran and Shin W-stat	-0.62669	0.2654	-5.53320	0.0000
	ADF - Fisher Chi-square	64.6247	0.1526	137.055	0.0000
	PP - Fisher Chi-square	114.133	0.0000	306.669	0.0000
Earnings volatility	Levin, Lin & Chu t*	-10.1199	0.0000		
	Im, Pesaran and Shin W-stat	-5.96488	0.0000		

	ADF - Fisher Chi-square	135.014	0.0000		
	PP - Fisher Chi-square	186.391	0.0000		

Table 4.3(d): Panel Unit Root Test continues…..

Free Cash Flow	Levin, Lin & Chu t*	-3.65769	0.0001		
	Im, Pesaran and Shin W-stat	-3.61765	0.0001		
	ADF - Fisher Chi-square	66.5402	0.0007		
	PP - Fisher Chi-square	134.437	0.0000		
Ownership concentration	Levin, Lin & Chu t*	-0.44430	0.3284	-4.55622	0.0000
	Im, Pesaran and Shin W-stat	1.81064	0.9649	-3.20041	0.0007
	ADF - Fisher Chi-square	40.7271	0.9377	106.109	0.0001
	PP - Fisher Chi-square	48.1072	0.7643	237.311	0.0000

Source: Study data (2015)

As presented in the Table 4.3, all the four tests Levin, Lin & Chu t, Im, Pesaran and Shin W-statistic, ADF - Fisher Chi-square and PP - Fisher Chi-square were used to test for unit root. (Detailed tests in appendix 7). The null hypothesis was that variable has no unit root. Where the majority of the tests indicated a p-value of less than 0.05, the null

hypothesis was rejected. As consequence capital expenditure (corporate investments), leverage, tangibility, growth opportunity, profitability, earnings volatility and free cash flow were used at level while financial distress, firm size, dividend payout ratio and ownership concentration were used at first difference. This means that the results obtained were not spurious (Gujarati,2010).

4.3.4 Hausman Test

In order to determine the appropriate model to use to estimate the date, the study estimated both the fixed effects model and random effects model (Appendix 7). Then Hausman specification test was done to establish the appropriate model.

Table 4.4: Hausman Test

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E.
LEV	.1673211	.116695	.050626	.0322059
TANG	.2765908	.2594072	.0171836	.0086896
FCF	.0778037	.0780248	-.000221	.0034075
ERNVOL	-.3658066	-.1977825	-.1680241	.1667984
PROF	.4800629	.5209187	-.0408559	.0330466
laggropp	-.0017873	-.0031182	.0013308	.0037914
dDIST	.0049297	.0109576	-.0060279	.0017236
dSIZE	.0216907	.0197731	.0019175	.0077847
dlagDiv	-.0933927	-.0922941	-.0010986	.

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(9) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 21.52 Prob>chi2 = 0.0105

Source: Study data (2015)

Table 4.4 shows the results of Hausman test. The inclusion of lagged independent variables was to enable the researcher to factor in time lapse before establishing their effects on corporate investment (Marchica & Mura, 2010). The null hypothesis was that random effect model was appropriate. The p-value was 1.05 percent which was less than 5 percent meaning that the null hypothesis could be rejected. Hence the appropriate model used in the study was fixed effects model. The fixed effects model controls for all time invariant differences between individual firms, hence the estimated coefficients of the fixed effect model cannot be biased because of omitted time invariant characteristics (Reyna,2007).

4.4 Post-Estimation Tests

After running the specified regression model the test for normality, heteroskedasticity and autocorrelation were conducted so as to ensure all the ordinary least squares assumptions were not violated.

4.4.1 Test for normality

The test for normality was first examined using the graphical method approach as shown in the Figure 4.1. The results in the figure indicate that the residuals are not normally distributed.

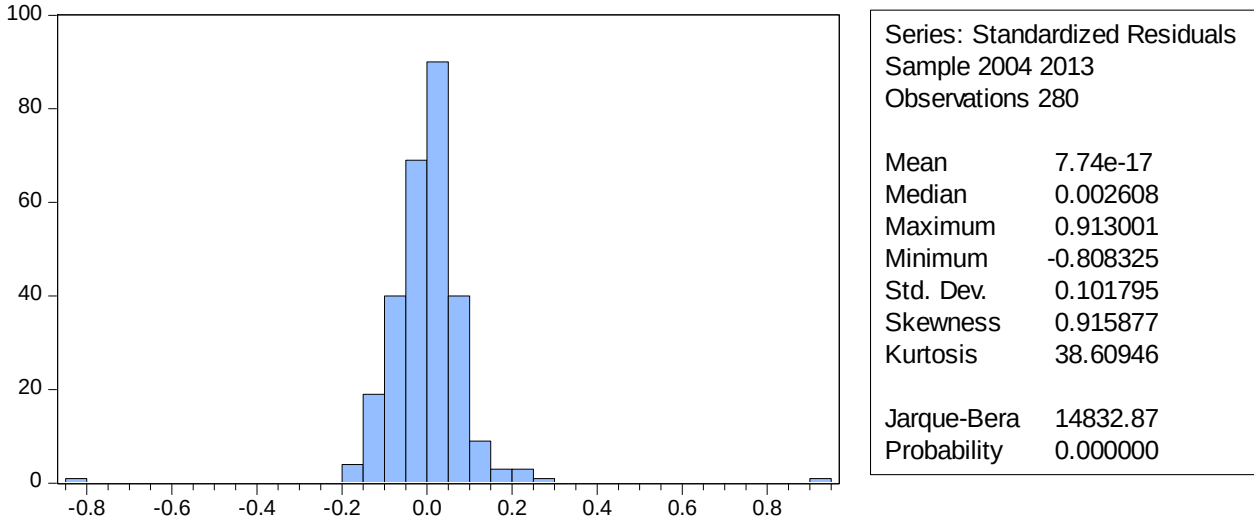

Figure 4.1: Test for normality

To further establish whether the residuals are normally distributed the study adopted the Jarque-Bera test which is a more conclusive test than the graphical inspection approach of testing for normality. Figure 4.1 also indicates the results of the Jarque-Bera test. The null hypothesis under this test was that the residuals were not significantly different from a normal distribution. Given that the p-value is less than 5 percent for the residual, the null hypothesis was rejected and thus the conclusion that the residuals were not normally distributed. Further, since the sample size was large, the central limit theorem applied.

4.3.3 Heteroskedasticity Test Results

An important assumption of the classical linear regression model (CLRM) is that the error term is homoscedastic, that is, constant variance. If the error variance is not constant, then there is heteroskedasticity in the data.

Table 4.5: Heteroskedasticity Test Results

Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of CAPEX1

Chi 2 (1) = 4.58
Prob > chi 2 = 0.0324

The study tested for panel heteroskeskedasticity using the Breusch-Pagan test as shown in Table 4.5. The null hypothesis was that the error term was homoscedastic. Since the calculated p value (0.0324) was less than the critical p value (0.05), the null hypothesis (constant variance) was rejected, implying the presence of heteroskedasticity.

In the presence of heteroskedasticity, usual intervals and hypothesis tests based on t and F distributions become unreliable and hence raising the possibility of drawing misleading conclusions.

4.3.3 Autocorrelation Test Results

The test for autocorrelation was performed to establish whether residuals are correlated across time using Wooldridge test. OLS assumptions require that residuals should not be correlated across time and thus the Wooldridge test was adopted in this study. The null hypothesis was that no first order serial /auto correlation exists. The results of the Table 4.6 indicated that the null hypothesis of no autocorrelation was not rejected.

Table 4.6: Overall Autocorrelation test

Wooldridge test for autocorrelation in panel data
Ho: no first-order autocorrelation
F(1, 27) = 0.476
Prob > = 0.4962

4.4: FGLS Regression Results

The diagnostic tests performed during the study revealed that capital expenditure, leverage , tangibility, growth opportunity, profitability, earnings volatility and free cash flow did not have unit root and therefore were ran at levels. Financial distress, firm size, dividend payout and ownership concentration were not stationary at level but after first differencing became stationary. Further tests indicated that there was no autocorrelation in the data. However, there was heteroskedasticity in the data. As a consequence, the study estimated equation 3.2 in feasible generalized least square (FGLS) in order to account for heteroskedasticity. The estimated results for the equation are in Table 4.7.

Table 4.7: FGLS Regression Results

CAPEX1	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
LEV	.1003567	.0355218	2.83	0.005	.0307354	.1699781
TANG	.2463982	.0166888	14.76	0.000	.2136887	.2791077
FCF	.0793216	.012623	6.28	0.000	.0545809	.1040622
ERNVOL	-.1124055	.1545723	-0.73	0.467	-.4153617	.1905507
PROF	.5660298	.0754515	7.50	0.000	.4181476	.7139119
laggropp	-.0056097	.005605	-1.00	0.317	-.0165954	.005376
dDIST	.0148685	.0178989	0.83	0.406	-.0202127	.0499498
dSIZE	.0226941	.0196861	1.15	0.249	-.0158899	.0612781
dlagDiv	-.094199	.1225888	-0.77	0.442	-.3344686	.1460706
cons	-.1169722	.0138777	-8.43	0.000	-.1441719	-.0897724

Source: Study data, 2015

Cross-sectional time-series FGLS regression

Coefficients: generalized least squares
Panels: homoskedastic
Correlation: no autocorrelation

Estimated covariances	=	1	Number of obs	=	307
Estimated autocorrelations	=	0	Number of groups	=	28
Estimated coefficients	=	10	Obs per group: min	=	10
			Avg	=	10.96429

		Max =	11
		Wald chi2(9) =	572.79
Log likelihood	= 273.3703	Prob > chi2 =	0.0000

4.4.1: Effects of Debt Capacity on Corporate Investment

The first objective of the study was to ascertain the effects of debt capacity in corporate investment. Debt capacity was proxied by leverage, tangibility and financial distress. The regression results presented in Table 4.7 indicated that the coefficient of leverage of 0.1003567 was statistically significant at 5 percent level. This implied that one unit change in leverage increased capital expenditure (corporate investment) by 0.10 or 10 percent. The result indicated that there was positive relationship between leverage and corporate investment of non financial companies listed on the NSE. The results also indicated that there was a positive relationship between tangibility and corporate investment of non financial companies listed on the NSE. The coefficient of tangibility of 0.2463982 was statistically significant at 5 percent level with a p-value of 0.000 implying that a unit change in asset tangibility increased corporate investment by 24.6 percent. Further results also indicate that there was no relationship between financial distress and corporate investment of non financial companies listed on the NSE.

The findings presented in Table 4.7 were consistent with the trade off theory that was postulated by Myres (1984). The trade off theory argues that firms having safe and tangible assets have high debt ratio. Such companies are in a position to provide collateral in debts and consequently access financing needed for corporate investments. The results in Table 4.7 are also consistent with results by Marchca and Mura (2010) who found that a conservative leverage policy directed at maintaining financial

flexibility enhanced investment ability of companies. The positive coefficient of financial distress indicates that as companies became more financially distressed, there was positive effect on corporate investments. However, the results indicate that this effect was insignificant. The results also are inconsistent with the findings of Drobetz and Gruninger (2006) who found negative relationship between financial distress and corporate investment.

4.4.2: Effects of Cash Holdings on Corporate Investment

The second objective sought to establish the effects of cash holdings on corporate investment of non financial companies listed on NSE, Kenya. Indicators of cash holding in the study were free cash flow, firm size and earnings volatility. The regression results shown in Table 4.7 indicate that free cash flow was statistically significant at 1 percent level. The coefficient of free cash flow is 0.0793216 and significant at 1 percent level. The results indicate that there was a positive relationship between free cash flow and corporate investment of non financial companies listed on NSE. These findings imply that firms were able to increase their investment capacity by about 8 percent when free cash flow shows a unit increase. The positive coefficient indicates that as more of the free cash flow was utilized, companies increased their capital expenditure. The results in Table 4.7 are consistent with the free cash flow theory by Jensen (1986). This theory argues that managers have an incentive to hoard cash to increase the amount of assets under their control and to gain discretionary power over the firm investment decision. These results are also consistent with the findings of Chua (2012) who found that firms hold more cash to invest more efficiently and effectively (cost effectiveness due to lower transaction costs) in profitable projects.

The result also indicates that there was no relationship between firm size and corporate investments of non financial companies on NSE. The coefficient for firm size is 0.0226941 and not significant at 10 percent level. These results are inconsistent with findings by Marchica and Mura (2010) who found that company size, like tangible assets indicate financial flexibility and hence ability to undertake greater investment through debt financing

The result also indicates that there was no relationship between volatility of earnings and corporate investments of non financial companies on NSE. The coefficient for earnings volatility is -0.1124055 and not significant at 10 percent level. This is consistent with Marchica and Mura (2010) who found out those companies with more uncertain earnings value financial flexibility more and this uncertainty generates an incentive to behave conservatively in their investment policy.

4.4.3: Effects of Dividend Decisions on Corporate Investment

The third objective sought to ascertain the effects of dividend decisions on corporate investment of non financial companies listed on NSE, Kenya. Investment opportunities, profitability (earning after Tax) and dividend payout ratio were used as indicators of dividend decisions. The results in Table 4.7 indicate that there was a significant positive relationship between profitability and corporate investments of non financial companies listed on NSE. The coefficient of profitability was 0.5660298 and significant with a p-value of 0.0000which is less than 0.05 implying that a unit change in profit levels increased corporate investment expenditure by 56.6 percent. This indicates that

companies with greater profitability tend to investment more as found by Chua (2012). The results are also consistent with residual dividend policy theory.

The results also show that there was no relationship between growth opportunity and corporate investment. The variable has been lagged in order to capture the behavior of firms once faced with growth opportunities. The coefficient of growth opportunity is -0.00561 and insignificant with a p-value of 0.317. This is highly inconsistent with findings by Marchica and Mura (2010) who found out that growth opportunities play a relevant role in investment decisions.

According to the regression results in Table 4.7 there was no relationship between dividend payout and corporate investment of companies listed on NSE. The coefficient of dividend payout is -0.094199 with a p-value of 0.442. This is consistent with Blau and Fuller (2008) who found that firms that pay dividend reduced the management ability to invest in projects.

According to the results presented in Table 4.7, Wald Chi square has a value of 572.9 with a p-value of 0.0000 which is less than 0.01 critical value implying that jointly all the independent variables determine corporate investment.

4.4.4 The Moderating Effects of Ownership Concentration

The fourth objective sought to determine the moderating effects of share ownership concentration on the relationship between financial flexibility and corporate investment of non financial companies listed on NSE, Kenya. The null hypothesis was that ownership concentration has no influence on the relationship between financial flexibility and corporate investment of non financial companies listed on NSE. In order

to achieve this objective, the researcher first tested the fitness of the model. Further, corporate investments are regressed on debt capacity, cash holdings and dividend decisions Marchica and Mura (2010). The model was augmented by including ownership concentration and interaction term with the predictors and ownership concentration to test whether ownership concentration, indeed, influences corporate investments.

4.4.4.1: FGLS Regression model before Moderating

Table 4.8a: Model Fitness

Indicator	Coefficient
R	0.807
R Square	0.651
Adjusted R Square	0.639
Std. Error of the Estimate	0.1011382

The results presented in Table 4.8a present the fitness of the regression model used in explaining the study phenomena. Leverage, tangibility, financial distress, FCF, firm size, earning volatility, growth opportunity, profitability, dividends ownership concentration and interaction between the independent variables and moderator (ownership concentration) were found to be satisfactory variables in explaining corporate investment (CAPEX1). This is supported by coefficient of determination also known as the R square of 65.1 percent implying that all the variables including the moderator (ownership concentration) explain 65 percent of the variations in the corporate investment. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 4.8b: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.651	10	0.565	55.246	.000
Residual	3.028	296	0.01		
Total	8.679	306			

Table 4.8b provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors of CAPEX1. This was supported by an F statistic of 55.246 and the reported p value (0.000) which was less than the conventional probability of 0.05significance level

4.4.4.2 FGLS Results

Table 4.8c: Before Moderating Coefficients

CAPEX1	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
LEV	.0307404	.021557	1.43	0.154	-.0115106	.0729913
TANG	.2471286	.0120393	20.53	0.000	.2235319	.2707252
FCF	.0494767	.0066011	7.50	0.000	.0365388	.0624145
ERNVOL	-.1508535	.0558019	-2.70	0.007	-.2602233	-.0414838
PROF	.3634114	.0469271	7.74	0.000	.271436	.4553868
laggropp	-.0005185	.0031652	-0.16	0.870	-.0067221	.0056851
dDIST	.011973	.0108263	1.11	0.269	-.0092462	.0331922
dSIZE	-.0084595	.012025	-0.70	0.482	-.032028	.015109
dlagDiv	-.0612635	.0804002	-0.76	0.446	-.218845	.096318
dOWNSP	.0496065	.0967327	0.51	0.608	-.1399861	.2391992
cons	-.0723705	.0076534	-9.46	0.000	-.0873708	-.0573701

Source: Study Data,2015

Coefficients: generalized least squares
Panels: heteroskedastic
Correlation: no autocorrelation
Estimated covariances = 28 Number of obs = 307
Estimated autocorrelations = 0 Number of groups = 28
Estimated coefficients = 11 Obs per group: min = 10
avg = 10.96429
max = 11
Wald chi2(10) = 889.00
Prob > chi2 = 0.0000

The results in Table 4.8c indicate that there was no relationship between ownership concentration and corporate investment. The coefficient for the ownership concentration was 0.0496065 and was not significant at 5 percent level.

4.4.4.3: Moderated multiple regression

Table 4.9a: Model Fitness

Indicator	Coefficient
R	0.808
R Square	0.653
Adjusted R Square	0.640
Std. Error of the Estimate	0.1010878

The results presented in Table 4.9a present the fitness of model after conducting multiple regression analysis. Leverage, tangibility, financial distress, FCF, firm size, earning volatility, growth opportunity, profitability, dividends ownership concentration and interaction between the independent variables and moderator (ownership concentration) were found to be satisfactory variables in explaining corporate investment (CAPEX1). This is supported by coefficient of determination also known as the R square of 65.3 percent. This means that Leverage, tangibility, financial distress, free cash flow, firm size, earning volatility, growth opportunity, profitability, dividend payout ownership concentration and interaction between the independent variables and moderator (ownership concentration) explain 65.3 percent of the variations in the dependent variable which is CAPEX1. This results further means that the model applied to link the relationship of the variables was satisfactory.

Table 4.9b: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.664	11	0.515	50.392	**.000**
Residual	3.015	295	0.01		
Total	8.679	306			

Table 4.9b provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors of CAPEX1. This was supported by an F statistic of 50.392 and the reported p value (0.000) which was less than the conventional probability of 0.05significance level.

Table 4.9c: FGLS with Moderating Coefficients

CAPEX	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LEV	.0995318	.0355487	2.83	0.005	.0298575	.169206
TANG	.2474961	.0167021	14.82	0.000	.2147605	.2802317
dDIST	.0144052	.0178695	0.81	0.420	- .0206184	.0494288
dSIZE	-.0215973	.0196633	1.10	0.272	-.0169421	.0601367
laggropp	-.0048431	.005631	-0.860	0.390	.0158797	.0061934
PROF	.5629401	.0754707	7.46	0.000	-.4150203	.71086
dlagDiv	- .0967508	.1223375	-0.79	0.429	-.3365279	.1430263
ERNVOL	- .1160684	.1544112	-0.75	0.452	-.4187088	.186572
FCF	.0780715	.0126575	6.17	0.000	.0532633	.1028796
dOWNSP	.0449265	.154014	0.29	0.771	-.2569354	.3467884
Var & Mod	10.7956	9.298184	1.16	0.246	-7.428502	29.01971
_cons	-.1169388	0.0138482	-8.44	0.000	-.1440807	-.0897969

Source: Study data, 2015

(MMRmodel): $Y_{it}=\beta 0+\beta 1X_{i,t}+\beta 2Z_{i,t}+\beta 3X_{i,t}*Z_{i,t}+\varepsilon_i$

Where,

Y = Corporate Investment as the dependent variable,

X = All the independent variables

Z = A hypothesized ownership concentration moderator

X*Z = the product between the predictors (All the variables * ownership concentration),

The results in Table 4.9c indicate that there was no influence of ownership concentration on the relationship between financial flexibility and corporate investments. The coefficient of the interaction term is 10.7956 and is not significant at 5 percent level. This implies that a change in ownership concentration has no direct effect on corporate investment decisions of firms listed on NSE, Kenya. These results corroborate the findings of Mule *et al.,* (2013) who found out that ownership concentration is negatively related to all measures of performance in companies listed on the NSE. In this equation the interaction between the independent variables and moderator variable is not statistically significant, therefore ownership concentration as a moderator variable, was not supported.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the summary of the study is presented; the conclusions arrived at, the recommendations and suggested areas for further research.

5.2 Summary of the Study

The existing evidence indicates that listed firms on the Nairobi Securities Exchange Kenya are financially flexible. However, these firms have not managed to undertake corporate investments of the magnitude achieved by other countries where firms are financially flexible. Previous studies have shown that financial slack, spare debt capacity and dividend decisions directed at maintaining financial flexibility in corporate entities can enhance investment ability of the firms. Corporate managers have lacked guidance on the efficient policies to adopt; that result in access to finance that enhances investment ability. Specifically, corporate managers have lacked proper guidance on the aspects of financial flexibility to rely on in terms of debt capacity, cash holdings and dividend decisions. It is against this background that this study sought to establish the effects of financial flexibility on corporate investment of non financial listed companies in Kenya. Descriptive research design was used in this study. A census of 28 firms non financial companies listed on NSE, Kenya was taken. Panel data of companies covering 2002 to 2013 was used in the analysis.

The first objective of the study was to ascertain the effects of debt capacity on corporate investments of non financial companies listed on NSE, Kenya. The study measured debt capacity in terms of financial leverage, asset tangibility and financial

distress. Using the FGLS estimation technique, the study established that there was significant positive relationship between increased used of leverage and corporate investment. Similarly, asset tangibility had a significant positive effect on corporate investments. It was apparent that as companies increased their long term debt and their tangible assets, levels of investments increases. However, financial distress had an insignificant positive effect on corporate investment. Financial distress was measured using Altman's Z score. It was apparent that companies' exposure to bankruptcy risks had no effects on their corporate investments.

The second objective was analyse the effects of cash holdings on corporate investments of non financial companies listed on NSE, Kenya. The study measured cash holdings in terms of free cash flows, firm size and earnings volatility. Free cash flow was measured by cash flow from operating activities minus capital expenditure to total assets. A high ratio indicates high levels of free cash flow by firms. The study established that corporate investments increased when companies reported presence of free cash flow.

The company size was measured by the natural logarithm of total assets. A high logarithm indicates high company size and vice versa. The size of the company had no significant effects on the magnitude of investments companies made. It was apparent that as a company increases its size, cash holdings tended to be less and hence not vital in determining levels of investments.

Companies earning volatility was measured as standard deviation of operating cash flow to total assets. A high standard deviation indicates high instability in earnings. The study established that there was insignificant negative relationship between earnings

volatility and corporate investments of non financial companies listed on NSE. It was apparent that as a company faces uncertainty in its earnings from operations, the levels of corporate investment were affected insignificantly.

The third objective was to ascertain the effects of dividend decisions on corporate investments of non financial companies listed on NSE, Kenya. Dividend decisions were measured in terms of growth opportunity, profitability and dividend payout ratio. Growth opportunity was measured using Tobin's q as the ratio of market value of assets to total assets. Profitability measured as the earnings after tax to total assets and dividend payout ratio as the ordinary dividends paid to total assets.

The growth opportunity variable was lagged in order to capture the investment reaction of the firms in the immediate year that followed. This time lag gives firm time to react to any positive growth opportunities that emerge. The study established that there was an insignificant positive relationship between incentive to invest to and capital expenditure. It was apparent that as a company's growth opportunity emerged, corresponding capital expenditure to exploit the opportunity was insignificant.

The findings of the study indicate that there was a positive relationship between profitability and corporate investments of non financial companies listed on the NSE, Kenya. Dividend payment was also found to have an insignificant negative relationship with corporate investment of non financial companies listed on the NSE, Kenya.

The fourth objective was to determine the moderating effects of ownership concentration on the relationship between financial flexibility and corporate investments of non financial companies listed on NSE, Kenya. The product coefficient

has no effects on the stated relationship. These results corroborate the findings by Marchica and Mura (2010) where they found that no cluster of firms whether financially or not financially flexible were affected by ownership concentration in investment decisions. However, while the ownership concentration is around 10 percent in Marchica and Mura (2010) findings, this study established that on insignificant percentage of individuals and institutions own around 72 percent of the companies.

5.3 Conclusions

The study concluded that all the indicators of financial flexibility of non financial listed companies on NSE Kenya jointly affect the levels of corporate investments. Increase in the ability of the companies to access debt finance enhanced the companies' corporate investments. The industry leverage and companies' tangible assets had significant effect on the firms' ability to invest. However, financial distress which is an indicator of a company's ability to access debt finance had an insignificant effect on corporate investments. The result of the study therefore imply that the trade off theory which postulates that use of debt financing is limited by financial distress cost is not applicable among companies listed on NSE, Kenya. The study established that as a company increases it debt capacity, investment levels increased but financial distress costs are not a deterrent to sustained borrowing.

The study established that majority of indicators of cash holdings by companies had insignificant effects on corporate investments. Increase in free cash flow had a significant effect on corporate investment. However, the firm size had an insignificant positive effect on the level of corporate investments. The level of uncertainty in a

company's earnings as captured by earning volatility had an insignificant negative effect on the corporate investments.

The study also concluded that not all indicators of dividend decisions affect the investment patterns of non financial companies listed on the NSE, Kenya. The researcher observed that there was a negative and insignificant effect on investment levels as more growth opportunities appeared in the market. Therefore growth opportunities as indicated by Tobin's q do not play a major role in predicting investment decision. This is probably because investment opportunities are not supported by political goodwill. However, the study established that profitability levels of the companies under study had a positive and significant effect on investment decisions. This study therefore concluded that the use of retained earnings to finance investment projects is preferred. The study further established that payment of dividends reduced the levels of investment although with insignificant effects. The study therefore concluded that dividend payout does not affect the investment decisions.

The study also established that moderating effect of ownership concentration had no effect on the relationship between financial flexibility and corporate investments. Hence the study concluded that ownership concentration does not affect investment decisions of non financial companies listed on NSE, Kenya.

5.4 Policy Implications and Recommendations of the Study

The results of this study have significant policy implications at the firm and industry levels. Firstly, the study found out that the levels of corporate investments increased

with firms' increased debt capacity. The results of hypothesis *i* testing indicate that as financial leverage increased, companies ability to invest increased. Similarly, asset tangibility enhanced investment levels of the companies. The study therefore recommends access to debt finance be enhanced in order to increase further the levels of investments by the companies. The study recommends that: one the government through the appropriate monetary and fiscal policies, reduce the cost of borrowing since companies rely on this mode of funding to undertake investment projects. The non financial listed companies on the NSE, Kenya should also improve on the quality of their tangible assets as they act as collaterals in accessing debt finance.

Secondly, the hypothesis *ii* findings indicate that corporate investments increased as free cash flows increased. This study therefore provides evidence that use of free cash flow enhances corporate investments. As a consequence, the study recommends that companies revise their policies with regard to use of free cash flow such that less of it is paid out as dividends in order to increase capital expenditure.

Thirdly, the conclusions of hypothesis *iii* imply that as levels of profitability increase, the company's ability to invest increases. The study therefore recommends that companies should rely more on the profit after tax for their investment needs. Hence the government should reduce tax rate on company's profits to enable more of this internal source of financing to be channeled to investment projects. Although there was insignificant negative effect of growth opportunity on corporate investment, there is need for the government of Kenya to ensure the current constitution is upheld. This will contribute to building of confidence among investors thereby enabling them to exploit

investment opportunities that arise.

Fourthly, the conclusion of hypothesis *iv* testing imply that as the share ownership concentration is confined to smaller percentage of individuals and institutions, their influence in regard to investment decisions is unaffected. This study therefore recommends that the government through the Companies Act should devise a mechanism of protecting minority shareholders' interest. This would help in widening consultation before making investment decision with a view of protecting the resources of the company from misappropriation by entrenched manages.

5.5 Suggestion for Further Studies

Having established that free cash flow increases the ability to invest, there is need to carry out further study in order to establish whether the investments undertaken are value adding or whether they are just an expression of empire building. This study would be based on free cash flow theory

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APPENDICES

Appendix 1: Non Financial Companies Listed on the NSE, Kenya

SECTOR/SEGMENT COMPANY

Agricultural:

1. Eaagads
2. Kakuzi
3. Kapchoria Tea Co.
4. Limuru Tea Co.
5. Rea Vipingo Plantations
6. SasinI Ltd
7. Williamson Tea Kenya

Automobiles & Accessories:

8. Car & General
9. CMC Holdings
10. Marshalls (EA)
11. Sameer Africa

Commercial & Services:

12. Express
13. Hutching Biemer
14. Kenya Airways
15. Long horn Kenya
16. Nation Media Group
17. Scan Group
18. Standard Group
19. TPS EA(Serena)
20. Uchumi Supermaket
21. Safaricom
22. Access Kenya Group

Construction & Allied

23. Arhi River Mining
24. Bamburi Cement
25. Crown Paint Kenya
26. E.A. Cables
27. E.A Portland Cement

Energy & Petroleum:

28. KenGen.
29. KenolKobil
30. Kenya Power
31. Total Kenya
32. Umeme Limited

Manufacturing & Allied:

33. A. Bauman & Co.
34. B.O.C. Kenya
35. BAT Kenya Ltd
36. Carbacid Invetsments
37. East Africa Breweries
38. Eveready EA
39. Kenya Orchards
40. Mumias Sugar
41. Olympia Holdings
42. Unga Group

Source: Nairobi Securities Exchange Data ,2014

Appendix 2: The noncurrent assets

Overall Noncurrent assets (sh. billion)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent assets	428.14	339.08	291.94	255.31	228	194.137	167.027	148.448	121.006	106.918	96.22	86.644
Percentage Change	26.27	16.15	14.35	11.98	17.44	16.23	12.52	22.68	13.18	11.12	11.05	

Source: NSE, 2013

Total Noncurrent Assets by Sector:

Agricultural Sector (sh. billions)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	19.06	18.15	17.31	16.97	12.729	12.867	10.077	9.448	9.046	9.578	8.59	6.654
Percentage Change	5.01	4.85	2.00	33.32	-1.07	21.68	6.66	4.44	-5.55	11.50	29.10	

Source: NSE, 2013

Automobiles and Accessories (sh. billion)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	6.24	5.8	5.5	5.4	4.56	4.37	3.92	3.79	3.56	3.2	2.88	3.17
Percentage Change	7.59	5.45	1.85	18.42	4.35	11.48	3.43	6.46	11.25	11.11	-9.15	

Source: NSE, 2013

Commercial and Services (sh billion)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	114.02	72.69	71.02	69.84	66.48	64.73	65.91	59.18	39.84	26.73	20.05	16.92
Percentage Change	56.86	2.35	1.18	5.05	2.70	-1.79	11.37	48.54	49.05	33.32	18.50	

Source: NSE, 2013

Construction and Allied (sh billion)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	65.52	60.34	49.89	44.61	38.88	30.13	23.7	22.32	18.79	18.45	17.99	18.13
Percentage Change	8.58	20.95	11.84	14.74	29.04	27.13	6.18	18.79	1.84	2.56	-0.77	

Source: NSE, 2013

Manufacturing and Allied (sh billions)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	64.23	61.91	53.75	41.48	38.1	33.62	29.11	25.1	22.29	21.64	21.11	20.48
Percentage Change	3.75	15.18	29.58	8.87	13.33	15.49	15.98	12.61	3.00	2.51	3.08	

Source: NSE, 2013

Energy and Petroleum (sh billion)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Total Noncurrent Assets	159.07	120.19	94.47	77.01	67.2	48.42	34.31	28.61	27.48	27.32	25.6	24.29
Percentage Change	32.35	27.23	22.67	14.60	38.79	41.13	19.92	4.11	0.59	6.72	5.39	

Source: NSE, 2013

Appendix 3:Firms Sampled

Name of firm	Targeted years	No. of years	remarks
Agricultural sector			
Eaagads	2002-2013	10	included
Kakuzi	2002-2013	10	included
Kapchorua Tea Co.	2002-2013	10	included
Limuru Tea Co.	2002-2013	10	included
Rea Vipingo Plantations	2002-2013	10	included
SasinI Ltd	2002-2013	10	Included
Williamson Tea Kenya	2002-2013	10	Included
Automobiles & Accessories			
Car & General	2002-2013	10	Included
CMC holdings	2002-2013	10	included
Marshalls(EA)	2002-2013	10	Included
Sameer Africa	2002-2013	10	included
Commercial & Services			
Express	2002-2013	< 10	Excluded
Hutching Biemer	2002-2013	< 10	Excluded
Kenya Airways	2002-2013	10	Included
Long horn Kenya	2002-2013	< 10	Excluded
Safaricom	2002-2013	<10	Excluded
Nation Media Group	2002-2013	10	Included
Access Kenya Group	2002-2013	<10	Excluded
Scan Group	2002-2013	< 10	Excluded
Standard Group	2002-2013	10	Included
TPS EA (Serena)	2002-2013	10	Included
Uchumi Supermarket	2002-2013	< 10	Excluded
Construction & Allied			
Arth River Mining	2002-2013	10	Included
Bamburi Cement	2002-2013	10	Included
Crown Paint Kenya	2002-2013	10	Included
E.A Cables	2002-2013	10	Included
E.A Portland	2002-2013	10	Included
Manufacturing and Allied			
A Bauman & Co	2002-2013	< 10	Excluded
B.O.C Kenya	2002-2013	10	Included
BAT Kenya Ltd	2002-2013	10	Included
Carbacid Investments	2002-2013	<10	Excluded
East Africa Breweries	2002-2013	10	Included
Evereaday E.A	2002-2013	< 10	Excluded
Kenya Orchards	2002-2013	<10	Excluded
Mumias Sugar	2002-2013	10	Included
Unga Group	2002-2013	10	Included
Olympia Holdimgs	2002-2013	<10	Excluded
Energy & Petroleum			
KenGen	2002-2013	< 10	Excluded
Kenol Kobil	2002-2013	10	Included
Kenya Power	2002-2013	10	Included
Total Kenya	2002-2013	10	Included
Umeme Ltd	2002-2013	< 10	Excluded

Source: Research Data (2014)

Appendix 4: Research Authorization Permit

NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date: 23rd March, 2015

NACOSTI/P/15/8707/4860

Jeremiah Maimba Koori
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Financial flexibility on corporate investment of non financial listed firms, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **31st August, 2015.**

You are advised to report to **the Directors, selected firms, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

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

DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The Directors
Selected Firms.

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

Appendix 5 (a): Document Review Guide; Data Entry Sheet

NAME OF THE COMPANY……

SEGMENT…….

Year	leverage	tangibility	Financial distress	Free cash flow	size	Earnings volatility	Investment opportunity	profitability	Dividend payout ratio	Corporate investment
2002										
2003										
2004										
2005										
2006										
2007										
2008										
2009										
2010										
2011										
2012										
2013										

Appendix 5 (b): Document Review Guide; Data Abstraction Tool

Variable	Measurement	Formula	Data	Source: financial statements 2002-2013
Debt Capacity	Leverage	Long Term Debt to Total Assets	Long Term Debt Total Assets	Statement of financial Position Statement of Financial Position
	Tangibility	Fixed Assets to Total Assets	Fixed Assets	Statement of Financial Position
	Financial Distress	Altman's Z-score	Net working capital Retained earnings Earnings before Interest and Tax Market Value of Equity Sales	Statement of Financial Position Statement of Financial Position Income Statement Notes to the Accounts Income Statement
Cash Holdings	Free cash flow	This is the cash available for investment before any additional financing is considered	Ebit(1-t) + depr-change in non cash working capital – capital expenditure	Income Statement, Statement of Financial Position Notes to the Accounts
	Firm size	Natural logarithm of total assets	sales	Income statement
	Earnings volatility	Standard Deviation of Operating Cash Flow to Total Assets	Operating activities cash flow	Income Statement
Dividend Decisions	Growth opportunity	Market Value to Total Assets	Market Capitalization	Notes to the Accounts
	Profitability	Earnings after Tax to Total Assets	Earnings after Tax	Income Statement
	Dividend payout ratio	Ordinary dividends paid to total assets	Ordinary dividend per share	Notes to the Accounts
Ownership concentration	Percentage shareholding	Percentage shareholding by the 5 major shareholders	Number of shares held	Notes to the Accounts
Corporate Investment	Capital expenditure on non current assets	Change in Noncurrent assets in current perid/Total $Assets_{t-1}$	Total non current assets	Statement of Financial Position

Source: Researcher (2015

Appendix 6a: Descriptive Statistics

Descriptives

Variable		Observation	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mini	Max
						Lower Bound	Upper Bound		
leverage	2002	28	0.2648	0.2353	0.0445	0.1736	0.3560	0.0014	0.8343
	2003	28	0.2588	0.2280	0.0431	0.1704	0.3472	0.0025	0.9484
	2004	28	0.2179	0.1673	0.0316	0.1530	0.2827	0.0022	0.7144
	2005	28	0.2454	0.1708	0.0323	0.1792	0.3116	0.0112	0.6698
	2006	28	0.2547	0.1600	0.0302	0.1926	0.3167	0.0580	0.6773
	2007	28	0.2538	0.1597	0.0302	0.1919	0.3157	0.0594	0.6550
	2008	28	0.2593	0.1789	0.0338	0.1899	0.3287	0.0294	0.6511
	2009	28	0.2445	0.1639	0.0310	0.1810	0.3081	0.0189	0.6834
	2010	28	0.2529	0.1935	0.0366	0.1779	0.3280	0.0183	0.7615
	2011	28	0.2276	0.1623	0.0307	0.1646	0.2905	0.0012	0.6249
	2012	28	0.2469	0.2227	0.0421	0.1606	0.3333	0.0013	0.7359
	2013	28	0.2341	0.1919	0.0363	0.1597	0.3085	0.0062	0.7360
	Total	**336**	**0.2467**	**0.1855**	**0.0101**	**0.2268**	**0.2666**	**0.0012**	**0.9484**
tangibility	2002	28	0.4316	0.1818	0.0344	0.3611	0.5021	0.0617	0.7311
	2003	28	0.4321	0.2020	0.0382	0.3537	0.5104	0.0414	0.9019
	2004	28	0.3714	0.1935	0.0366	0.2964	0.4465	0.0490	0.6668
	2005	28	0.3656	0.1877	0.0355	0.2929	0.4384	0.0598	0.7062
	2006	28	0.3574	0.1924	0.0364	0.2828	0.4320	0.0526	0.7487
	2007	28	0.3811	0.2184	0.0413	0.2964	0.4658	0.0533	0.9323
	2008	28	0.3790	0.2180	0.0412	0.2945	0.4635	0.0488	0.8629
	2009	28	0.5831	1.2041	0.2276	0.1162	1.0500	0.0304	6.6238
	2010	28	0.3801	0.2393	0.0452	0.2873	0.4729	0.0182	0.8935
	2011	28	0.3392	0.2276	0.0430	0.2510	0.4275	0.0151	0.7083
	2012	28	0.3696	0.2118	0.0400	0.2875	0.4517	0.0087	0.7878
	2013	28	0.3643	0.2374	0.0449	0.2723	0.4564	0.0116	0.8116
	Total	**336**	**0.3962**	**0.4002**	**0.0218**	**0.3533**	**0.4392**	**0.0087**	**6.6238**
Firm size	2002	28	14.6106	1.4830	0.2803	14.0356	15.1857	10.7837	17.2608
	2003	28	14.6445	1.4911	0.2818	14.0663	15.2227	11.1362	17.2625
	2004	28	14.8283	1.4519	0.2744	14.2653	15.3913	11.1374	17.2904
	2005	28	14.9262	1.4611	0.2761	14.3597	15.4927	10.9383	17.6198
	2006	28	15.1237	1.4974	0.2830	14.5430	15.7043	11.0218	18.0539
	2007	28	15.2466	1.5174	0.2868	14.6582	15.8350	10.9582	18.1630
	2008	28	15.4057	1.5544	0.2938	14.8030	16.0085	10.9643	18.1565
	2009	28	15.4805	1.6223	0.3066	14.8514	16.1096	11.3480	18.1760
	2010	28	15.6866	1.5331	0.2897	15.0922	16.2811	11.9723	18.2585

	2011	28	15.8325	1.7143	0.3240	15.1678	16.4972	12.1613	20.0243
	2012	28	15.8599	1.4849	0.2806	15.2841	16.4357	12.6761	18.7143
	2013	28	15.9277	1.5907	0.3006	15.3109	16.5445	12.6924	18.9926
	Total	**336**	**15.2977**	**1.5771**	**0.0860**	**15.1285**	**15.4670**	**10.7837**	**20.0243**
Growth opportunity	2002	28	0.5262	0.9216	0.1742	0.1688	0.8835	0.0218	4.9016
	2003	28	1.1056	1.1317	0.2139	0.6668	1.5444	0.0806	4.3423
	2004	28	1.0834	0.9679	0.1829	0.7081	1.4587	0.1507	3.2670
	2005	28	1.5203	1.2960	0.2449	1.0178	2.0228	0.2183	4.3397
	2006	28	1.7706	1.5277	0.2887	1.1782	2.3629	0.1991	5.0953
	2007	28	1.4018	1.1788	0.2228	0.9447	1.8589	0.2690	4.1170
	2008	28	1.0081	1.0220	0.1931	0.6118	1.4044	0.1406	4.7322
	2009	28	1.1794	2.0945	0.3958	0.3672	1.9916	0.1050	10.6537
	2010	28	0.9538	0.8989	0.1699	0.6052	1.3024	0.1652	3.7253
	2011	28	0.7331	0.6632	0.1253	0.4759	0.9902	0.1251	2.4950
	2012	28	0.8934	0.9618	0.1818	0.5205	1.2664	0.0557	3.2886
	2013	28	1.2309	1.4323	0.2707	0.6755	1.7863	0.0501	6.5844
	Total	**336**	**1.1172**	**1.2519**	**0.0683**	**0.9829**	**1.2516**	**0.0218**	**10.6537**
Ownership concentration	2002	28	0.7473	0.1338	0.0253	0.6955	0.7992	0.5416	0.9512
	2003	28	0.7433	0.1360	0.0257	0.6906	0.7960	0.5082	0.9520
	2004	28	0.7492	0.1448	0.0274	0.6931	0.8053	0.5082	0.9801
	2005	28	0.7358	0.1417	0.0268	0.6808	0.7908	0.4030	0.9529
	2006	28	0.7205	0.1317	0.0249	0.6694	0.7715	0.4530	0.9400
	2007	28	0.7070	0.1535	0.0290	0.6475	0.7666	0.2724	0.9400
	2008	28	0.7005	0.1518	0.0287	0.6416	0.7594	0.2760	0.9400
	2009	28	0.7019	0.1498	0.0283	0.6438	0.7600	0.2691	0.9400
	2010	28	0.6993	0.1418	0.0268	0.6443	0.7543	0.2673	0.9400
	2011	28	0.6946	0.1431	0.0270	0.6391	0.7501	0.2428	0.9400
	2012	28	0.6957	0.1407	0.0266	0.6412	0.7502	0.2440	0.9489
	2013	28	0.7056	0.1468	0.0278	0.6487	0.7626	0.2339	0.9488
	Total	**336**	**0.7167**	**0.1422**	**0.0078**	**0.7015**	**0.7320**	**0.2339**	**0.9801**
Profitability	2002	28	0.0354	0.0496	0.0094	0.0162	0.0546	-0.0599	0.1311
	2003	28	0.0473	0.0597	0.0113	0.0242	0.0705	-0.0922	0.1794
	2004	28	0.0857	0.0719	0.0136	0.0578	0.1135	-0.0360	0.2512
	2005	28	0.0824	0.0885	0.0167	0.0480	0.1167	-0.1123	0.2795
	2006	28	0.0788	0.0660	0.0125	0.0532	0.1044	-0.0174	0.2587
	2007	28	0.0788	0.0627	0.0118	0.0545	0.1031	-0.0088	0.2420
	2008	28	0.0749	0.0815	0.0154	0.0433	0.1065	-0.1403	0.2750
	2009	28	0.1025	0.1287	0.0243	0.0526	0.1524	-0.0819	0.6257
	2010	28	0.0829	0.1222	0.0231	0.0355	0.1303	-0.3061	0.4728

	2011	28	0.1072	0.0937	0.0177	0.0708	0.1435	-0.0124	0.3940
	2012	28	0.0581	0.1198	0.0226	0.0117	0.1046	-0.2919	0.3182
	2013	28	0.0538	0.0987	0.0187	0.0155	0.0921	-0.2136	0.3175
	Total	**336**	**0.0740**	**0.0914**	**0.0050**	**0.0642**	**0.0838**	**-0.3061**	**0.6257**
Dividend	2002	28	0.0288	0.0362	0.0068	0.0148	0.0429	0.0000	0.1434
	2003	28	0.0368	0.0459	0.0087	0.0190	0.0546	0.0000	0.1967
	2004	28	0.0478	0.0613	0.0116	0.0240	0.0715	0.0000	0.2695
	2005	28	0.0447	0.0514	0.0097	0.0248	0.0647	0.0000	0.2073
	2006	28	0.0425	0.0522	0.0099	0.0222	0.0627	0.0000	0.1617
	2007	28	0.0521	0.0825	0.0156	0.0201	0.0841	0.0000	0.3925
	2008	28	0.0370	0.0510	0.0096	0.0172	0.0568	0.0000	0.1914
	2009	28	0.0395	0.0494	0.0093	0.0204	0.0587	0.0000	0.1777
	2010	28	0.0317	0.0404	0.0076	0.0161	0.0474	0.0000	0.1801
	2011	28	0.0454	0.0659	0.0125	0.0199	0.0710	0.0000	0.2570
	2012	28	0.0386	0.0533	0.0101	0.0179	0.0593	0.0000	0.2142
	2013	28	0.0297	0.0390	0.0074	0.0146	0.0448	0.0000	0.1376
	Total	**336**	**0.0396**	**0.0534**	**0.0029**	**0.0338**	**0.0453**	**0.0000**	**0.3925**
Earnings volatility	2002	28	0.0451	0.0467	0.0088	0.0270	0.0632	0.0015	0.2155
	2003	28	0.0484	0.0442	0.0084	0.0312	0.0655	0.0017	0.1820
	2004	28	0.0387	0.0404	0.0076	0.0230	0.0544	0.0004	0.1871
	2005	28	0.0263	0.0351	0.0066	0.0127	0.0399	0.0005	0.1882
	2006	28	0.0270	0.0351	0.0066	0.0134	0.0406	0.0066	0.1902
	2007	28	0.0209	0.0349	0.0066	0.0073	0.0344	0.0002	0.1883
	2008	28	0.0218	0.0261	0.0049	0.0117	0.0320	0.0001	0.1216
	2009	28	0.0220	0.0268	0.0051	0.0117	0.0324	0.0002	0.1417
	2010	28	0.0233	0.0286	0.0054	0.0122	0.0344	0.0007	0.1388
	2011	28	0.0170	0.0193	0.0037	0.0095	0.0244	0.0011	0.1002
	2012	28	0.0190	0.0238	0.0045	0.0098	0.0282	0.0013	0.1199
	2013	28	0.0265	0.0724	0.0137	-0.0016	0.0545	0.0005	0.3915
	Total	**336**	**0.0280**	**0.0392**	**0.0021**	**0.0238**	**0.0322**	**0.0001**	**0.3915**
CAPEX1	2002	28	0.0584	0.0525	0.0099	0.0380	0.0787	-0.0129	0.2038
	2003	28	0.0475	0.0659	0.0124	0.0220	0.0731	-0.1497	0.2259
	2004	28	0.0665	0.0761	0.0144	0.0369	0.0960	0.0087	0.2667
	2005	28	0.0708	0.0834	0.0158	0.0384	0.1031	-0.0202	0.3653
	2006	28	0.0743	0.0822	0.0155	0.0424	0.1061	0.0000	0.3925
	2007	28	0.1081	0.2206	0.0417	0.0226	0.1936	0.0000	1.1653
	2008	28	0.0705	0.0628	0.0119	0.0462	0.0949	0.0000	0.2114
	2009	28	0.1416	0.4008	0.0758	-0.0139	0.2970	0.0000	2.1480
	2010	28	0.0705	0.0780	0.0147	0.0402	0.1007	0.0021	0.2883
	2011	28	0.0550	0.0489	0.0092	0.0361	0.0740	0.0007	0.1720
	2012	28	0.0420	0.2471	0.0467	-0.0538	0.1378	-1.0811	0.4995

2013	28	0.0658	0.0817	0.0154	0.0342	0.0975	-0.0189	0.3217
Total	**336**	**0.0726**	**0.1617**	**0.0088**	**0.0552**	**0.0899**	**-1.0811**	**2.1480**

Source: study data (2015)

Appendix 6b: Trend Analysis

This section presents the trend analysis of leverage, tangibility, firm size, growth opportunity, ownership concentration, profitability, dividend, earnings volatility and CAPEX 1. The trend analysis is conducted so as to help establish the movement of the variables under study and therefore help in performing unit root analysis as the trend analysis graphically indicates the pattern of movement in the variables.

Figure A4(a) shows the leverage trend for the 28 companies from the year 2002 to 2013. The trend line indicates that leverage trend has been fluctuating. The liquidity trend has been inconsistent.

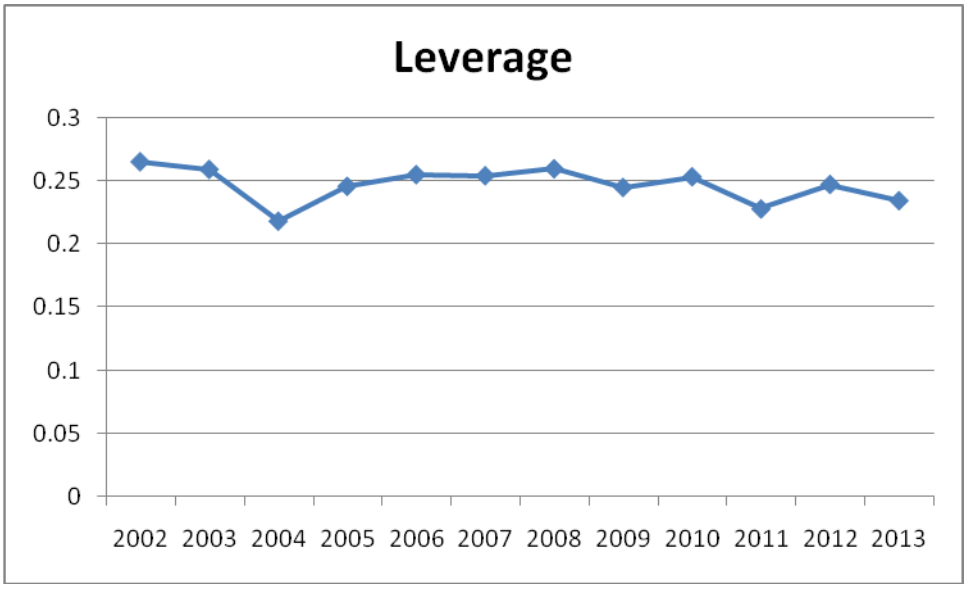


Figure A4(a): Trend for Leverage analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(b) shows the tangibility trend for the 28 companies from the year 2002 to 2013. The trend indicates that the tangibility trend has been declining. Tangibility had stagnated from years 2004 to 2006 but then shot upwards from 2008 to 2009. From 2009 it has been on the decline.

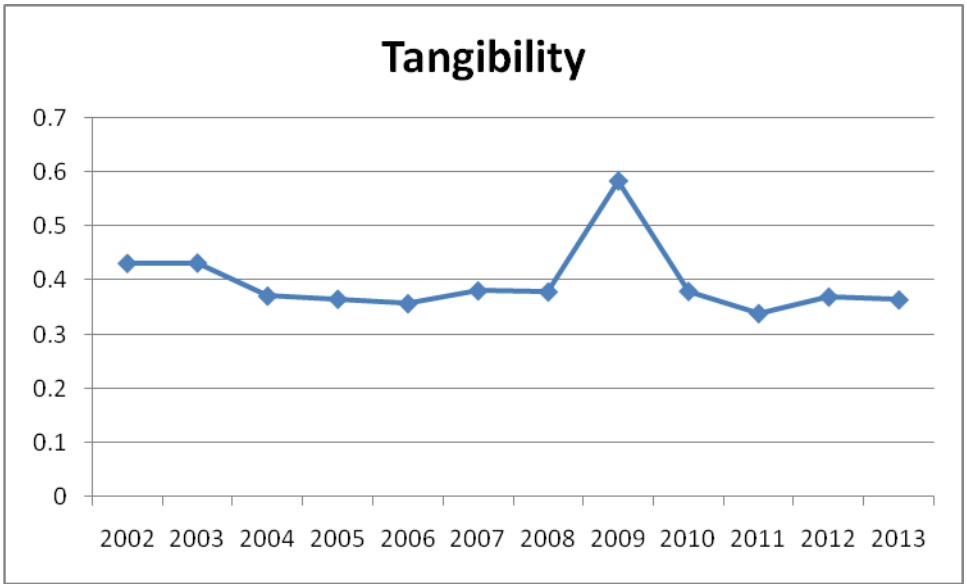


Figure A4(b): Trend for Tangibility analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(c) shows the firm size trend for the 28 companies from the year 2002 to 2013. The trend line indicates that the firm size has been increasing overtime since 2002 to 2013.

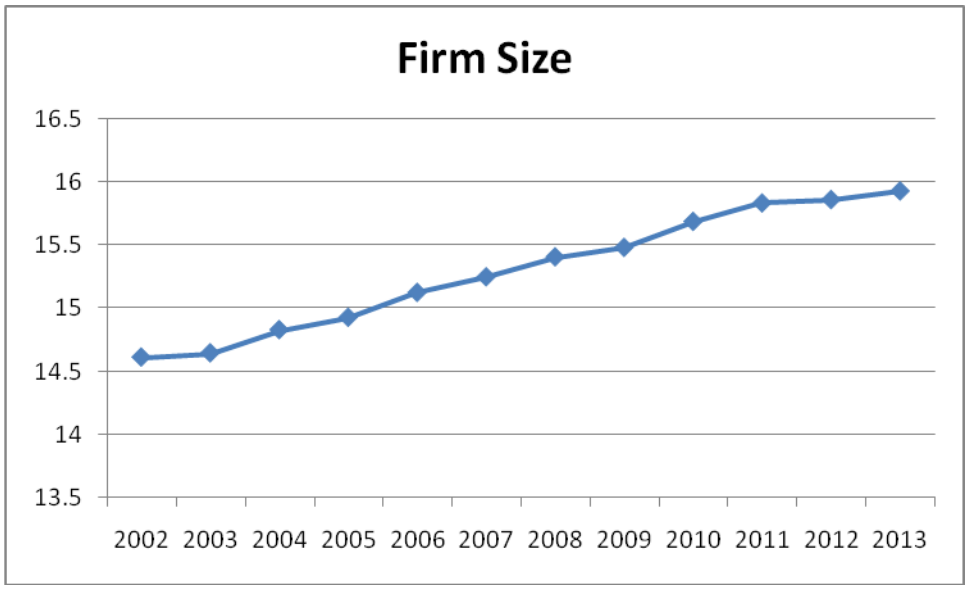


Figure A4(c): Trend for Firm size analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(d) 5 shows the growth opportunity trend for the 28 companies from the year 2002 to 2013. The trend line indicates that growth opportunity has been fluctuating though with an increasing trend.

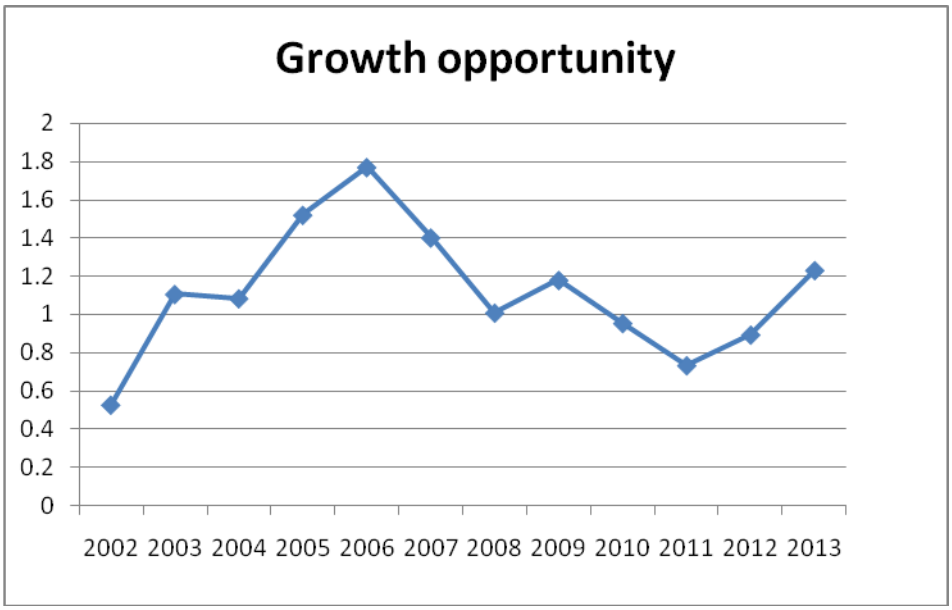


Figure A4(d): Trend for Growth opportunity analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(e) shows the ownership concentration trend for the 28 companies from the year 2002 to 2013. The trend indicates that operating cost efficiency has generally been on the decline, especially from 2004 to 2011. However, ownership concentration has been on the rise from 2011 to 2013.

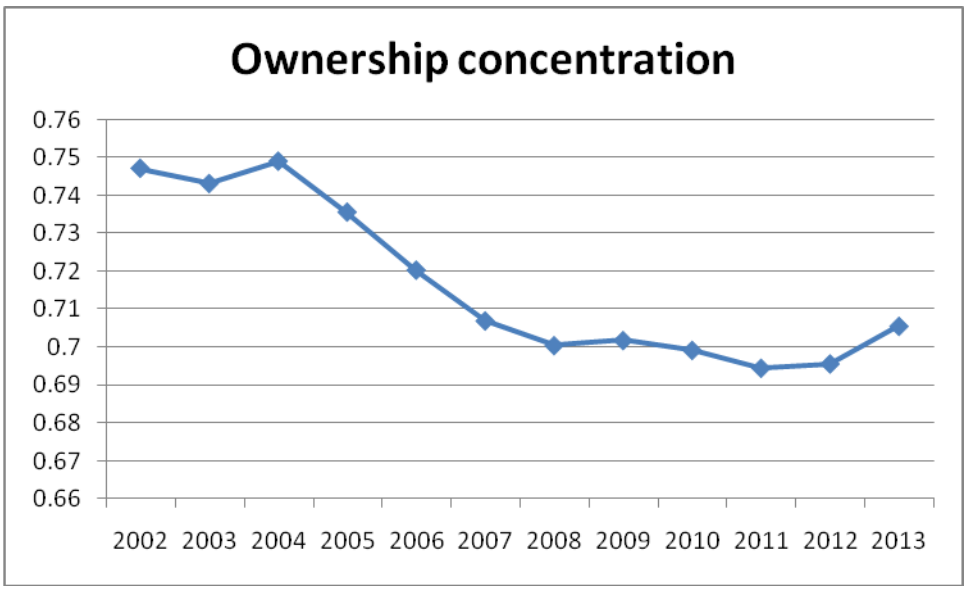


Figure A4(e): Trend for Ownership Concentration analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(f) shows the profitability trend for the 28 companies from the year 2003 to 2013. The trend indicates that profitability has been rising though there was a slight drop in the years 2008, 2010 and 2012.

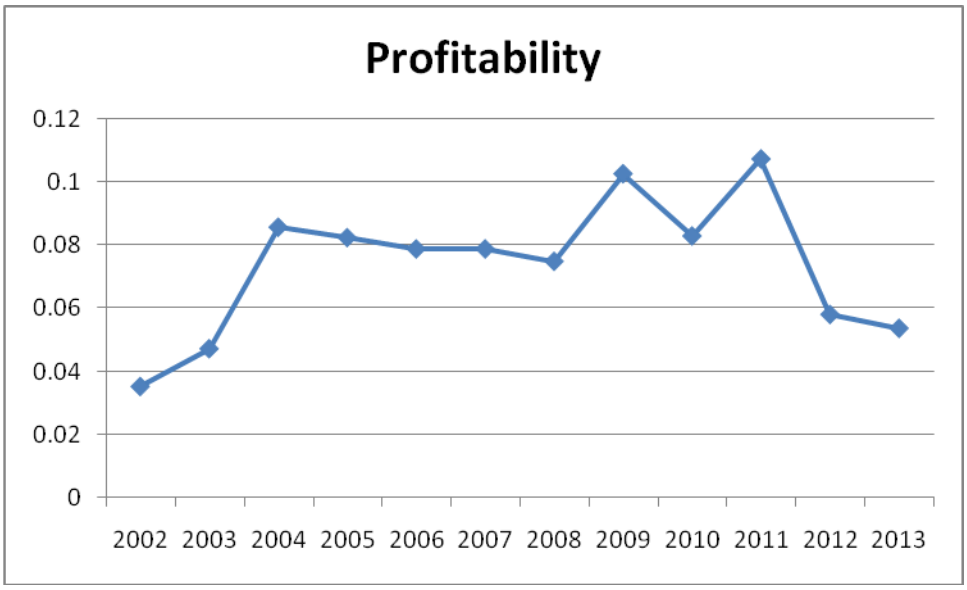


Figure A4(f): Trend for Profitability analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(g) shows the dividends trend for the 28 companies from the year 2002 to 2013. The trend indicates that dividends have been fluctuating all through 2002 to 2013.

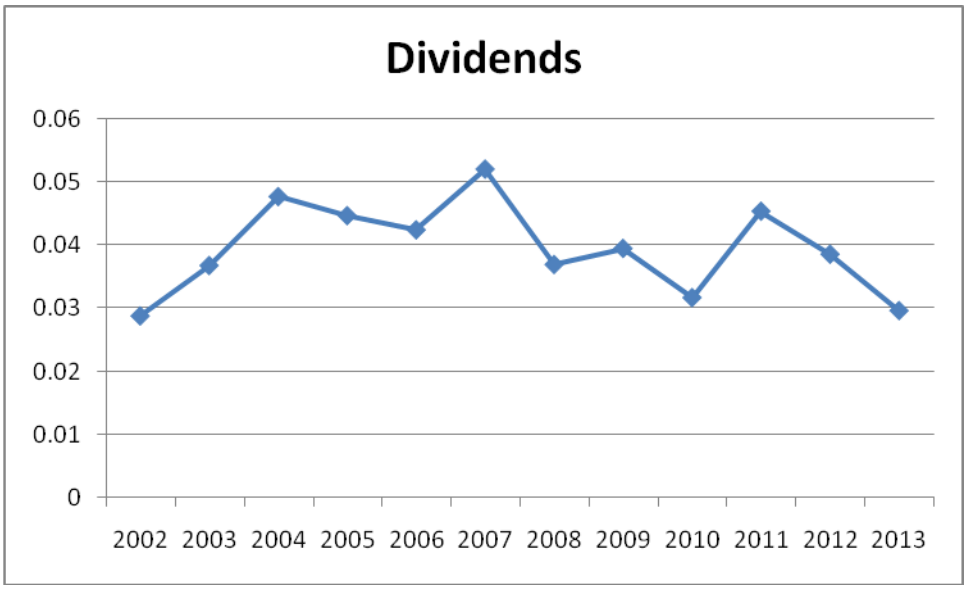


Figure A4(g): Trend for Dividends analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(h) shows the earnings volatility trend for the 28companies from the year 2002 to 2013. The trend indicates that earnings volatility has been on the decline, with a significant drop in years 2003 to 2005. However, earning volatility has increased for 2012 and 2013.

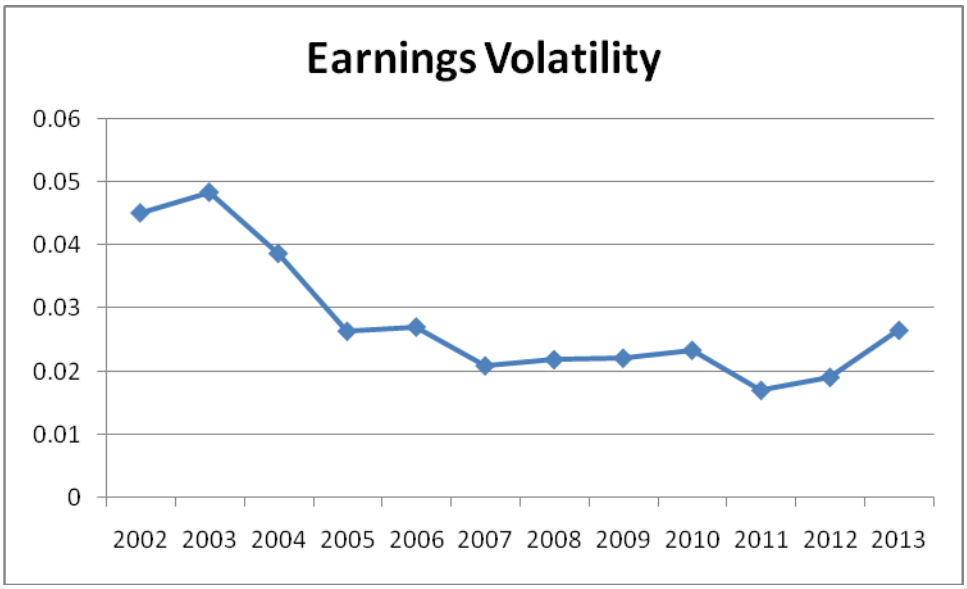


Figure A4(h): Trend for Earnings volatility analysis from 2002 to 2013

Source: Researcher (2015)

Figure A4(i) shows the CAPEX trend for the 28 companies from the year 2002 to 2013. The trend indicates that CAPEX has generally been fluctuating over the years with a significant increase in 2009 and significant drop in 2010.

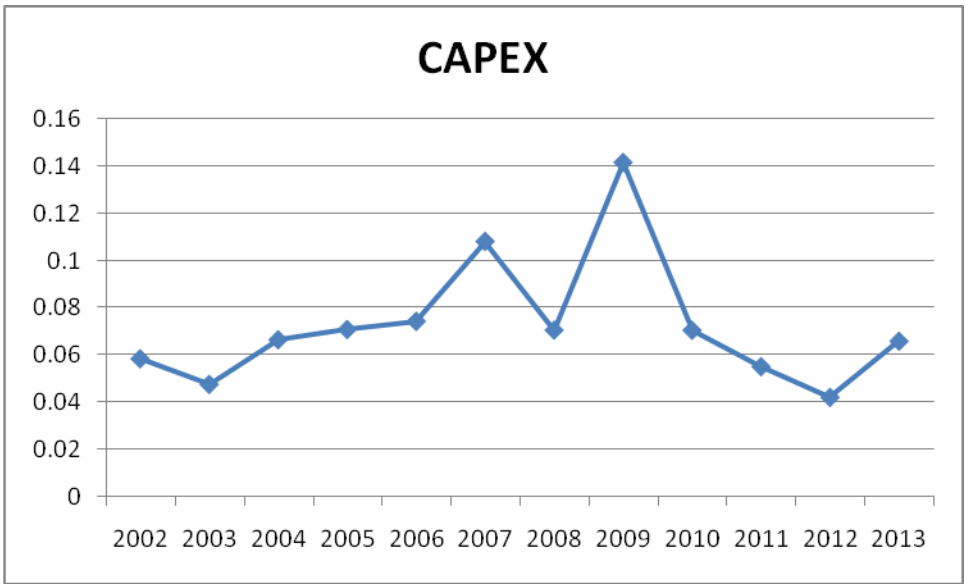


Figure A4(i): Trend for CAPEX1 analysis from 2002 to 2013

Source: Researcher (2015)

Appendix 7: Panel Unit Root Test for Individual Variables

X1=CAPEX1

Panel unit root test: Summary
Series: CAPEX1
Date: 07/01/15 Time: 20:03
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.34843	0.0000	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.51088	0.0060	28	280
ADF - Fisher Chi-square	91.0198	0.0021	28	280
PP - Fisher Chi-square	164.390	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Variable is stationary

Panel unit root test: Summary
Series: LEV
Date: 07/01/15 Time: 20:07
Sample: 2002 2013
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 1
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-17.3370	0.0000	28	302

Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.94609	0.0000	28	302
ADF - Fisher Chi-square	109.140	0.0000	28	302
PP - Fisher Chi-square	94.2329	0.0011	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.
The variable is stationary

Panel unit root test: Summary
Series: TANG
Date: 07/01/15 Time: 20:15
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.02309	0.0000	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.35187	0.0093	28	280
ADF - Fisher Chi-square	93.5303	0.0012	28	280
PP - Fisher Chi-square	85.7274	0.0065	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

variable is stationary

Panel unit root test: Summary
Series: DIST
Date: 07/01/15 Time: 20:19
Sample: 2002 2013
Exogenous variables: Individual effects

User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.38966	0.3484	8	80
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.46998	0.3192	8	80
ADF - Fisher Chi-square	15.4442	0.4924	8	80
PP - Fisher Chi-square	21.3386	0.1659	8	88

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Variable NOT stationary

Hence 1st Differencing

Panel unit root test: Summary
Series: D(DIST)
Date: 07/01/15 Time: 20:22
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.59060	0.0048	9	81
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.39995	0.0082	9	81
ADF - Fisher Chi-square	35.6568	0.0078	9	81
PP - Fisher Chi-square	81.8911	0.0000	9	90

** Probabilities for Fisher tests are computed using an asymptotic

Chi
-square distribution. All other tests assume asymptotic normality.

Hence, the variable is stationary

Panel unit root test: Summary
Series: SIZE
Date: 07/01/15 Time: 20:26
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.71223	0.0434	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	3.26793	0.9995	28	280
ADF - Fisher Chi-square	28.0336	0.9994	28	280
PP - Fisher Chi-square	20.3597	1.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

not stationary, hence 1st differencing

Panel unit root test: Summary
Series: D(SIZE)
Date: 07/01/15 Time: 20:29
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				

Levin, Lin & Chu t*	-3.93956	0.0000	28	252
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.25607	0.0006	28	252
ADF - Fisher Chi-square	99.8122	0.0003	28	252
PP - Fisher Chi-square	230.714	0.0000	28	280

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

the variable has no unit root (stationary)

Panel unit root test: Summary
Series: GROPP
Date: 07/01/15 Time: 20:32
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.72690	0.0000	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.51780	0.0059	28	280
ADF - Fisher Chi-square	85.0126	0.0075	28	280
PP - Fisher Chi-square	116.029	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

The variable is stationary

Panel unit root test: Summary
Series: PROF

Date: 07/01/15 Time: 20:35
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.6541	0.0000	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.63908	0.0042	28	280
ADF - Fisher Chi-square	81.4384	0.0148	28	280
PP - Fisher Chi-square	118.672	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

The variable is stationary at level

Panel unit root test: Summary
Series: DIV
Date: 07/01/15 Time: 20:37
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.37044	0.0004	27	270
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.62669	0.2654	27	270
ADF - Fisher Chi-square	64.6247	0.1526	27	270
PP - Fisher Chi-square	114.133	0.0000	27	297

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Not stationary, hence perform 1st differencing

Panel unit root test: Summary
Series: D(DIV)
Date: 07/01/15 Time: 20:44
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.66098	0.0000	28	252
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.53320	0.0000	28	252
ADF - Fisher Chi-square	137.055	0.0000	28	252
PP - Fisher Chi-square	306.669	0.0000	28	280

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

hence stationary

Panel unit root test: Summary
Series: ERNVOL
Date: 07/01/15 Time: 20:46
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Cross-

Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.1199	0.0000	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.96488	0.0000	28	280
ADF - Fisher Chi-square	135.014	0.0000	28	280
PP - Fisher Chi-square	186.391	0.0000	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Variable is stationary

Panel unit root test: Summary
Series: FCF
Date: 07/01/15 Time: 20:49
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.65769	0.0001	17	170
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.61765	0.0001	17	170
ADF - Fisher Chi-square	66.5402	0.0007	17	170
PP - Fisher Chi-square	134.437	0.0000	17	187

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

The variable is stationary

Panel unit root test: Summary
Series: OWNSP
Date: 07/01/15 Time: 20:51
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.44430	0.3284	28	280
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.81064	0.9649	28	280
ADF - Fisher Chi-square	40.7271	0.9377	28	280
PP - Fisher Chi-square	48.1072	0.7643	28	308

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

has unit root and root test in 1st differencing

Panel unit root test: Summary
Series: D(OWNSP)
Date: 07/01/15 Time: 20:54
Sample: 2002 2013
Exogenous variables: Individual effects
User-specified lags: 1
Newey-West automatic bandwidth selection and Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.55622	0.0000	28	252
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.20041	0.0007	28	252
ADF - Fisher Chi-square	106.109	0.0001	28	252

PP - Fisher Chi-square	237.311	0.0000	28	280

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Hence the variable is stationary

Panel Unit Root Test Further Summary

Variables	**Tests**	**Statistics**	**Probabilities**
Capital expenditure	Levin, Lin & Chu t*	-4.34843	0.0000
	Im, Pesaran and Shin W-stat	-2.51088	0.0060
	ADF - Fisher Chi-square	91.0198	0.0021
	PP - Fisher Chi-square	164.390	0.0000
Tangibility	Levin, Lin & Chu t*	-6.02309	0.0000
	Im, Pesaran and Shin W-stat	-2.35187	0.0093
	ADF - Fisher Chi-square	93.5303	0.0012
	PP - Fisher Chi-square	85.7274	0.0065
Financial distress	Levin, Lin & Chu t*	-0.38966	0.3484
	Im, Pesaran and Shin W-stat	-0.46998	0.3192
	ADF - Fisher Chi-square	15.4442	0.4924
	PP - Fisher Chi-square	21.3386	0.1659
First Differencing D(DIST)	Levin, Lin & Chu t*	-2.59060	0.0048

	Im, Pesaran and Shin W-stat	-2.39995	0.0082
	ADF - Fisher Chi-square	35.6568	0.0078
	PP - Fisher Chi-square	81.8911	0.0000
Firm Size	Levin, Lin & Chu t*	-1.71223	0.0434
	Im, Pesaran and Shin W-stat	3.26793	0.9995
	ADF - Fisher Chi-square	28.0336	0.9994
	PP - Fisher Chi-square	20.3597	1.0000
First Differencing D(SIZE)	Levin, Lin & Chu t*	-3.93956	0.0000
	Im, Pesaran and Shin W-stat	-3.25607	0.0006
	ADF - Fisher Chi-square	99.8122	0.0003
	PP - Fisher Chi-square	230.714	0.0000
Growth opportunities	Levin, Lin & Chu t*	-5.72690	0.0000
	Im, Pesaran and Shin W-stat	-2.51780	0.0059
	ADF - Fisher Chi-square	85.0126	0.0075
	PP - Fisher Chi-square	116.029	0.0000
Profitability	Levin, Lin & Chu t*	-12.6541	0.0000
	Im, Pesaran and Shin W-stat	-2.63908	0.0042
	ADF - Fisher Chi-square	81.4384	0.0148
	PP - Fisher Chi-square	118.672	0.0000
Dividend payout	Levin, Lin & Chu t*	-3.37044	0.0004

ratio			
	Im, Pesaran and Shin W-stat	-0.62669	0.2654
	ADF - Fisher Chi-square	64.6247	0.1526
	PP - Fisher Chi-square	114.133	0.0000
First differencing D(DIV)	Levin, Lin & Chu t*	-6.66098	0.0000
	Im, Pesaran and Shin W-stat	-5.53320	0.0000
	ADF - Fisher Chi-square	137.055	0.0000
	PP - Fisher Chi-square	306.669	0.0000
Earnings volatility	Levin, Lin & Chu t*	-10.1199	0.0000
	Im, Pesaran and Shin W-stat	-5.96488	0.0000
	ADF - Fisher Chi-square	135.014	0.0000
	PP - Fisher Chi-square	186.391	0.0000
Free Cash Flow	Levin, Lin & Chu t*	-3.65769	0.0001
	Im, Pesaran and Shin W-stat	-3.61765	0.0001
	ADF - Fisher Chi-square	66.5402	0.0007
	PP - Fisher Chi-square	134.437	0.0000
Ownership concentration	Levin, Lin & Chu t*	-0.44430	0.3284
	Im, Pesaran and Shin W-stat	1.81064	0.9649
	ADF - Fisher Chi-square	40.7271	0.9377
	PP - Fisher Chi-square	48.1072	0.7643
First	Levin, Lin & Chu t*	-4.55622	0.0000

Differencing			
	Im, Pesaran and Shin W-stat	-3.20041	0.0007
	ADF - Fisher Chi-square	106.109	0.0001
	PP - Fisher Chi-square	237.311	0.0000

Appendix 8: Model Estimations

Fixed-effects (within) regression Number of obs = 307
Group variable: Nameofthef~1 Number of groups = 28

R-sq: within = 0.6385 Obs per group: min = 10
between = 0.7005 avg = 11.0
overall = 0.6395 max = 11

F(9,270) = 52.99
Corr (u_i, Xb) = -0.2980 Prob > F = 0.0000

CAPEX1	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
LEV	.1673211	.0523003	3.20	0.002	.0643527	.2702894
TANG	.2765908	.0196514	14.07	0.000	.2379014	.3152802
FCF	.0778037	.0131277	5.93	0.000	.0519581	.1036494
ERNVOL	-.3658066	.2521335	-1.45	0.148	-.8622042	.130591
PROF	.4800629	.0846301	5.67	0.000	.3134441	.6466817
laggropp	-.0017873	.0072053	-0.25	0.804	-.0159729	.0123983
dDIST	.0049297	.0173803	0.28	0.777	-.0292885	.0391479
dSIZE	.0216907	.0213274	1.02	0.310	-.0202985	.0636798
dlagDiv	-.0933927	.1176862	-0.79	0.428	-.325092	.1383067
cons|	-.1354324	.0192737	-7.03	0.000	-.1733782	-.0974866

sigma_u | .05109458
sigma_e | .09473896

rho | .22532604 (fraction of variance due to u_i)

F test that all u_i=0: F(27, 270) = 2.50 Prob > F = 0.0001

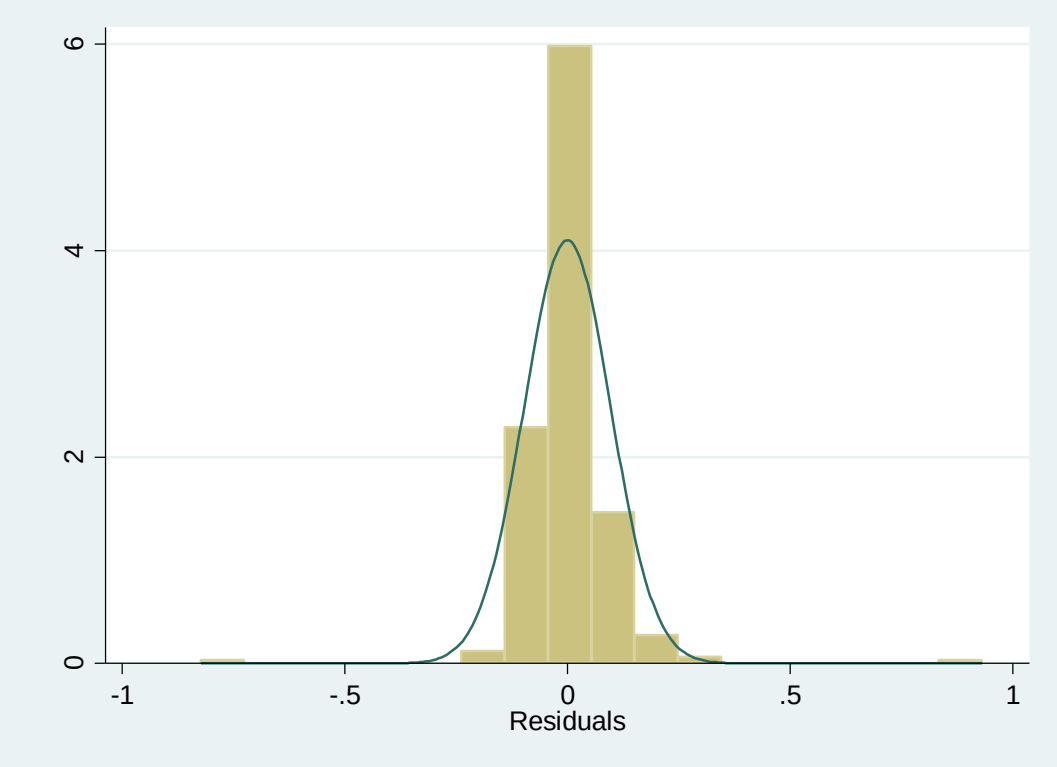
Random-effects GLS regression Number of obs = 307
Group variable: Nameofthef~1 Number of groups = 28

R-sq: within = 0.6354 Obs per group: min = 10
Between = 0.7238 avg = 11.0
Overall = 0.6494 max = 11

Wald chi2(9) = 530.79
Corr (u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

CAPEX1	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
LEV	.116695	.0412081	2.83	0.005	.0359287 .1974614
TANG	.2594072	.0176258	14.72	0.000	.2248613 .293953
FCF	.0780248	.0126777	6.15	0.000	.0531769 .1028726
ERNVOL	-.1977825	.1890756	-1.05	0.296	-.5683639 .1727989
PROF	.5209187	.0779113	6.69	0.000	.3682154 .6736221
laggropp	-.0031182	.0061271	-0.51	0.611	-.015127 .0088907
dDIST	.0109576	.0172946	0.63	0.526	-.0229392 .0448545
dSIZE	.0197731	.0198559	1.00	0.319	-.0191437 .0586899
dlagDiv	-.0922941	.1179416	-0.78	0.434	-.3234554 .1388671
cons	-.1221898	.0170401	-7.17	0.000	-.1555877 -.0887918
sigma_u	.0345142				
sigma_e	.09473896				
rho	.11716978	(fraction of variance due to u_i)			

Appendix 8: Overall Normality test



.sktest r

Skewness/kurtosis tests for Normality

				joint	
Variable	obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2 (2)	Prob>chi2
r	336	0.0000	0.0000	-	0.0000

Conclusion: Not normally distributed

Appendix 9: Overall Multicollinearity Test

. correlate CAPEX1 LEV TANG DIST FCF SIZE ERNVOL GROPP PROF DIV OWNSP

(obs=336)

	CAPEX1	LEV	TANG	DIST	FCF	SIZE	ERNVOL	GROPP	PROF	DIV	OWNSP
CAPEX1	1.0000										
LEV	0.2825	1.0000									
TANG	0.7246	0.2961	1.0000								
DIST	0.0763	0.5059	0.1036	1.0000							
FCF	0.2627	0.2164	0.1104	0.1907	1.0000						
SIZE	0.1439	0.2363	0.0901	0.2835	0.1299	1.0000					
ERNVOL	-0.0019	-0.1478	0.0483	-0.1187	-0.0123	-0.0445	1.0000				
GROPP	0.3245	-0.0789	0.3401	-0.3680	-0.1371	-0.1254	-0.0517	1.0000			
PROF	0.3755	-0.1783	0.2539	-0.3334	-0.2384	0.0014	0.0327	0.5624	1.0000		
DIV	0.1428	-0.1149	0.0999	-0.2762	-0.2622	0.0595	-0.0437	0.5945	0.5532	1.0000	
OWNSP	-0.0833	0.0684	-0.0383	-0.2059	-0.0554	-0.3718	-0.0471	0.0820	-0.0642	0.0193	1.0000

Conclusion: No multicollinearity

Appendix10: Overall Heteroskedasticity test

. quietly xtreg CAPEX1 leverage tangibility financial_dist firm_size growth_opp profitability DIV ERNVOL ownership_conc,fe

.xt test3

Modified Wald test for groupwise heteroskesdasticity
in fixed effect regression model

Ho: sigma(i)^2 = sigma^2 for all i

Chi2 (28) = 11613.19
Prob>chi2 = 0.0000

Conclusion:error terms are heteroskedastic

Appendix 11: FGLS with moderating coefficients

Cross-sectional time-series FGLS regression

Coefficients: generalized least squares
Panels: homoskedastic
Correlation: no autocorrelation

Estimated covariances	= 1	Number of obs	= 307
Estimated autocorrelations	= 0	Number of groups	= 28
Estimated coefficients	= 12	Obs per group: min	= 10
		Avg	= 10.96429
		Max	= 12
		Wald chi2(9)	= 572.79
Log likelihood	= 273.3703	Prob > chi2	= 0.0000

CAPEX1	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
LEV	.0995318	.0355487	2.83	0.005	.0298575	.169206
TANG	.2474961	.0167021	14.82	0.000	.2147605	.2802317
dDIST	.0144052	.0178695	0.81	0.420	- .0206184	.0494288
dSIZE	-.0215973	.0196633	1.10	0.272	-.0169421	.0601367
laggropp	-.0048431	.005631	-0.860	0.390	.0158797	.0061934
PROF	.5629401	.0754707	7.46	0.000	-.4150203	.71086
dlagDiv	- .0967508	.1223375	-0.79	0.429	-.3365279	.1430263
ERNVOL	- .1160684	.1544112	-0.75	0.452	-.4187088	.186572
FCF	.0780715	.0126575	6.17	0.000	.0532633	.1028796
dOWNSP	.0449265	.154014	0.29	0.771	-.2569354	.3467884
Var & Mod	10.7956	9.298184	1.16	0.246	-7.428502	29.01971
_cons	-.1169388	0.0138482	-8.44	0.000	-.1440807	-.0897969