EFFECT OF CASH HOLDING ON VALUE OF NON-FINANCIAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

NOVEMBER 2019

DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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D63/87677/2016

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

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ACKNOWLEDGEMENT

I am grateful to the almighty God for his provision of strength and wisdom during my study.

I extend my special thanks to my supervisor, Mr. Joseph Barasa, and moderator, Dr. Angela Kithinji, for their constructive suggestions, right criticism and guidance that helped me stay on course and to finish this project. I am deeply indebted to my colleagues for their understanding and encouragement throughout the process.

DEDICATION

This research project is dedicated to my parents Mr. Norman Kibaya and Mrs. Catherine Kibaya for their moral and financial support throughout the time of study.

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LIST OF ABBREVIATIONS

ACP	Average Collection Period
ANOVA	Analysis of Variance
APP	Average Payment Period
CCC	Cash Conversion Cycle
CH	Cash Holding
CMA	Capital Market Authority
EOQ	Economic Order Quantity
GDP	Gross Domestic Product
ICP	Inventory Conversion Period
Ln	Natural Logarithm
NSE	Nairobi Securities Exchange
ROA	Return on Assets
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factors
WCM	Working Capital Management

ABSTRACT

This study focused on ascertaining the effect of cash holding on value of non-financial firms listed at the NSE. The population for the study was all the 47 non-financial firms listed at NSE. Out of the 47 firms the research only managed to get data from 43 firms which was an equivalent of 91.49% response rate. The independent variables for the study were cash holding as measured by the ratio of cash and cash equivalents to total assets, age of a firm as measured by the Ln of the number of years in existence, firm size as measured by Ln of total assets and capital structure as measured by debt ratio. Firm value was the dependent variable and was measured by the ratio of market value of equity to book value of equity. Annual secondary data spanning 5 years for the time frame January 2014 to December 2018 was collected and analyzed through the assistance of SPSS software version 22. Multiple linear regression model was adopted to determine the association of variables. From the results of the analysis an R-square value of 0.140 which suggested that about 14% of the changes in value of listed non-financial firms at the NSE can be related to the four chosen independent variables while 86% in changes in financial performance can be related to other variables not incorporated in this model. Further findings found out that at the independent variables had a moderate correlation with value (R=0.374). The F statistics from the ANOVA outcomes was significant at 5% with a p=0.000. Consequently, it was considered that the model is suitable in explaining the chosen variables relationship. The outcomes additional revealed that both cash holding and firm size produced positive and statistically significant values for this study while capital structure produced negative but statistically significant values. Age of the firm was found to be an insignificant determiner of firm value. The study recommends that when firms are coming up cash holding levels, they should weigh between the value maximizing benefits of holding cash and opportunity cost of holding idle assets. Cash holding has been found to increase firm value and so policy makers should ensure that firms maintain cash holding at sustainable levels to maximize firm value.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Cash holding (CH) decision is aimed at achieving two major corporate goals; to maximize profitability and firm liquidity. If this two are achieved, the main aim of a firm which is shareholders' wealth maximization will be achieved (Mullins, 2009). Based on cash holding implications on both liquidity and profitability of a firm, finance managers appreciate that cash holding decision demands a careful inquiry since its role in the overall corporate strategy is a fundamental part of creating value to shareholders (Howarth & Westhead, 2003). Efficient cash holding position demands maintaining sufficient level of cash to fulfill short term needs when they arrive while at the same time not holding excess as this is accompanied with an opportunity cost of investment return which inhibits achievement of the main goal which is shareholder wealth maximization (Brigham & Ehrhardt, 2012).

Keynesian liquidity preference theory, Baumol cash management theory and Miller-Orr theory give an effective guidance on the cash holding levels that are deemed appropriate for a firm. Such theories put an emphasis on the need to optimize liquidity levels. Keynesian liquidity preference theory advocates for the necessity of liquidity to facilitate daily activities of a firm. Baumol (1952) noted that in as much as optimal cash balances bring benefits to a firm; they do come with an added cost such as sourcing costs and other associated costs. Cash holding decisions enable firms to realize optimal balance between liquidity and profitability (Gill, 2011). Cash holding decision is therefore consistent with value seeking and maximizing behavior of firms.

Listed firms at the NSE have continually developed the strategies of ensuring idle cash is managed properly by investing in the financial assets which are more marketable in the market. These strategies also ensure the maintenance of enough cash which ensure organizations are better placed financially fulfil immediate obligations when they arise (CMA, 2018). However, some listed firms are still having liquidity issues such as Uchumi supermarket Ltd whose 2017 annual report had clear indications that tight cash flow issues within the company contributed to difficulties for the firm to uphold good relations with suppliers and also have consistency in supplies. The resultant effect of this was the massive loss of customers to competitors together with a deteriorating cash flow position and as such the company was placed under receivership. It is hence worth conducting an investigation on how cash holding influence the firms' value (Kaur, 2010).

1.1.1 Cash Holding

Adeniji (2008) defined cash holdings as coins and currency notes on hand, deposits in checking, savings accounts, and cheques received but un-deposited. Akinsure (2008) adds that marketable securities such as investment in bonds, capital stocks or commercial paper and can be simply changed to cash through sale also part of cash holdings. According to Finkler (2010), cash holding management is management of cash and cash equivalents to maximize results where the firm is in a position to settle short term liabilities as they accrue while at the same time taking advantage of investment opportunities that maximizes shareholders wealth.

Baumol cash management model and Miller-Orr model have been used as important parameters in gauging the effectiveness of cash holding decisions. These two models informs managers on the optimal cash to hold and at what point in time should cash

holding be increased or decreased (Deloof, 2003). Moreover, cash holding levels can also be measured through firm's periodic liquidity analysis. In this analysis, liquidity position can be recognized by the risk and return characteristics (Weinraub & Visscher, 1998). In this study the researcher shall represent the CH level by using the ratio of cash and cash equivalent items to total assets. The cash-equivalents have been added to this definition because of the ease with which they can be converted into cash and the minimal costs that will be used for the conversion.

1.1.2 Firm Value

As per to Modigliani and Miller (1961), firm value is a financial measure showing the valuation of the firm by the market. It is a summation of all the claims by the investors whether unsecured or secured creditors and for both preferred and ordinary shareholders. Firm value can also be defined as the discounted cash flows from assets and future growth, discounted using the cost of capital (Damadoran, 2002). The strategic purpose of any firm is to ensure maximization of the firm's value or shareholder's wealth (Berle & Means, 1932). Dalborg (1999) explained that the value of a firm is generated from the shareholder's earnings, in share price as well as dividend grows and becomes more than the return risk-adjusted rate necessary for the stock market. His study explained further and noted that the total return to the shareholder needs to be higher compared to the cost of equity for creation of value. Copeland (2000) indicated that in the market value is created through earning a yield to the investment (return) more compared to the opportunity of capital cost. This indicates that growth will generate more value when the yield on the capital surpasses the cost of capital.

Firm's value can be measured through different means for example total assets, net sales, capital employed, paid-up-capital and so on (Sharma, 2011). The expectation is

that the firm's value has to reflect the value of both tangible and intangible assets. A common tool that gives the measurement of firm value is Tobin's Q. This tool is usually a percentage of market value of a firm to replacement cost of a firm's assets (Taslim, 2013). Tobin Q measures firm value on the basis of book as opposed to market based measures. Under q proposition, a firm is said to create more value if investment returns are greater than investment cost (Taslim, 2013).

1.1.3 Cash Holding and Firm Value

Tradeoffs exist between CH and returns and therefore firms need to recognize and understand these tradeoffs and implement strategies that take them into account. Aggressive investment in cash negatively affects returns from investments of a firm and positively affects its liquidity. On the other hand, conservatism investment in cash results in low liquidity and higher returns form investment although it could result in unmet customer demands. Cash holding therefore, involves management of these tradeoffs to ensure optimization of firm returns and liquidity. The prime objective of cash holding is to ensure smooth operations simultaneously reducing costs and increasing revenues by improving operational responsiveness (Afza & Nazir, 2009).

Although a company's primary purpose is to achieve profits, there is the need to maintain optimal levels of liquidity in daily operations to guarantee business continuity, growth and survival (Eljelly, 2004). Ricci and Vito (2000), conform that the prime objective of cash holding is regulation of current assets of a company so that equilibrium is achieved between the liquidity and the returns associated to that liquidity. The degree of investment in cash determines strongly the value of a company. Cash holding decisions influence a firm's primary revenue streams and financing costs for short term capital requirements. It is therefore imperative for financial managers to

make efficient and effective cash holding decisions to realize optimal firm value (Howorth & Westhead, 2003).

Peel and Wilson (1996) noted that a negative association exists between value and cash holdings. The authors further noted that cash holdings is a relevant aspect for financial managers who commit much time and resources looking for an ideal or optimum equilibrium of risk and return as well as profitability and liquidity so as to maximize wealth for the owners. Gill, Biger and Mathur (2010) established significant link between cash holdings and firm returns. The findings implied that firm's management can increase firm's productivity by optimally managing CH. Overall these studies done indicate that a relationship exists between cash holdings and organizational success in a variety of markets. There are various conclusions, with most of them pointing to an inverse association between organizational value and cash holdings.

1.1.4 Non-Financial Firms Listed at the NSE

The research focuses on corporations listed at the NSE. The NSE has the fourth largest trading volume across the African continent and is crucial to Kenya's economic growth. NSE was recognised as an association of stock brokers, it was later recorded underneath the societies Act in 1954. The NSE was registered under Kenya companies Act in 1991 as a corporation limited by guarantee, there was no share capital (Kibuthu, 2005). Subsequently, the market has evolved with an increase in the numeral of brokers, formation of guardian institutions, credit evaluation agencies and the numeral of listed corporations over time. Securities merchandized in the market comprise equities, bonds and preference shares (NSE, 2018).

Currently, there are 65 corporations registered at NSE, 63 of which have been actively trading at NSE for the last five years. The companies operate in various segments of

the economy. Companies listed at NSE are registered under companies act and they operate as public Act Cap486 (CMA handbook, 2018). The study targets non-financial firms listed at NSE specifically as it represents almost all sectors in the economy. The financial firms which are 18 in number (12 commercial banks and six insurance companies) will be excluded from this study as they usually have their cash holding decisions regulated and therefore might not bring significant difference in this study. Banks for instance are required to meet a certain mandatory liquidity level for them to operate (CBK, 2018).

To increase their value, companies quoted at the NSE should efficiently manage their cash holdings in order to minimize costs and maximize profits in their operations. Cash holding decisions play a critical role in the overall strategy of the firm so as to maximize shareholder wealth in firms (Siddiquee, Khan, Shaem & Mahmud, 2009). Over the past years, several listed firms have had financial problems that have led to their suspension from trading, shutting down some of the operations or being put under receivership. Their inability to meet payments to suppliers of goods and bank commitments has been proposed as one of the reasons. Such firms include Uchumi Ltd, Mumias Sugar Co. Ltd and Kenya Airways Ltd.

1.2 Research Problem

The management of cash holdings is a key managerial concern, managers realize there is no substitute for cash management regardless of the firm size, asset base and profitability, the only fact is that only firms with effective cash holding decisions will survive and keep their operations running. Cash holding decisions affect the efficiency of a firm, its risk and as a result its value (Smith, 1980). Poor cash management leads to a situation where the firm is unable to achieve its maturing obligations.

Consequently, this could lead to lost business opportunity which definitely would impact the value of the firm. In extreme situations, where the firm is not to achieve its obligations to external parties, there could be litigation charges and fines involved which impact on the cost of the firm (Pandey, 1997). Rafuse (1996) identified poor cash management decisions as the main factors of business failure in growing firms.

Empirical evidence is varied on how cash holdings affect firm value and is mostly inconsistent. Pinkowitz, Stulz & Williamson (2006) did an estimation of the marginal value of cash. They found out that CH relationship to firm value is weaker in nations where policies regarding investor-relations are poor than in other countries. Martínez-Sola, García-Teruel and Garcia-Teruel (2011) did a contrast on how the firm value is influenced by the level of cash holding and selected a number of industrial firms in the US in the period 2001-2007 and verify that an optimum cash holding level exists. Rodrigues and Caldeira (2014) use panel data regressions in assessing how capital structure and cash holdings affect the value of a select companies in Brazil whose shares are publicly traded and also concurred that there is an optimum threshold level of cash holding.

The firms listed at the NSE in Kenya need a keen attention in order to make meaningful contribution to Kenya's economy. Cash holding decision is one of the factors expected to add on to the profits of these firms and in essence their value. In the recent past, Kenya has experienced inability of some listed firms to carry their activities properly and some of them ended up closing shop. Uchumi and Kenya Airways are two examples of listed firms that have been struggling and this research is an investigation of how cash holding has an impacts the value of non-financial firms listed at the NSE. Locally, studies have focused more on WCM and financial performance leaving a gap on how

the values of firms are affected by cash holding levels. Nyarangi (2016) investigated WCM effect on financial performance of firms in the manufacturing industry listed at the NSE. Mohamed (2016) sought to investigate how WCM decisions impact the financial operations of smallholder tea companies in Kenya. Awunya (2017) studied how financial performance is affected by WCM policies among commercial and services firms. From the foregoing, it is clear that although there are studies done on cash holdings, majority of these studies have focused on other contexts and therefore the findings cannot be generalized locally. The local studies have focused on working capital in general and have not operationalized it in aspects of cash holdings and this is the gap the current study leveraged on by answering the research question: what is the effect of cash holdings on value of firms listed at the NSE?

1.3 Objectives of the Study

The primary objective of the study was to determine the effect of cash holding on value of firms listed at NSE.

Specific objectives:

i. To establish the effect of leverage on firm value
ii. To establish the effect of age of the firm on firm value
iii. To establish the effect of size of the firm on firm value

1.4 Value of the Study

The findings of this study will be useful to scholars, students and researchers who have a keen interest in studies within the same field. It will be beneficial to the researchers and scholars in helping them to identify gaps in research within the same field and guide them in undertaking subsequent studies.

Value of this study is to the various managers who are accountable for the management of listed firms; the study will provide beneficial information and recommendations that will be useful in making informed decisions on management thereby enhancing shareholders' wealth maximization. The study is an addition to the existing knowledge base to assist both listed firms and other firms aiming on improving their value and ensure sustainability.

The outcome of this study will also aid the various regulatory agencies such as CMA and NSE when developing legislation and regulatory framework around companies' cash holding decisions. The regulators will thus consider this study as they formulate policies that will create a favorable environment for investors.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter presents a review of theories that form the foundation of this study. In addition, previous studies have been done before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of firm value, conceptual model framework showing the relationship between study variables and a literature review summary.

2.2 Theoretical Framework

This section is a review of the relevant theories that explains decisions of firms regarding holding of cash. The theoretical reviews covered are; Keynesian liquidity preference theory, Baumol cash management model and the Miller-Orr model.

2.2.1 Keynesian Liquidity Preference Theory

This theory was formulated by John Keynes in 1936 and it laid a foundation for cash holding. In this theory, Keynes argues that holding all other factors constant, investors will have a preference for liquid investments as opposed to long-term investments and will seek a higher return for investments that will take more time to mature. Liquidity is the expediency of holding cash. An individual or firm will hold money for various reasons at a given time (Bitrus, 2011). Based on the theory, firms hold cash to enable them meet their transaction, precaution, speculative and compensation motives.

Keynesian liquidity preference theory is relevant for this study since the necessity of liquidity to facilitate daily activities of a firm cannot be ignored. However, Gakure et al., (2012) noted a significant negative association between a firm's liquidity and its

financial performance. Firms have to ensure they minimize the total cost of liquidity and cost of illiquidity, cash holding objective being enhancing both liquidity and firm value (Pandey, 1997).

2.2.2 Baumol Cash Management Model

This model was advanced by Baumol (1952). The model was intended to keep the opportunity cost level related to holding money and trading costs of changing other assets to cash flow. The methodology is fundamentally the same as the EOQ Model for stock size yet it manages diverse factors. It posits that firms hold some marketable liquid assets or securities for easy conversion into cash (Baumol, 1952). As indicated by this stipulation, money is accepted to begin from a certain level, and afterward decreases gradually to a zero value. In this stipulation, a financial manager needs to choose on apportioning the liquid assets linking cash with the marketable securities (Pandey, 2010). However, this trade-off lies upon the opportunity cost of holding money which increases as the cash level (Cornett et al., 2009).

If an organization chooses to keep up a low cash level it should carry out many transactions prompting high trading costs leading to low opportunity cost since there are little reserves. Alternatively, if a firm prefers to keep high money reserves, its opportunity cost will be high due to high amount of un-invested cash while its transaction cost will be low due to few transaction costs (Pandey, 2010). Baumol cash management model has various weaknesses such as; the model assumes that the firm has a consistent cash flow rate which is unrealistic since payment rates vary. The model also assumes that the firm will not receive any cash within the specified period. Since most firms would like more cash inflows than outflows, and normally have money

inflows constantly, this presumption is clearly unrealistic. Finally, the model does not give room for cash savings to cushion urgent cash demand (Cornett et al., 2009).

2.2.3 Miller-Orr Model

Miller and Orr (1966) suggested that there are two controls restrain specifically; the upper and lower control restrains and in addition an arrival point. In the event that the company's cash flows vary haphazardly to hit upper limit, at that point it purchases adequate attractive securities to return to an ordinary level of money balance. Also, when the company's money streams go beneath as far as possible, it offers adequate attractive securities to take the money balance back to the attractive level. This model is significant to working capital administration as it can help decide the points of confinement inside which a firm can hold its money and subsequently its working capital administration.

Miller-Orr model depends on the assumption that the relative variety and the mean are consistently distributed with the estimation of zero. In the event of persistent cash shortage, it demonstrates a condition of under capitalization and the requirement for extra lasting capital and unless this is acquired the entity might be constrained bankruptcy (Pandey, 2010). At the point when the creditor’s pressure is so high, the firm may decrease the amount of stock carried forward and main investment activities are considered or even the present resources required for typical trading activities and quickening money inflows which would some way or another be normal in later periods like squeezing account holders which may contrarily influence the financial performance (Miller-Orr, 1996).

2.3 Determinants of Firm Value

There are several determinants of value in companies. These factors usually cut across almost all the sectors in the economy. This section discusses the determinants. Cash holding: Cash holding decisions play an essential function in determining the firm's value. Company executives can create shareholder value by efficient management of cash and cash equivalents (Shin & Soenen, 1998). This can be achieved by putting in place proper credit policies and appropriate payment periods and in general, efficient management of cash and marketable securities (Filbeck & Krueger, 2005). Howarth and Westhead (2003) proposed that cash holdings has to be managed efficiently since it plays a big role towards the key strategy of any firm which is to create value for its shareholders. Efficient cash holding decisions ensure minimum costs and risks to the firm and that cash is trapped in the business cycle for a short time resulting in increased revenues hence increased shareholder's wealth.

The level of economies of scale enjoyed by a firm is determined by its size. A larger firm size is associated with lower average production scales and more efficiency in operational activities as a result of economies of scale. Thus means that higher return on asset is generated by large firms. Larger firms could however lead to the loss of control over operational and strategic activities by the management which leads to a decline in the firm's efficiency (Mule et al., 2015). Big firms have better market power and more diversified and are likely to undergo more organizational slack when business is at boom. The firm size or enterprise also determines the investments of cash flow to investment (Salman &Yazdanfar, 2012).

Debt financing reduces the moral hazard behavior by reducing cash flow at the managers' disposal (Jensen, 1986). This increases their pressure to perform hence

improving firm's financial performance. Hence firms with high leverage are better placed to financially perform better. Several researchers have done studies on the association between the firm performance and leverage and found out that leverage that is high decreases the conflict between management and shareholders leading to improved performance hence a positive relationship exists.

According to Liargovas and Skandalis (2008), liquid assets can be used by firms for purposes of financing their activities and investments in instances where the external finance is not forthcoming. Firms with higher liquidity possess the ability to deal with unexpected or unforeseen contingencies as well as cope with its obligations that fall due when the levels of earnings are low. Almajali et al., (2012) noted that the liquidity of a firm may have significantly influence the insurance companies' performance; he therefore recommended the insurance companies to seek to increase their current assets while decreasing their current liabilities. However, Jovanic (1982) noted that an abundance of liquidity may at times result to more harm. He therefore concludes that liquidity has an ambiguous effect on the firms' financial performance.

Sorensen and Stuart (2000) found out that a company's age may have an effect on firms' value. They further noted that older firms may have organizational inertia which tends to make them inflexible which may result to their inability to appreciate the changes that occur in changing environment. However, Liargovas and Skandalis (2008), noted that older firms may have more skills because they have been in operation longer thus have more experience having enjoyed the benefits that come from learning and aren't easily prone to the liabilities that result from newness, therefore they tend to have performance that is superior as compared to newer firms.

Management efficiency is a major internal factor that qualitatively measures and ascertains the value of a firm. The ability of the management to efficiently utilize the resources of the firm, their ability to maximize revenue and their ability to reduce the cost of operation of the firm are some of the ways of assessing the management quality (Athanasoglou, Sophocles & Matthaois, 2009). The quality of the management has an influence on the level of operating expenses which affects the bottom line of a company hence management efficiency significantly influences the firm's value (Kusa & Ongore, 2013).

Numerous studies have been undertaken to investigate macroeconomic factors effect on value of companies. The factors include but not limited to monetary aggregates, rate of interest, investment level in the economy, consumer price index, producer price index, GDP growth, inflation, financial depth and the degree of market efficiency. Kwon and Song (2011) carried out a research on mergers in the Korean market. The study established that global financial crisis has significant negative effect on cumulative abnormal returns of acquiring company when a merger announcement is made. He also stated that it may be possible that investors are more aversive to large cash outflows during a period of crisis.

2.4 Empirical Review

Deloof (2003) argues that most firms invest a substantial cash amounts in working capital and use trade payables as a main source of finance. Therefore, how cash is managed or held can have a major influence on the firm's efficiency and in essence firm value. Tryfonidis and Lazaridis (2006) indicated that operating efficiency will show the response of the management in terms of cash holding management decisions.

This could be explained by the negative association between firm's value and holding cash.

2.4.1 Global Studies

Martinez- Sola et al. (2011) did a contrast of how value of firm is influenced by the cash holding level for manufacturing firms in the US industrial in the time frame 2001-2007. The intent was to conduct an empirical test on establishing the optimum cash level which would maximization of the firms' value. Additionally, the study did an analysis of how changes in the optimal cash level would influence the firm value. The study results indicated that a concave relation exists between the CH level and value of the firm. Likewise, in similar to the initial analysis, variations above and below the optimum CH level lowered the value of the firms.

Al-Mwalla (2012) selected 57 companies quoted on the Amman Stock Exchange from 2001-2009 and did an examination on how WCM policies affect the yield and value of a firm. He concluded by noting that a restrictive WCM policy impacts the yield and value of a firm positively and the reverse is true. The study also showed that the size, growth of a firm and GDP have positive effects on profitability and value.

Rodrigues and Caldeira (2014) did an analysis of how firm value, capital structure, and cash holdings related. The study sampled Brazilian firms that are publicly traded by way of panel data regressions, utilizing the fixed-effects estimator. The results of the study indicated that both short and long-term debts impacted cash holdings negatively, and equally the cash holdings level was associated to lower leverage. An indirect evidence revealed from the study was that firms that are strained financially held more cash. In the assessment of the impact of capital structure in relation to the value of firm, the effect of the tenure of debt whether short-term or long-term and the financial

constraint had negligible but adverse influence on the value of the firm, showing a risk-averse attitude of investors towards debt. Investors regard cash holdings positive but up to a specific threshold. Furthermore, the level of cash held discounts market capitalization (inverted U-curve), in accordance to static trade-off theory of CHs.

Wasiuzzaman (2015) examined a total of 192 Malaysian companies which are listed on the stock exchange in the determination of how WCM efficiency impacts value of a firm and how financing constraints affect this relationship. The study indicated that as working capital efficiency improved through a curtailment of the investments in working capital, the overall firm value increased more so when the firm is financially constrained. The results were a clear indication that efficiency in management of working capital was responsible for increases in firm value for financially constrained firms.

Zhang and Ling (2016) did an investigation of how firm value would be impacted by cash holding and sampled manufacturing firms in the US from the period ranging from 1999 to 2015. The study indicated a linear relationship between cash holdings and the firms value. The researchers also went ahead to examine the presence of an optimal level of cash (existence of a non-linear relationship in which after an established cash level, a decline in corporate value is experienced). The research paper utilized the fixed effect model on unbalanced panel data of firms listed in the US (with the exclusion of financial firms) in the period 1999-2015. According to the study results, existence of a positive and linear relation between CH and value of firm was established. Additionally, the results supported the assumption that an optimal CH level exists for the US industrial firms from 1999 to 2015.

2.4.2 Local Studies

Wamugo, Kosimbei and Muathe (2014) examined how WCM affects profitability of Non-Financial Companies. A sample of 42 non-financial companies quoted on the NSE was obtained. An extraction of data NSE hand books ranging from 2006-2012 was made. Analysis made by the Feasible Generalized Least Square (FGLS) regression showed a positive significant relationship between ROA and ROE resulting from an aggressive financing policy. This study did not address CH effect on the value of listed firms.

Nyarangi (2016) investigated how WCM affect the returns made by manufacturing and allied firms. ROA was the proxy for financial performance and WCM variables included; APP, ICP, ACP and CCC. For the study, data was acquired from a secondary source. The study focused on the time period after the financial crisis of 2008, covering seven years 2009-2015. By means of Pearson's Bivariate Correlation, multiple regression and ANOVA analysis, the study indicated that the WCM impact on the financial performance of the firms studied was notable. ACP and CCC were related to the financial performance represented by ROA negatively. Though, the relationships of ICP and APP with ROA were statistically insignificant with ICP being negatively related to ROA and APP being positively related to ROA. The current study will be different from this study in that it will focus on firm value and it will also be specific on cash holdings.

Mwangi (2016) sought to ascertain how WCM affected the performance of Kenyan companies in water service provision. The population of the study consisted of 65 water service providers in Kenya urban areas as at year 2015. The study employed secondary data from audited financials by Kenya National Audit Office (KENAO) and Wasreb

reports. Correlation and regression analysis was applied in analyzing the data. From the result of the study it was discovered the that a positive relationship between ROA and current ratio and related negatively to payable ratio, size of firms, and collection efficiency existed. This was an indication that both payable ratio, firm size, and collection efficiency were indirectly proportional to ROA, in which case an increase in any of; payable ratio, firm size, and/or collection efficiency, would cause a decrease ROA and vice versa. This study focused in different concepts and context. While this study addressed providers water service in Kenya, this study focus will be firms listed at the NSE.

Mohamed (2016) sought to ascertain how WCM decisions affect the financial operations of smallholder tea companies in Kenya. Using a correlation design, information was retrieved from publications of financial reports within a 5-year period (2011-2015) to achieve study objectives. Multiple regression analysis was applied in the assessment of the association between independent and dependent variables. From the findings, there is a positive correlation between the actual ROA of the smallholder tea firms over the period of the study, and the return predicted by the regression model, considering that the coefficient of multiple correlation stands at 0.485. The regression model explains approximately 23.5% variations in the smallholder tea firms' ROA in the study period. This study however did not address how cash holdings affect firm value which the present study seeks to address.

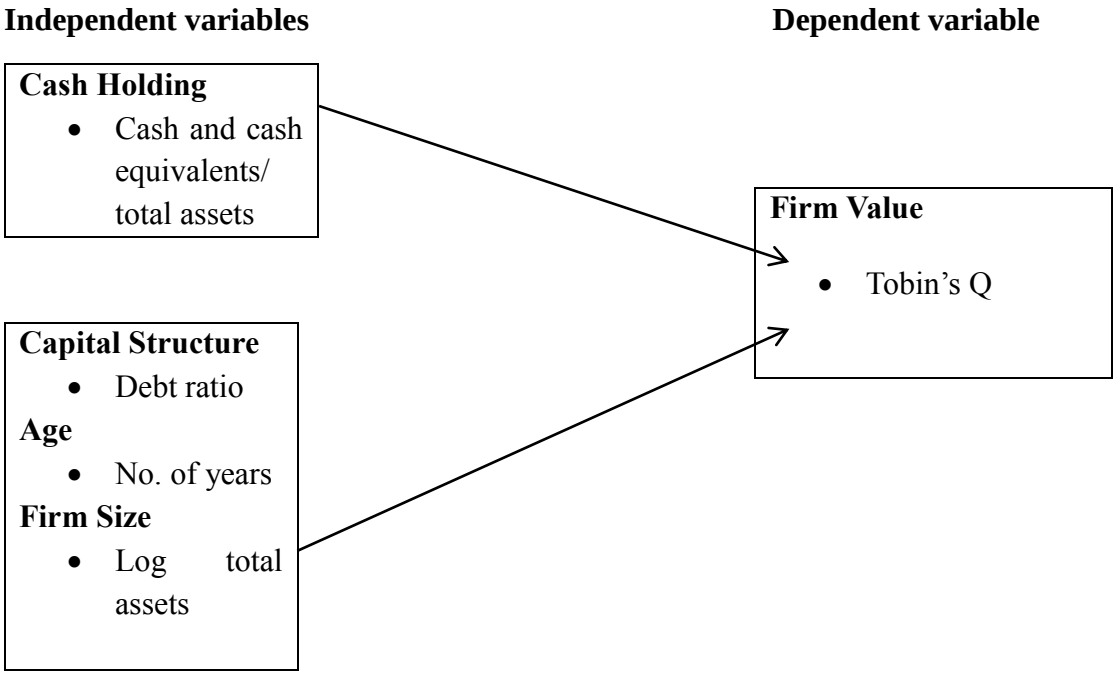
Awunya (2017) studied WCM effect on financial performance of firms quoted at the NSE both commercial and service. Financial statements of 9 commercial and service firms that had obtained a listing at NSE were collected for five years (2012-2016) with 45 observations. Descriptive and linear regression analysis method was used to analyze

data. The WCM policies that were part of the analysis included current assets, current liabilities and total assets in respect to ROA. The findings of the study indicated that both conservative investment policy and aggressive financing policy was insignificantly but positively related to profitability while leverage was negatively but significantly related to profitability. In addition, firm size and profitability had an insignificant positive relationship. This study did not address the how CHs and firm value are related which is the focus of the current study.

2.5 Conceptual Framework

The framework demonstrates the expected relationship amongst the variables of the study. Elements under consideration here are cash holdings and firm value. The independent variable is cash holding given by cash and cash equivalents to total assets ratio. The control variables are capital structure as measured by debt to assets ratio and firm size represented by Ln of total assets and age of the firms as given by the years in existence of the firm. Firm value was measured by Tobin Q (Market value of equity/ Book value of equity) and was the dependent variable.

Figure 2.1: The Conceptual Model



Source: Researcher (2019)

2.6 Summary of the Literature Review

A number of theoretical frameworks have explained the theoretically expected relationship between cash holding and value of firms. The theories covered in this review are; Keynesian liquidity preference theory, Baumol cash management model and Miller-Orr model. Some of the key influencers of firm value have been studied in this section. A number of empirical studies done not only locally but also internationally on CH and value of firms have been reviewed. An exploration of the findings of the studies has been done also.

From the foregoing, it is clear that although there are many studies done locally, majority of them focused on working capital management but did not address the relationship between CH and value of firms. The local studies include Nyarangi (2016),

Mwangi (2016), Mohamed (2016) and Awunya (2017) among others. This study sought to fill the research gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

So as to determine how CH influences the value of listed commercial and service firms, a research methodology was necessary to outline how the research was carried out. This chapter has four sections namely; research design, data collection, diagnostic tests and data analysis.

3.2 Research Design

Descriptive cross-sectional research design was embraced in this study. The design was employed since the interest of the researcher was to establish the affairs status as they existed (Khan, 2008). The fact that the researcher of this study has insight on the area under examination but seeks more knowledge regarding the relationship between the variable being studied make this research design suitable. Additionally, the aim of this design is provision of authentic and accurate picture of the study variables which assist in responses for the research question (Cooper & Schindler, 2008).

3.3 Population

The study populace consisted of all the 47 non-financial firms quoted at the NSE as at 2018-year end. Since the population is relatively small, sampling was not conducted and as such, data was obtained from the 47 firms.

3.4 Data Collection

The study explicitly relied upon secondary data which was extracted from the CMA website as well as from the specific firm website annual report as they are required to publish them publicly. The data was obtained solely from the published annual reports

of the listed non-financial firms for the period contained from January 2014 to December 2018 on an annual basis and was captured in a data collection form. The result was a collection of information on CH and firm value. The specific data collected was firms' market and book values of equity, cash and cash equivalents, year of establishment, total debt and total assets.

3.5 Data Analysis

The collected data from the different sources was structured in a form that can help address the research objective. SPSS version 23 was utilized for data analysis purposes. Both descriptive and inferential statistics were carried out. The maximum, minimum, standard deviation, mean, skewness and kurtosis were computed for each variable in descriptive statistics. In inferential statistics, both regression and correlation analysis were carried out. Correlation analysis entailed determination of the extent of relationship between the study variables while regression analysis involved establishing the cause and effect between the dependent variable (firm value) and independent variables: cash holding, leverage, firm size and age of the firm.

3.5.1 Diagnostic Tests

The study undertook several diagnostics test to assess the applicability of the research structure. The study first assessed for normality which through the Kolmogorov-Smirnov and Shapiro-Wilk tests of the residuals where in both tests, a non-important result (a p factor of greater than 5%) was deemed an indication for normality. The study also assessed for multicollinearity by means of the tolerance and the VIF where a tolerance figure of greater than 0.2 or a VIF or more than 10 was a suggestion of the existence of multicollinearity. Additionally, the study assessed for heteroskedasticity using the Breusch-Pagan test and the plotting of residual graphs and assessed for serial

correlation (autocorrelation) using the Durbin Watson test where a value of between 1.5 and 2.5 indicated that there exists no auto-correlation. Stationarity was tested from the run sequence plot; it tests if the mean and variance are consistent over time.

3.5.2 Analytical Model

By use of the collected data, a regression analysis was done so as to determine the extent of the effect that CH has on value of firm. Regression model below was used for the study.

$Y= \beta_0 + \beta_1X_1+ \beta_2X_2+ \beta_3X_3+ \beta_4X_4 +\varepsilon.$

Where: Y = Value of firms given by Tobin's Q on an annual basis.

β_0 =y intercept of the regression equation.

β_1 to β_4,=are the slope of the regression

X_1 = Cash holding given by the ratio of cash and cash equivalents to total assets in an year

X_2 = Capital structure given as total debt to total assets ratio

X_3= Firm size as given by Ln of total assets

X_4= Age of the firm as given by the Ln of the number of years the firm has been in existence

ε =error term

3.5.3 Tests of Significance

The researcher carried out parametric tests to establish the statistical significance of both the overall model and individual parameters. The F-test was applied in determining how significant the overall model is and it was obtained from Analysis of Variance (ANOVA) while a t-test was applied to establish statistical significance of individual variables.

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

In this chapter, the acquired data is analyzed in the aim of ascertaining the impact of CH on the value of non-financial quoted at the NSE. Analytical tools which include descriptive statistics, correlation analysis as well as regression analysis are applied. The outcomes are presented in form of tableau as enlisted in the sections below.

4.2 Response Rate

All 47 non-financial firms quoted at the NSE as at 2018-year end made the target populace of this study. Data was obtained from 43 firms equivalent to 91.49% response rate. The researcher successfully acquired the secondary on firm value, cash holding, firm size, age and capital structure from the 43 respondent firms.

4.3 Descriptive Analysis

In a descriptive statistics analysis, the mean, maximum, minimum as well as the standard deviation is given for each and every variables of the study are shown. Presented in tableau 4.1 below is the descriptive statistics for all the variables in this study. Through the assistance of SPSS software, the below analyses of all the variables was obtained for a period spanning 2014 to 2018. Firm value that made up the dependent variable of the study produced a mean of .015 with a 0.161 standard deviation. Cash holding generated a mean of .089 and 0.096 standard deviation. Size produced to a mean of 15.68 and a 1.957 standard deviation. Age recorded 3.99 in mean of 3.99 whereas the standard deviation recorded 0.712. Capital structure produced a mean of .452 while standard deviation recorded .273.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm value	215	-.9623	.4048	.015288	.1614868
Cash holding	215	.0003	.7411	.089132	.0963890
Capital Structure	215	.0139	1.2518	.451699	.2734516
Size	215	11.2834	19.7540	15.680369	1.9573701
Age	215	1.0986	5.0106	3.990203	.7115046
Valid N (listwise)	215				

Source: Research Findings (2019)

4.4 Diagnostic Tests

The data collected was subjected to diagnostic tests. The study presumed a 95% confidence interval or 5% level of significance so as to make variable deductions on the data adopted. Diagnostic tests were useful for ascertaining the falsity or truth of the data. Therefore, the nearer to 100% the confidence interval, the more accurate the data used is presumed to be. In this case, the tests conducted were Multicollinearity test, normality test, and autocorrelation and heteroskedasticity tests.

4.4.1 Multicollinearity Test

Multicollinearity can be referred to as a statistical state where more than one predictors in a multiple regression model have a high correlation. It is an unwanted situation for presence of a strong correlation among the independent variables. A combination of variables is said to exhibit high Multicollinearity in case there is 100% linear correlation among the study variables.

Table 4.2: Multicollinearity Test

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
Cash holding	0.367	2.725
Capital structure	0.398	2.513

Firm size	0.388	2.577
Age	0.376	2.659

Source: Research Findings (2019)

VIF value and Tolerance of the variable were utilized where the values below 10 for VIF and values more than 0.2 for Tolerance imply no Multicollinearity. From the results, all the variables had a VIF values <10 and tolerance values >0.2 as illustrated in table 4.2 suggesting that no Multicollinearity.

4.4.2 Normality Test

Shapiro-wilk test and Kolmogorov-Smirnov test was utilized in testing normality. The level of significance in the study was 5%. The outputs of the test are depicted in Table 4.3. The null hypothesis is that the data follows a normal distribution. In case the Shapiro-wilk test and Kolmogorov-Smirnov tests contradict, the later test is picked over the former because it is more statistically sound. Since the p value in both tests of all the variables exceeds α (0.05), then the null hypothesis is applying. Hence the data series of all the variables is normally distributed.

Table 4.3: Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Firm value	Statistic	Df	Sig.	Statistic	Df	Sig.
Cash holding	.173	215	.300	.918	215	.822
Capital structure	.180	215	.300	.894	215	.790
Firm size	.176	215	.300	.892	215	.784
Age	.181	215	.300	.896	215	.792

a. Lilliefors Significance Correction

Source: Research Findings (2019)

4.4.3 Autocorrelation Test

In testing autocorrelation, Durbin-Watson statistic was applied which gave an output of 1.837 as displayed in Table 4.4. The Durbin-Watson statistic ranges from point 0 and

point 4. If there exist no correlation between variables a value of 2 is shown. If the values fall under point 0 up to a point less than 2, this is an indication of an autocorrelation and on the contrast a negative autocorrelation exist if the value falls under point more than 2 up to 4. As a common rule in statistics, value falling under the range 1.5 to 2.5 are considered relatively normal whereas values that fall out of the range raise a concern. Field (2009) however, opines that values above 3 and less than 1 are a sure reason for concern. Therefore, the data used in this panel is not serially autocorrelated since it meets this threshold.

Table 4.4: Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.374[a]	.140	.124	.1511720	1.837

a. Predictors: (Constant), Age, Cash holding, Capital Structure, Size
b. Dependent Variable: Firm value

Source: Research Findings (2019)

4.4.4 Heteroskedasticity Test

Heteroskedasticity was tested to establish if the error terms are correlated across the data observations. The error terms derived from the regression model should portray constant variance called Homoscedastic. Thus, for ensuring if the residuals met these criteria, the Breusch-Pagan test was employed for Heteroskedasticity whereby the null hypothesis stated that residuals are Homoscedastic. There is constant variance if p-value is >0.05 (Breusch & Pagan, 1979). Hence, the research failed to reject the null hypothesis at a critical p value of 0.05 because value attained was 0.1012. Therefore, the data was not affected by heteroscedasticity as revealed in Table 4.5.

Table 4.5: Heteroskedasticity Test

F-statistic	5.332026	Prob. F(4,215)	**0.1012**
Obs*R-squared	16.51327	Prob. Chi-Square(4)	0.0024
Scaled explained SS	27.94768	Prob. Chi-Square(4)	0.0000

Source: Research Findings (2019)

4.5 Correlation Analysis

Correlation analysis establishes whether there exists an association among two variables. The association falls between a perfect positive and a strong negative correlation. Pearson correlation was used in analyzing the association level between capital structure, age, size and cash holding which were the independent variables and the value of quoted non-financial firms.

Existence of a weak positive but insignificant correlation (r = .126, p = .066) among the firm value and cash holding was discovered. The research also found out a weak positive and significant correlation between size of firm and value of listed companies as demonstrated by (r = .187, p = .006). Capital structure was established to having a weak negative and significant relationship with firm value as evidenced by (r = -.282, p = .000). Age was also revealed to having an insignificant positive association with value of listed non-financial firms at the NSE as evidenced by (r = .126, p = .066). The study further found that although there was an association between the independent variables, it was not strong enough to result to multicollinearity because all the values of R lied below 0.70. The implication was that the independent variables did not have multicollinearity among the independent variables and henceforth they were considered suitable for use as determinants of firm value of listed non-financial firms in regression analysis.

Table 4.6: Correlation Analysis

		Firm value	Cash holding	Capital Structure	Size	Age
Firm value	Pearson Correlation	1				
	Sig. (2-tailed)					
Cash holding	Pearson Correlation	.126	1			
	Sig. (2-tailed)	.066				
Capital Structure	Pearson Correlation	-.282**	-.125	1		
	Sig. (2-tailed)	.000	.068			
Size	Pearson Correlation	.187**	-.158*	.026	1	
	Sig. (2-tailed)	.006	.021	.700		
Age	Pearson Correlation	.126	.024	.033	.229**	1
	Sig. (2-tailed)	.066	.730	.633	.001	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=215

Source: Research Findings (2019)

4.6 Regression Analysis

Firm Value was regressed against four predictor variables; cash holding, age, firm size and capital structure. The regression analysis was embarked on at 5% significance level. Tableau 4.6 shown below is the model summary that was obtained.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.374[a]	.140	.124	.1511720	1.837

a. Predictors: (Constant), Age, Cash holding, Capital Structure, Size
b. Dependent Variable: Firm value

Source: Research Findings (2019)

The co-efficient of determination also referred to as the R-square shows the disparities in the response variables triggered by variations from the predictor variables. From the results shown in table 4.7 above, the R square value was 0.140, a suggestion that 14 percent of deviations in value of listed non-financial companies is caused by changes in cash holding, age, firm size and capital structure of the firms. Other factors not incorporated in the model explains for 86 percent of the disparities in value of listed non-financial firms quoted at the NSE. Also, the outcomes shown existence of a weak relationship existing among the chosen independent variables and the firm value as supported by the correlation coefficient (R) equivalent to 0.374.

Table 4.8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.782	4	.195	8.550	.000[b]
	Residual	4.799	210	.023		
	Total	5.581	214			

a. Dependent Variable: Firm value

b. Predictors: (Constant), Age, Cash holding, Capital Structure, Size

Source: Research findings (2019)

With the significance value being 0.000 and less that P=0.05. It is therefore implied that the model was significant statistically in explaining how cash holding, age, firm size and capital structure affect value of quoted non-financial firms.

The researcher used t-test to determine the significance for all the variables used in this study as a predictor of value of quoted non-financial firms. As a measure of the relationship significance among the independent variables and the dependent variables the p-value in the sig. column was used. Confidence level at 95% and the value of p below 0.05 was deduced as a statistical significance measure. Per se, a p-value more than 0.05 indicates relationship between the dependent and the independent variables is statistically insignificant. Table 4.9 below summarizes the outcomes

Table 4.9: Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.258	.096		-2.685	.008
Cash holding	.141	.444	.119	2.569	.011
Capital Structure	-.163	.038	-.276	-4.270	.000
Size	.016	.006	.193	2.897	.004
Age	.020	.015	.088	1.328	.186

a. Dependent Variable: Firm value

Source: Research Findings (2019)

From the above results, it is evident that cash holding and firm size generated positive and significant values for the current study (high t-values (2.569 and 2.897), $p < 0.05$). Capital structure was revealed to having a negative as well as significant influence on value while age is an insignificant determiner of value as evidenced by a low t-value and a p-value higher than 0.05.

The following regression equation can be estimated:

$Y = -0.258 + 0.141X_1 - 0.163X_2 + 0.016X_3$

Where,

Y = Firm value

X_1= Cash holding

X_2 = Capital structure

X_3 = Firm size

From the above formulated regression model, the constant = -0.258 shows that if selected independent variables (cash holding, age, firm size and capital structure) were rated zero, value of listed companies would be -0.258. An increase in cash holding by one unit would cause an increase in value of listed companies by 0.141 while an increment in firm size by a unit would lead to an increment in value of listed companies

by 0.016. An increase in capital structure by 1 unit would decrease value of listed non-financial firms by 0.163.

4.7 Discussion of Research Findings

The research pursued in finding out the impact of cash holding on firm value. The ratio of cash and cash equivalents to total assets represented cash holding, Ln of the firms' years of operation represented age, Ln of total assets represented size of firm, and finally debt ratio represented capital structure were the independent variables while value of firm represented by Tobin Q was the explained variable. The independent variables were analyzed each in determining the impact that they have on the dependent variable in terms of strength and direction.

A weak positive and statistically not significant correlation exists between CH and value of listed non-financial firms was revealed from the Pearson correlation coefficients. Additionally, the association between age and value was found to be weak, insignificant and positive. Further finding discovered a statistically significant as well as positive relationship between firm size and value whereas capital structure was established to have a weak and negative relationship with value of firm and the association is significant.

The independent variables from the model summary revealed that: cash holding, age, capital structure and firm size justify 14% of disparities in the dependent variable as pointed out by the R-squared value which further implied that variables other than those incorporated in this model that explain 86% of variations in value of listed non-financial companies. Confidence level at 95% was appropriate for this model since the p-value is under 0.05. Hence, implying the multiple regression model as a whole is significant statistically, in that it is appropriate forecast model for enlightening how the

independent variables selected impact value of listed non-financial firms.

The findings of this research are in resemblance with a study done by Rodrigues and Caldeira (2014) that did an analysis of how firm value, capital structure, and cash holdings related. The study sampled Brazilian firms that are publicly traded by way of panel data regressions, utilizing the fixed-effects estimator. The outcomes of the study indicated that both short and long-term debts impacted cash holdings negatively, and equally the cash holdings level was associated to lower leverage. An indirect evidence revealed from the study was that firms that are strained financially held more cash. In the assessment of the influence of capital structure in relation to the firm value, the effect of long-term debt, short-term debt and the financial constraint had negligible but negative impacts on the value of the firm, showing a risk-averse attitude of investors towards debt. Investors regard cash holdings positive but up to a specific threshold. Furthermore, the level of cash held discounts market capitalization (inverted U-curve), in conformity to static trade-off theory of cash holdings.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this section, a summarization of findings from the previous section is provided, conclusions are derived, limitation that were encountered on the overall study explained. Additionally, this chapter gives recommendation to decision maker as well as the policy makers on what they can adopt so as to achieve the preferred value of non-financial firms listed at the NSE. Finally, the researcher offers suggestions on areas that can be covered by other scholars in further research studies.

5.2 Summary of Findings

The goal of the study was to ascertain the impact of cash holding on value of quoted non-financial firms at the NSE. The independent variables were cash holding, age, firm size and capital structure. Research design that was applied in this particular study was descriptive cross-sectional research model. SPSS software version 22 analyzed the secondary data that was acquired from CMA. The study used annual data for 43 listed non-financial firms covering a five-year period from January 2014 to December 2018.

The correlation analysis outcomes revealed, a weak positive but statistically not significant correlation exists between CH and value of listed non-financial firms. The association between age and value was found to be weak, insignificant and negative. Additionally, existence of a weak statistically significant positive relationship between size of firm and value was revealed whereas capital structure was established to have a weak negative relationship with value that is significant.

The co-efficient of determination also referred as the R-square shows the disparities in the response variables triggered by variations from the predictor variables. In the

results, the R square value was 0.140 suggesting that the predictor variables chosen for this study explains 14% of changes in the dependent variable. Meaning that alternative factors beyond those included in this model justify 86% of changes in value of listed companies. Confidence level being 95% and the p value being 0.000 which is under 0.05 made the model be considered appropriate for use. Additionally, this affirmed that the multiple regression model as a whole is statistically significant, in that it is an appropriate prediction model for clarifying how the independent variables selected impacts firms' value.

From the regression outcomes, it is shown that when all the independent variables chosen for the study have zero value, value of listed non-financial companies would be -0.258. An increase in cash holding by one unit would cause an increase in value of listed companies by 0.141 while an increment in firm size by a unit would lead to an increase in value of listed companies by 0.016. An increase in capital structure by 1 unit would decrease value of listed non-financial firms by 0.163.

5.3 Conclusion

Through the study findings, the research conclusion is that value of listed companies in Kenya is significantly affected by CH and size of the companies. Cash holding had a positive and significant effect on value of listed companies. The research therefore derives the conclusion that cash holding by firms' rises the value of firms. size of firm was also found to positively as well as significantly influence value of firm and hence the conclusion that higher levels of firm assets results to an increment in value of firm. Capital structure was revealed to have a significant negative effect on firm value and therefore conclusion that an increment in capital structure reduces value of a firm. Age of a firm was observed having a positive and statistically insignificant effect on value

of listed companies and therefore this study concludes that age of a firm does not significantly impact value of firms.

The conclusion of the overall model was that independent variables chosen for this study; cash holding, age, firm size and capital structure influence value of firms at the NSE. Indeed, it valid to settle that these variables significantly influence value as demonstrated by the ANOVA summary P value. Given that the four independent variables relates to 14% of variations in firm value reveals that other alternative factors not incorporated in the model justify 66.4% of variation in firm value.

This finding concurs with a study by Zhang and Ling (2016) that did an investigation of how firm value would be influenced by cash holding and sampled industrial firms in the US from the period spanning from 1999 to 2015. The study indicated a linear relationship between cash holdings and the firms' value. The researchers also went ahead to examine the existence of an optimum level of cash (existence of a non-linear relationship in which after an established cash level, a decline in corporate value is experienced). The research paper utilized the fixed effect model on unbalanced panel data of firms listed in the US (with the elimination of financial firms) in the period 1999-2015. According to the study results, a positive and linear relation between CH and value of firm is revealed. Additionally, the results supported the assumption that an optimum CH level exists for the US industrial firms from 1999 to 2015.

The findings of the current study also agree with Martinez- Sola et al. (2011) who did a contrast of how firm value is affected by the cash holding level for industrial firms in the US industrial in the period 2001-2007. The intent was to conduct an empirical test on establishing the optimum level of cash which would maximize the firms' value. Additionally, the study did an analysis of how changes in the optimal cash level would

impact the firm value. The study results indicated that a concave relation exists between the cash holding level and value of the firm. Moreover, in similar to the initial analysis, variations above and below the optimum level of CH lowered the firm value.

5.4 Recommendations

A positive influence of CH on firms' value of the non-financial firms quoted at the NSE revealed. It is therefore recommended that when firms management are coming up with cash holding levels they should weigh between the benefits of holding cash and the opportunity cost of having idle assets. High levels of cash holding has been found to increase firm value of listed non-financial firms and so the policy makers and practitioners should maintain cash holding at sustainable levels taking into account the value maximizing behavior of holding cash.

Additionally, it was found out that a relationship that is positive exists between value of listed companies and firm size. This study recommends that listed non-financial firms' through their decision makers who are the managers or the directors should focus on boosting their assets base whereby they innovate measures and policies which can lead to growth of firm's assets since this will consequently have a positive influence on value of listed companies. Based on the study findings that suggests that large firms in the aspect of assets base are portrayed as well performing compared to small firms implies that firms should also make efforts to ensuring that their assets base grows.

Capital structure of a non-financial firm was found to have a significant negative effect on value and this implies that the more leveraged a firm is, the less value it has. The study recommends that non-financial firms as well as other firms not listed should work towards maintaining debt levels at sustainable levels that will enable them gain the tax

shield benefits of borrowing while at the same time avoiding the bankruptcy costs associated with debt.

5.5 Limitations of the Study

The scope of this study was a period of five years spanning 2014-2018. It is not certain that the results will apply beyond the period studied. Additionally, there is uncertainty if beyond 2018 the same findings will be revealed. A period that is broader than the current one of probably 10 year or twenty years would be considered more appropriate as it could capture major changes in the environment that were not captured in the current study.

One of these study limitations is the authenticity of data. It is quite a task to give a conclusion from this research that the results are a true reproduction of the current state of affairs. The information that have been obtained from the data is only assumed to be correct but cannot be ascertained. The procedures used in the study may vary from time to time depending on the changes in the environment. The research used secondary data, which was in the public domain had already been obtained, unlike the first-hand information associated with primary data. The study additionally did not exhaust all the determinants and variables affecting value of listed non-financial firms mainly but only covered a few because of the inadequacy of data.

In the analysis of data, multiple linear regression model was applied. As a consequence of the weaknesses that arises when using regression models like errors and misleading a result of change in variables, the findings of the study cannot be generalized authoritatively. If data was to be added on the functional regression model over and over, the results may not hold anymore in regards to the relationship between two or more variables.

5.6 Suggestions for Further Research

This study concentrated on cash holding and value of non-financial firms listed at the NSE where it depended data from secondary sources. A subsequent research study that takes into account all the listed firms or non-listed firms in different sectors of the economy need to be carried out to complementing or criticize the findings.

The study did not exhaust all the independent variables affecting value of non-financial firms and it is therefore recommendation of that subsequent studies that will be done to consider other factors such as growth opportunities, corporate governance, political environment, management efficiency as well as any other factor. Ascertaining each variable impact on value of non-financial companies will provide the decision makers as well as policy makers with insight on which tools to apply in maximizing shareholder's wealth.

The attention of this study was drawn to the latest five years because it was the readily available information. Subsequent studies may cover big time frame like ten or twenty years which can be very impactful on this study by either complementing or disregarding the findings of this study. Lastly, adoption of other models for example Vector Error Correction Model (VECM) should be considered in explaining relationships among variables because of the challenges encountered using regression models.

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APPENDICES

Appendix 1: Non-Financial Firms Listed at the NSE

AGRICULTURAL

Eagads Ltd

Kapchorua Tea Co. Ltd

Kakuzi

Rea Vipingo Plantations Ltd

Limuru Tea Co. Ltd

Williamson Tea Kenya Ltd

Sasini Ltd

AUTOMOBILES AND ACCESSORIES

Car and General (K) Ltd

COMMERCIAL AND SERVICES

Express Ltd

Kenya Airways Ltd

Nation Media Group

Sameer Africa PLC

Standard Group Ltd

Scangroup Ltd

Uchumi Supermarket Ltd

TPS Eastern Africa (Serena) Ltd

Longhorn Publishers Ltd

Deacons (East Africa) Plc

Atlas Development and Support Services

Nairobi Business Ventures Ltd

CONSTRUCTION AND ALLIED

Athi River Mining

Bamburi Cement Ltd

Crown Paints Kenya PLC

E.A.Cables Ltd

E.A.Portland Cement Ltd

ENERGY AND PETROLEUM

KenolKobil Ltd

Total Kenya Ltd

KenGen Ltd

Kenya Power & Lighting Co Ltd

Umeme Ltd

INVESTMENT

Olympia Capital Holdings ltd

Centum Investment Co Ltd

Trans-Century Ltd

Home Afrika Ltd

Kurwitu Ventures

INVESTMENT SERVICES

Nairobi Securities Exchange Ltd

MANUFACTURING AND ALLIED

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East African Breweries Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

Eveready East Africa Ltd

Kenya Orchards Ltd

Flame Tree Group Holdings Ltd

TELECOMMUNICATION AND TECHNOLOGY

Safaricom PLC

REAL ESTATE INVESTMENT TRUST

Stanlib Fahari I-REIT

Appendix II: Research Data

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
Athi river mining	2018	15.69251	0.103298	17.54670	3.828641	0.7458
	2017	15.68318	0.103298861	17.56969	3.806662	0.7408
	2016	17.60302	0.041626633	17.74849	3.78419	0.5367
	2015	1.36288	0.065132851	17.76554	3.7612	0.7421
	2014	1.60982	0.741111025	15.12148	3.73767	0.3929
Bamburi	2018	1.00000	0.019123459	17.73465	4.219508	0.2270
	2017	1.00000	0.043217592	17.66997	4.204693	0.1723
	2016	1.00000	0.128176227	17.52446	4.189655	0.1726
	2015	1.00000	0.17385201	17.55389	4.174387	0.1830
	2014	1.00000	0.186479959	17.52886	4.158883	0.1651
Car & General	2018	1.00000	0.006076272	16.13530	4.418841	0.8364
	2017	1.00000	0.027877181	16.04203	4.406719	0.8729
	2016	1.00000	0.009161998	16.08817	4.394449	0.9423
	2015	1.00000	0.007614891	16.01141	4.382027	0.8688
	2014	1.00000	0.007021258	15.91387	4.369448	0.8228
Carbacid	2018	1.00011	0.012700398	15.03079	4.060443	0.0335
	2017	1.00011	0.00919723	15.01154	4.043051	0.0448
	2016	1.00011	0.310011007	14.94101	4.025352	0.0544
	2015	1.00011	0.304524801	14.90364	4.007333	0.0832
	2014	1.00011	0.293236558	14.74498	3.988984	0.0615
Crown Berger	2018	1.22527	0.060679808	15.51583	4.110874	0.9232
	2017	1.22527	0.019530599	15.58564	4.094345	0.7748
	2016	1.22527	0.014085312	15.43669	4.077537	0.8840
	2015	1.22527	0.011537848	15.32825	4.060443	0.9128
	2014	1.67580	0.044676956	15.16431	4.043051	0.8760
East Africa Cables	2018	1.00431	0.025236005	15.70313	3.970292	1.2518
	2017	1.00431	0.03118512	15.76689	3.951244	0.6163
	2016	1.00431	0.005986164	15.83685	3.931826	0.5235
	2015	1.00431	0.010593808	15.94185	3.912023	0.4768
	2014	1.00431	0.037115932	15.88104	3.89182	0.5126
E.A Portland	2018	2.44000	0.026971283	17.45382	4.382027	0.3316
	2017	2.44000	0.068693546	17.12450	4.369448	0.3342
	2016	2.44000	0.051752489	17.14206	4.356709	0.2821
	2015	2.44000	0.018350048	16.95589	4.343805	0.3073
	2014	2.44000	0.024467946	16.57027	4.330733	0.4110
Eveready	2018	1.00000	0.119501262	13.25998	3.951244	0.2442
	2017	1.00000	0.318160051	13.55758	3.931826	0.2834
	2016	1.00000	0.000675098	13.89507	3.912023	0.9518
	2015	1.00000	0.188877165	14.22872	3.89182	0.6474
	2014	1.00000	0.307341378	13.74300	3.871201	0.9323

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
Kakuzi	2018	1.00000	0.252638342	15.59740	4.727388	0.1711
	2017	1.00000	0.286932274	15.56404	4.718499	0.2164
	2016	1.00000	0.282476117	15.43775	4.70953	0.2060
	2015	1.00000	0.388559351	14.92246	4.70048	0.3291
	2014	1.00000	0.252417786	15.16552	4.691348	0.2084
Kengen	2018	2.34349	0.008918875	19.75398	4.174387	0.4028
	2017	2.34349	0.020787067	19.74704	4.158883	0.4215
	2016	2.34893	0.018422736	19.72016	4.143135	0.4229
	2015	1.91701	0.009612014	19.65184	4.127134	0.4937
	2014	1.91701	0.01849671	19.33779	4.110874	0.6447
Kenolkobil	2018	71.23450	0.1023768	16.88370	4.094345	0.6345
	2017	71.20642	0.102752974	16.99768	4.077537	0.8265
	2016	71.20642	0.160580918	17.00193	4.060443	0.8839
	2015	71.20642	0.043856275	16.67066	4.043051	0.7638
	2014	71.20642	0.04396641	16.99002	4.025352	0.5086
KPLC	2018	5.51378	0.022584372	19.63457	4.574711	0.6514
	2017	5.51378	0.00347308	19.61834	4.564348	0.6063
	2016	5.51378	0.019003387	19.48395	4.553877	0.5663
	2015	5.51378	0.10247319	19.43407	4.543295	0.5510
	2014	5.51378	0.029915776	19.21334	4.532599	0.5384
KQ	2018	9.45175	0.047067348	18.73282	3.73767	0.5520
	2017	2.15878	0.06216511	18.81017	3.713572	0.5087
	2016	2.15878	0.031004914	18.86335	3.688879	0.3665
	2015	2.15878	0.017944338	19.01986	3.663562	0.2608
	2014	2.15878	0.075462306	18.81715	3.637586	0.0277
Safaricom	2018	2.09835	0.056719163	18.93613	3.258097	0.2841
	2017	2.09835	0.036836605	18.90117	3.218876	0.4375
	2016	2.09835	0.038380435	18.88556	3.178054	0.2666
	2015	2.09835	0.075920943	18.87149	3.135494	0.4003
	2014	2.09835	0.130897178	18.71783	3.091042	0.3780
Sameer	2018	1.00000	0.35294595	14.76633	4.007333	0.9328
	2017	1.00000	0.149075649	14.90403	3.988984	0.5690
	2016	1.00000	0.210653606	15.00666	3.970292	0.6922
	2015	1.00000	0.00978587	15.13759	3.951244	0.4792
	2014	1.00000	0.064679101	15.16550	3.931826	0.2950
Sasini	2018	1.00000	0.087614822	16.37748	4.204693	0.0354
	2017	1.00000	0.10661362	16.39543	4.189655	0.0610
	2016	1.00000	0.116214603	16.63799	4.174387	0.0339
	2015	1.00000	0.074823895	16.59088	4.158883	0.0292
	2014	1.00000	0.021826807	16.51885	4.143135	0.0358
Standard Group	2018	1.09637	0.032436417	15.35798	4.762174	0.7342
	2017	1.09637	0.082932983	15.31058	4.75359	0.7689

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
	2016	1.09637	0.068142271	15.29824	4.744932	0.6633
	2015	1.09637	0.103407235	15.28698	4.736198	0.7517
	2014	1.09637	0.068117312	15.22668	4.727388	0.5188
Total Kenya	2018	1.19725	0.17064091	17.48569	4.158883	0.3924
	2017	1.19725	0.061815134	17.45342	4.143135	0.5373
	2016	1.19725	0.007705489	17.40417	4.127134	0.5310
	2015	1.19725	0.042467451	17.34847	4.110874	0.5683
	2014	1.19725	0.210235851	17.29804	4.094345	0.6842
TransCentury	2018	10.98443	0.010104882	16.62901	3.091042	0.3709
	2017	10.98443	0.001891151	16.74622	3.044522	0.1881
	2016	5.41450	0.010370117	16.75528	2.995732	0.9348
	2015	5.03235	0.021294445	16.75528	2.944439	0.6679
	2014	5.03235	0.020843359	16.89825	2.890372	0.3649
Uchumi	2018	1.00000	0.1187549	15.28760	3.78419	0.7646
	2017	1.00000	0.119773132	15.28045	3.7612	0.5531
	2016	1.00000	0.065626115	15.42539	3.73767	0.8174
	2015	1.00000	0.047501823	15.67384	3.713572	0.8492
	2014	1.00000	0.048026733	15.74483	3.688879	0.6128
Unga Group	2018	1.19324	0.109583391	16.11134	4.70953	0.3241
	2017	1.19324	0.115115666	16.06209	4.70048	0.4484
	2016	1.19324	0.131994398	15.93796	4.691348	0.3204
	2015	1.19324	0.137538533	15.97559	4.682131	0.3392
	2014	1.19324	0.105495393	15.89827	4.672829	0.3382
Nation Media	2018	1.00000	0.07743347	16.23125	4.094345	0.2938
	2017	1.00000	0.149519006	16.24211	4.077537	0.2757
	2016	1.00000	0.038721548	16.31482	4.060443	0.2839
	2015	1.00000	0.004442099	16.35685	4.043051	0.2858
	2014	1.00000	0.005299599	16.29576	4.025352	0.2668
BOC Kenya	2018	1.02616	0.0102944	14.57713	4.369448	0.2908
	2017	1.02616	0.03292952	14.61692	4.356709	0.2770
	2016	1.02616	0.0321143	14.61475	4.343805	0.2365
	2015	1.02616	0.172587503	14.65749	4.330733	0.2615
	2014	1.02616	0.207865862	14.64856	4.317488	0.2405
EABL	2018	2.06930	0.044733572	18.08166	4.574711	0.7923
	2017	2.06930	0.049771356	18.01522	4.564348	0.7421
	2016	2.06930	0.064036957	17.93856	4.553877	0.8007
	2015	2.06930	0.020793218	18.01931	4.543295	0.8044
	2014	2.06930	0.017668994	17.95652	4.532599	0.9726
Eaagads Ltd	2018	1.00000	0.0187654	13.89760	4.290459	0.5438
	2017	1.00000	0.0234578	13.73517	4.276666	0.5377
	2016	1.00000	0.021784	13.54261	4.26268	0.5629
	2015	1.00000	0.04298	12.97139	4.248495	0.5533

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
	2014	1.00000	0.034598	13.00761	4.234107	0.5542
Williamson Tea	2018	1.00000	0.112984	15.67840	5.010635	0.5487
	2017	1.00000	0.1135461	15.93946	5.003946	0.1145
	2016	1.00000	0.139017141	16.00508	4.997212	0.0920
	2015	1.00000	0.139854	15.96244	4.990433	0.0593
	2014	1.00000	0.112765	15.96143	4.983607	0.0588
Kapchorua Tea	2018	1.00000	0.05703437	14.72741	5.010635	0.1509
	2017	1.00000	0.091244732	14.52370	5.003946	0.1122
	2016	1.00000	0.056035031	14.57846	4.997212	0.0981
	2015	1.00000	0.023619947	14.50024	4.990433	0.0577
	2014	1.00000	0.069801328	14.47260	4.983607	0.0632
Limuru Tea	2018	1.00000	0.024741384	12.49969	4.820282	0.1698
	2017	1.00000	0.030235603	12.47613	4.812184	0.1505
	2016	1.00000	0.026255081	12.55035	4.804021	0.0989
	2015	1.00000	0.027603197	12.65641	4.795791	0.0898
	2014	1.00000	0.0268346	12.73257	4.787492	0.0482
Express	2018	1.05933	0.149894381	12.67901	4.615121	1.1965
	2017	1.05933	0.132382324	12.79367	4.60517	0.9647
	2016	1.05933	0.126294195	12.84681	4.59512	0.8317
	2015	1.05933	0.106404477	12.99883	4.584967	0.6382
	2014	1.05933	0.10396594	13.07720	4.574711	0.5039
Nation Media	2018	25.11249	0.010260356	16.68330	3.89182	0.5459
	2017	25.11249	0.034985143	16.67696	3.871201	0.3963
	2016	25.11249	0.083959333	16.64773	3.850148	0.3388
	2015	25.11249	0.017917652	16.57652	3.828641	0.3042
	2014	25.11249	0.005557815	16.58429	3.806662	0.2986
TPS	2018	22.18486	0.303484223	16.48449	3.970292	0.4113
	2017	22.85955	0.246875552	16.43720	3.951244	0.3480
	2016	22.85955	0.289883481	16.41719	3.931826	0.3465
	2015	22.85955	0.32579852	16.33871	3.912023	0.3092
	2014	22.85955	0.28574558	16.40208	3.89182	0.3563
Scan Group	2018	1.88760	0.37654685	11.45679	1.94591	0.3399
	2017	1.94915	0.146211334	11.87558	1.791759	0.3392
	2016	1.00000	0.134394191	11.95385	1.609438	0.3914
	2015	1.00000	0.1457893	11.62411	1.386294	0.1257
	2014	1.00000	0.143786	11.28343	1.098612	0.1190
Atlas	2018	2.27993	0.054070374	14.31497	3.931826	0.1801
	2017	2.27993	0.003435449	14.30947	3.912023	0.1841
	2016	2.27993	0.051378638	14.23916	3.89182	0.1580
	2015	2.27993	0.058181061	14.24170	3.871201	0.2364
	2014	2.27993	0.003571571	14.27061	3.850148	0.2665
Business Venture	2018	2.77252	0.052685342	18.29722	3.931826	0.1658

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
	2017	2.77252	0.130646996	18.17291	3.912023	0.2096
	2016	2.77252	0.124499698	18.09689	3.89182	0.1380
	2015	2.77252	0.006194717	18.09539	3.871201	0.0582
	2014	1.16987	0.002073976	15.32013	2.397895	0.4121
Olympia	2018	1.16987	0.004386055	15.31465	2.302585	0.2988
	2017	1.16987	0.002032109	15.18415	2.197225	0.0554
	2016	1.16987	0.011519273	15.16678	2.079442	0.0139
	2015	1.16987	0.083059479	15.12887	1.94591	0.5880
	2014	1.17897	0.015075543	11.83708	2.564949	0.5618
Centum	2018	10.74782	0.072742595	11.85251	2.484907	0.5301
	2017	10.74782	0.024382015	11.76482	2.397895	0.4029
	2016	10.87654	0.0653489	11.67847	2.302585	0.4877
	2015	10.34897	0.057634	11.89354	2.197225	0.4644
	2014	10.34596	0.103366949	14.61229	4.174387	0.0541
Home Africa	2018	1.26704	0.074010303	14.56135	4.158883	0.0422
	2017	1.26704	0.238043546	14.51551	4.143135	0.0684
	2016	1.35605	0.014967926	14.46692	4.127134	0.0687
	2015	1.35605	0.380187217	14.33734	4.110874	0.0763
	2014	1.00002	0.01036947	16.72450	4.762174	0.3825
Kurwitu	2018	1.00002	0.092771494	16.69502	4.75359	0.5332
	2017	1.00002	0.091174932	16.73327	4.744932	0.5039
	2016	1.00002	0.086279328	16.74303	4.736198	0.5121
	2015	1.00002	0.040148717	16.71987	4.727388	0.4993
	2014	1.00000	0.175551388	16.57144	3.871201	0.5257
NSE	2018	1.00000	0.112105116	16.99735	3.850148	0.4887
	2017	1.00000	0.081882649	17.10395	3.828641	0.7500
	2016	1.00000	0.097986148	16.83266	3.806662	0.9771
	2015	1.00000	0.056394948	16.97519	3.78419	0.6950
	2014	2.35182	0.173945984	14.69411	3.988984	0.8111
BAT	2018	2.35182	0.006267169	14.43541	3.970292	0.6710
	2017	2.35182	0.109295726	14.43981	3.951244	0.7478
	2016	1.03445	0.001196832	13.44346	3.931826	0.5086
	2015	1.08614	0.172882126	13.53123	3.912023	0.4162
	2014	1.12465	0.1765439	13.51234	3.828641	0.3466
MUMIAS	2018	2.77666	0.066580802	14.25559	3.806662	0.9209
	2017	2.77666	0.00540961	14.64042	3.78419	0.5246
	2016	2.77666	0.054995994	14.72621	3.7612	0.4979
	2015	2.78654	0.043789	14.48941	3.73767	0.2099
	2014	0.78545	0.0003	12.53469	1.40993	0.2685
Hutchings	2018	1.00000	0.08176	12.51434	4.007333	0.6934
	2017	1.00000	0.08176	12.51434	3.988984	0.6934
	2016	1.00000	0.08134	12.52507	3.970292	0.6935

COMPANY	Year	Firm value	Cash holding	Size	Age	Capital Structure
	2015	1.00000	0.08134	12.52507	3.951244	0.6935
	2014	1.00000	0.08754	12.52507	3.931826	0.6935
Umeme	2018	1.28765	0.06951	14.63363	3.931826	0.7232
	2017	1.77844	0.06951	14.63363	3.912023	0.7232
	2016	1.87310	0.06951	14.63363	3.89182	0.7232
	2015	1.76529	0.0666	14.63385	3.871201	0.7296
	2014	1.32896	0.0666	14.63385	3.850148	0.7296

Appendix III: SPSS Output

Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm value	215	-.9623	.4048	.015288	.1614868
Cash holding	215	.0003	.7411	.089132	.0963890
Capital Structure	215	.0139	1.2518	.451699	.2734516
Size	215	11.2834	19.7540	15.680369	1.9573701
Age	215	1.0986	5.0106	3.990203	.7115046
Valid N (listwise)	215				

Multicollinearity Test

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
Cash holding	0.367	2.725
Capital structure	0.398	2.513
Firm size	0.388	2.577
Age	0.376	2.659

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Firm value	Statistic	Df	Sig.	Statistic	Df	Sig.
Cash holding	.173	215	.300	.918	215	.822
Capital structure	.180	215	.300	.894	215	.790
Firm size	.176	215	.300	.892	215	.784
Age	.181	215	.300	.896	215	.792
a. Lilliefors Significance Correction						

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.374[a]	.140	.124	.1511720	1.837
a. Predictors: (Constant), Age, Cash holding, Capital Structure, Size					
b. Dependent Variable: Firm value					

F-statistic	5.332026	Prob. F(4,215)	**0.1012**
Obs*R-squared	16.51327	Prob. Chi-Square(4)	0.0024
Scaled explained SS	27.94768	Prob. Chi-Square(4)	0.0000

Correlations[c]

		Firm value	Cash holding	Size	Age	Capital Structure
Firm value	Pearson Correlation	1	-.019	.157*	-.057	.125
	Sig. (2-tailed)		.787	.021	.403	.067
Cash holding	Pearson Correlation	-.019	1	-.020	-.002	-.015
	Sig. (2-tailed)	.787		.775	.972	.830
Size	Pearson Correlation	.157*	-.020	1	.229**	.026
	Sig. (2-tailed)	.021	.775		.001	.699
Age	Pearson Correlation	-.057	-.002	.229**	1	.088
	Sig. (2-tailed)	.403	.972	.001		.200
Capital Structure	Pearson Correlation	.125	-.015	.026	.088	1
	Sig. (2-tailed)	.067	.830	.699	.200	

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

**. Correlation is significant at the 0.01 level (2-tailed).

c. Listwise N=215

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.374[a]	.140	.124	.1511720	1.837
a. Predictors: (Constant), Age, Cash holding, Capital Structure, Size					
b. Dependent Variable: Firm value					

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.782	4	.195	8.550	.000[b]
	Residual	4.799	210	.023		
	Total	5.581	214			
a. Dependent Variable: Firm value						
b. Predictors: (Constant), Age, Cash holding, Capital Structure, Size						

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.782	4	.195	8.550	.000[b]
	Residual	4.799	210	.023		
	Total	5.581	214			
a. Dependent Variable: Firm value						
b. Predictors: (Constant), Age, Cash holding, Capital Structure, Size						

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.258	.096		-2.685	.008
	Cash holding	.141	.444	.119	2.569	.011
	Capital Structure	-.163	.038	-.276	-4.270	.000
	Size	.016	.006	.193	2.897	.004
	Age	.020	.015	.088	1.328	.186
a. Dependent Variable: Firm value						