THE INFLUENCE OF FINANCIAL FLEXIBILITY ON FIRM VALUE OF NON-FINANCIAL COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE IN KENYA

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DECLARATION

I hereby confirm that this dissertation is my original work and neither the entire document nor part of it has been submitted for examination nor award of any degree or any other academic award.

Signed----------on this day----------

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This dissertation has been developed under my guidance and in my capacity as the KCA university-appointed supervisor, approve for its submission for defence.

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DEDICATION

This research thesis is dedicated to my entire family and in particular to my wife, Aphline, children; Richard Omondi, Pamela Anyango, Dursla Atieno and Natasha Achieng and other children God will bless me with into the future. I will not forget my parents Mr and Mrs Charles Ogutu Okode who put me into their prayers constantly, and my grandmother, Mrs Dusila Opiyo, who kept on encouraging me just to keep on going to school since education pays. I appreciate the family's understanding, motivation, and support when I became unavailable to them during weekends and even public holidays and arrived most of the time late into the night when most of them are already asleep. At times I had to do late-night reading through many books as part of my research. Surely, I owe it all to you for enabling me to reach this far. Thank you

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LIST OF ABBREVIATIONS

FEM:	Fixed Effect Model
NACOSTI:	National Council for Science, Technology and Innovation
NSE:	Nairobi Securities Exchange
REM:	Random Effect Model
ROA:	Return on Assets
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factors
WCM	Working Capital Management

OPERATIONAL DEFINITION OF TERMS

Cash holdings: The liquid assets holdings by the firms expressed as the ratio of cash plus cash equivalents to the sum of non-current assets and current assets (Chang & Ma, 2019).

Debt Capacity: These are the aggregate amount of borrowing a firm can hold and service according to the terms of a debt agreement. Alternatively, is it the spare borrowing capacity indicating the total amount of debt a firm can raise should need be (Howton, Howton, & Scheick, 2018)

Financial Flexibility: This is the ability of the firm to obtain the needful external capital at a low cost when required for a justifiable purpose (Mahmood, Rizwan, & Rashid, 2018).

Financing costs: International Accounting Standard 23 defines finance costs as interest and other costs that an entity incurs in connection with the borrowing of funds (Alali & Cao, 2010).

Financing cost Restrictions: Are obligations placed on a firm as a result of borrowing costs (Chang & Ma, 2019).

Restrictions: Financial safety as computed by the Altman Z score (Madrid-Guijarro et al., 2016).

Firm Size: Though there lacks a precise definition, in this study firm size is proxied by the log of total assets as suggested by Mohmood, Rashid, Rizwan and Ahmad (2019).

Firm Value: Increase in value of the company as indicated by the Tobin's Q ratio and in addition to the price that potential buyers are willing to pay (Byoun, 2016).

ABSTRACT

The recent global recession and the covid pandemic which have turned into an economic crisis have served to make financial flexibility even more important. Existing literature suggests that listed firms in the Nairobi Securities Exchange (NSE), have not managed to undertake the investment required of as compared to other countries. In this mind, the present study aimed to examine the influence of financial flexibility on the firm value of listed non-financial corporations at the NSE in Kenya from the period 2011 to 2019. Specifically, this study examined the influence of cash holdings; debt capacity; and financing cost restrictions on firms' value of listed non-financial companies quoted at the NSE. The study further examined the moderating role played by firm size in the association between financial flexibility and firm value of non-finance companies quoted at the NSE in Kenya. The study was underpinned by the free cash flow theory, the trade-off theory and the pecking-order theory. The study adopted a descriptive longitudinal research design and focussed on all the 37 non-financial listed at the NSE as of December 31, 2020. However, firms that were financially distressed as of the time of data collection did not form part of the study. As a result, only 31 firms with 272 firm-year observations formed part of the study. The study utilized panel data that was analysed using panel multiple regression analysis and aided by the STATA statistical package. To ensure the non-violation of statistical assumption and to allow for remedial action when a violation occurred, diagnostic tests were carried out. Hausman specification test results favoured the use of the random-effects model. Results of the study indicated that independently, debt capacity and financing cost restrictions were found to have a positive and a statistically significant influence on firm value of listed non-financial firms in Kenya. However, cash holding did not have a statistically significant influence on firm value. Jointly, financial flexibility was found to have a statistically significant association with firm value. Financial flexibility explained 65.11 per cent of the variation in firm value and firm size was found to have a moderating effect on this relationship. As this study focused on non-financial firms, it recommends that similar studies, but now industry-specific be undertaken.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Financial flexibility is one of a firm's major careful thoughts while making financial decisions (Estwick, 2016). Financial flexibility is the capacity of corporates to obtain additional finance at minimal costs and make investments effortlessly and swiftly in projects that would enhance their value or any other justified purpose (Mohmood et al., 2019). The conventional theoretical literature on corporate finance begins with Modigliani and Miller's (1958, 1961) irrelevance theorem. They assume that capital markets are perfect with no financing frictions, so companies can invest in all the profitable projects and amend their financial standing to adjust to unanticipated events while capturing growth opportunities. Terra (2003) conducted a research on whether investment decisions by Brazilian firms were affected by credit constraints, using statement of financial position data between 1986 and 1997.The study established that the firms were credit-constrained, and the only instance when credit constraints was softer was among well established and multinational firms. Antwi, Mills and Zhao (2012) in a study of Ghana Securities market and revealed that in such an emerging economy, equity capital was a significant component of capital structure and enhanced the firm's value. According to Howton, Howton and Scheick (2018), financial flexibility allows a firm to react judiciously and in a manner that maximises the value of the firm to the shareholders to unexpected changes in its cash position and cash flows. Uncertainty about earnings, availability of profitable investment opportunities and firm value give managers incentives to select financial policies that provide the flexibility to respond to unanticipated shocks to these factors (Galpin, 2020).

In both academic literature and the corporate world, financial flexibility is advocated as being an important component in firm value creation. This debate is however not conclusive as there are conflicting views. For instance, while some studies report that financial flexibility significantly determines firm value, (Chang & Ma, 2019; Mari & Marra, 2019), others hold that financial flexibility is unrelated to firm value (Asante-Darko, Bonsu, Famiyeh, Kwarteng, & Goka, 2018; Mahemood, Faisal, & Rashid, 2018). The evidence, however, based upon extant studies is chiefly drawn from the contextual perspectives of developed nations. Such results may not necessarily generalise in the context of Sub- Sahara Africa, and more so to Kenya which is a developing economy or in firms listed in the Nairobi Securities Exchange.

Moreover, it is unclear if financially flexible firms have relatively favourable access to finance from capital markets that would fulfil their financing needs occasioned by depressed earnings or perhaps fund new investment opportunities that would proper firm value (Ayalew & Xianzhi, 2019). This would hence avoid situations that would lead to sub-optimal investments and further value reduction (Hooshyar & Mohammadi, 2019).

1.1.1 Financial Flexibility

Financial flexibility is an essential topic for deciding financial policies, capital structure and investments that enhanced firms' value (Salehi & Moghadam, 2019). According to Chang and Ma (2019), financially flexible firms can take advantage of unforeseen opportunities with sufficient practicability. Further, financial flexibility relates to a company's entire capital structure and ability to counter unexpected conditions relating to its obligations and resources (Ferrando, Marchica, & Mura, 2017). In this context, the ability to gain low-cost financial resources to counter cashflow challenges or to take advantage of profitable opportunity costs is financial flexibility (Rostami & Rezaei, 2021).

According to Rostami and Rezaei (2021), financial flexibility can be viewed from two perspectives; internal and external. Internal financial flexibility can be measured using cash holdings and debt capacity. External perspectives relate to financing costs restrictions that might limit external spare debt capability and external equity financing capabilities such as financial distress (Chang & Ma, 2019). Howton et al (2018) argue that financial flexibility is valuable to firms in two ways. First, access to alternative sources of finance allows firms with constrained access to capital to reduce the underinvestment problem. According to Estwick (2016), financially flexible firms can access and restructure financing at a low cost. Second, financial flexibility enables firms to minimize the costs of financial distress when faced with negative shocks. Such adverse shocks to external financing can present an additional challenge for listed firms (Howton et al., 2018). In this regard, companies that are flexible financial can cope with financial distress when faced with negative shocks by lowering the risks of financial operations and increasing firms' operational ability (Salehi & Moghadam, 2019). In general, Salehi and Moghadam (2019) posit those firms that benefit from higher financial flexibility are less likely to be financially distressed.

Cash holdings mainly include companies' cash deposits and other cash equivalents that are easily convertible into known amounts of cash with little or no risk of loss of value (Chang &

Ma, 2019). Extant literature documents transactional motive, precautionary motive and speculative motive as the major reasons firms hold cash. Transaction motive relates to firms having cash holdings with an aim of reducing transaction costs without resulting in seeking external finance or selling off some assets as either move would occasion significant costs and loss of firm value (Galpin, 2020).

According to Dimitropoulos, Koronios, Thrassou and Vrontis (2020) precautionary motive of cash holdings relates to a firm maintaining certain amounts of cash to cover unexpected and unforeseen emergencies. The speculative motives of holding cash help the firm take advantage of knowing better than the market and thus taking advantage of any investment opportunities arising. Though empirical evidence shows that holding cash may act as a cushion during periods of financial crises, and thus significantly contribute to financial flexibility, excess cash holdings can result in a loss in firm value (Galpin, 2020). Literature in finance has diverse measures of indicating cash holdings. This study, however, adopts the model suggested by Chang and Ma (2019) and measures the variable cash holdings as cash plus short-term investments dividend by total assets.

Debt capacity, alternatively the borrowing capacity, represents the ability of the firm to; uptake more debt, the ability to repay the debt, collateral available to securitize the debt, character management and credit history (Dieter & Philipp, 2014). Investors are interested in assessing a firm's debt capacity to avoid investment in companies with little or no unused debt capacity and thus a high risk of default. On the other hand, companies are interested .in evaluating their debt capacity to avoid unnecessary risk of default and incurring increased interest cost of borrowing(Mahmood, Han, Ali, Mubeen, & Shahzad, 2019). In both instances, debt capacity can impact firm value and is viewed as the ratio of total non-current assets to total capital employed. According to Pan, Liu and Wang (2019), debt capacity is a representation of the maximum amount of debt a firm can obtain while at the same time reflecting debt constraint situation. Large debt capacity reflects a stronger financial ability and perhaps better value. According to Attia (2019), lower debt capacity reduces firm growth and ultimately firm value. In addition, Attia (2019) posits that a higher debt capacity could result to lower interest and contracting costs thus enhancing value. This study adopts the measure suggested by (Mahmood et al. (2019), the quotient of non-current assets and capital employed, as the debt capacity measure.

Extant literature suggests that financial flexibility can also be proxied by financing cost restrictions. Financing cost restrictions are impediments to the firm due to the burden imposed by costs, interests and other fees that a firm incurs when borrowing funds. Chang and Ma (2019) argue that such costs are too likely to occasion financial distress in a firm and thus have a direct impact on firm value. According to Ayalew and Xianzhi (2019), financing costs and restrictions thereof affect the financial well-being of the firm, and thus its financial health. Literature suggests that a good measure of financing cost restriction would be the Altman Z-Score (Chang & Ma, 2019). In light of the foregoing, this study adopts the Altman Z score as a proxy for the independent variable, financing costs restrictions

The previous empirical literature has predominantly used a sing indicator of financial flexibility while assessing its effect on firm value. For instance, Ferrando, Marchica and Mura (2017) considered debt capacity and related it to firm value. On their part, Asante-Darko, et al (2018) associated cash holdings with firm value, while Dimitropoulos et al. (2020) considered financing cost restrictions and related it to firm value. Yet no single variable of financial flexibility can explain firm value (Chang & Ma, 2019; Galpin, 2020). While some studies have considered multiple financial flexibility proxies and their influence on firm value, such studies have considered jurisdictions outside Kenya and it is not clear if the results of those studies can be generalised to a Kenyan scenario. For instance, Ferrando et al. (2017).

Ferrando et al. (2017) used a sample of European private and public firms to show that a higher degree of financial flexibility, proxied by conservative leverage policy, allowed firms to undertake future investments creating avenues for possible growth opportunities. Dimitropoulos et al. (2020) considered cash holdings as a proxy for financial flexibility, arguing that cash holdings ensure continuity in day-to-day operations and, by taking advantage of emerging investment opportunities, improve a firm's value. From regional perspectives, Asante-Darko et al. (2018) argued that the interaction of cash holdings and corporate governance mechanism affected the company value of firms listed in Ghana's Securities markets.

1.1.2 Firm Value

The major goal of any corporate entity is to enhance its value in a bid to enhance shareholders' wealth maximization. According to Dhole, Mishra and Pal (2019), firm value is the price potential investors would be willing to part with to acquire a stake in the company.

Corporate entities strive to enhance their value as this is considered to be the core indicator while evaluating the performance of the firm (Cherkasova & Kuzmin, 2018). Cherkasova and Kuzmin (2018) argue that for firms to be considered potential investment options, they must experience a noteworthy rise in both market value as well as in assets. In this regard, firm value is regarded as a key element to the firm and to the investors and other stakeholders considering firm value is also tied to financial performance. As Byoun, (2016) posits, a key objective of the firm is shareholder's wealth maximization and this is reflected in firm value as computed by market capitalization.

As noted in the foregoing, there are different methods through which firm value can be meted out. Among the measures of firm value is the book value of the firm, otherwise referred to as the net worth of the firm. However, the use of book value as a measure of firm value suffers from certain defects arising from various methods of treating accounting data (Mule, Mukras, & Mutunga, 2015). Furthermore, the value of a firm can also be measured using market values. Market value, otherwise defined as market capitalisation is computed as the product of outstanding shares and the market price at a point in time. Companies with higher market capitalisation are considered to have a higher firm value. According to Koori, Korir and Gachanja (2016) project performance of a company has been used in literature to measure firm value. Tobin's Q has also adopted a measure of firm value in literature (Asante-Darko et al., 2018; Bhat, Chen, Chen, & Jebran, 2020; Nguyen, Nguyen, & Le, 2018). Tobin's Q ratio measures firm value as the quotient of market capitalisation and its assets replacement cost. In the present study, firm value is indicated by the Tobin's Q ratio operationalised in line with (Nguyen et al., 2018) who point out that the ratio indicated a market estimation of the firm value in relation to its return on investment from the perspective of investors.

1.1.3 Financial Flexibility and Firm Value

At present firms are faced with multifaceted business markets that force them to assume a greater level of risk (Yi, 2020). Financial flexibility affords the firms various choices allowing them to cope with current and future uncertain financing and investment requirements (Iswajuni, Manasikana, & Soetedjo, 2018). Empirical literature reveals different perspectives on the influence of financial flexibility and firm value. Financial flexibility is taken as the best possible allocation of financial resources, the management of financial risk Cherkasova and Kuzmin (2018) as well as the ability of the firm to make value-enhancing activities in times of financial crisis. In the theory of free cashflows, Jensen (1986) posits

corporate financial managers have inducements to augment the financial flexibility of their firms using internal sources of finance at their disposal to invest more in assets and thus enhance firm value.

Some extant literature has supported the view that financial flexibility has a positive influence on firm value (Attia, 2019; Dimitropoulos et al., 2020). Other strands of empirical literature hold the view that low financial flexibility is synonymous with inadequate investments due to financing constraints, thus shrinking firm value (Ayalew & Xianzhi, 2019). Yet other scholars argue that higher levels of financial flexibility can initiate investment and in particular from the point of view of agency costs (Yi, 2020). The aforementioned views are supportive of the assertions that financial flexibility is inversely related to firm value. However, there exists empirical evidence that financial flexibility is positively related to firm value (Ullah, 2018). In China, Yi (2020), investigated the effect of financial flexibility on an enterprise value of manufacturing firms and argued that financial flexibity resulted to interval effect of firm value, that is to say, direct and inverse effects from different perspectives.

Cherkasova and Kuzmin (2018) explored the impact of financial flexibility on the effectiveness of investments of Asian companies during the 2005-2015 time period. The study determined financial flexibility by applying the spare debt capacity method (Cherkasova & Kuzmin, 2018). Despite the perceived importance of firm value, its impact on corporate financial policy and firm value remains controversial (Byoun, 2016). Under one view, expensive debt financing may result in positive cashflows that cushion the firm when unexpected investment opportunities arise (Attia, 2019). In this case, cashflow needs are first met by the available cash balances, then a reduction in dividend pay-out, issue of risk-free debt and finally external financing as a last resort (Dimitropoulos et al., 2020).

This outlook is premised on a framework that was developed by Myers and Majluf (1984)and has over time, had its inter-temporal inferences and implications anchoring empirical research. Most of the extant literature related financial flexibility and its associated variables to the value of the firm (Dogru & Sirakaya-Turk, 2017). An alternative view presented by Cherkasova and Kuzmin (2018) holds that excessive cash balances are expensive and have the potential of creating agency difficulties. Accordingly, firms with value-maximizing objectives maintain low cash balances on average and reserve spare debt capacity for utilization in periods that the firm is faced with financial difficulties (Cherkasova & Kuzmin,

2018). To allow firms access to capital markets, corporations maintain relatively dividend payout ratios. Firms, following this perspective, use new borrowings to address arising cash flow shortfalls since divided obligations must be, a priority made with resultant reductions in cash balances being, empirically, less important (Yi, 2020). The inconclusive influence of financial flexibility on enterprise value has persisted not only in managerial practice and also in the empirical literature(Chang & Ma, 2019). Moreover, available empirical evidence is based on studies carried out in developed nations and may not be applicable in the Kenyan context. This thus motivates the need to carry out a study focused on a Kenyan perspective.

1.1.4 Listed Non-financial Firms

There are sixty-five companies whose shares are quoted at Kenya's Nairobi Securities Exchange (NSE), however, as of the first quarter of 2021, four firms have been delisted and four others suspended (Capital Markets Authority, 2021b). NSE has 13 segments with the biggest one being banking with 12 financial firms. Other segments include Insurance (6); Investment (5) and Investment Services (1) all financial corporations. Non-financial firms are listed in the following sectors: Commercial and Services (12); Manufacturing and Allied (8); Agriculture (6); Construction and Allied (5) and Energy and Petroleum (4). Automobile &Accessories and Telecommunications & Technology; each with one firm listed (Capital Markets Authority, 2021). Overall, the NSE has listed 37 non-financial firms in the bourse. Among others, companies whose stocks are quoted at the Nairobi Securities Exchange use the platform to raise additional capital for investment and expansion of their business functions and operations (Capital Markets Authority, 2021).

1.2 Statement of the Problem

Every entity will at a time face an unanticipated crisis which requires instantaneous cash flow flexibility. The global shutdown occasioned by COVID 19 is a typical example. Financial flexibility, the capability of a business enterprise to get hold of the required financing at minimal cost and as and when required for a justifiable need, allows firms to invest in value-enhancing projects as and when they arise (Mohmood et al., 2019). Moreover, financial flexible firms can respond to negative shocks arising from cash flow problems and liquidity (Rostami & Rezaei, 2021). Challenged by an uncertain external environment, financial flexibility allows firms to adjust by raising additional financial resources allowing them to maximise their value (Chang & Ma, 2019).

Evidence from a study by Koori et al. (2016), shows that firms listed on the Nairobi Securities Exchange in Kenya are financially flexible. However, there is scanty evidence that this has created firm value. Even when it exists, it does not compare favourably with financially flexible firms in other jurisdictions. For instance, Bhat et al. (2020) posit that financial flexibility facilitated firm value amongst Chinese quoted companies. Equally, while Nguyen et al. (2018) point out that financially flexible firms in Vietnam were able to raise up to 40 per cent of their value, Kenyan firms raised their value by only 10 per cent in the corresponding period (Capital Markets Authority, 2021). Furthermore, additional evidence indicates that in the past five years, at least eight firns have been delisted or suspended from the NSE either due to financial challenges or to undertake financial restructuring (Capital Markets Authority, 2021). Could the delisting if this firms be attributed to financial inflexibility? In practice, public firms in developed economies enjoy easily accessible debt financing from their well-established debt and bond markets, compared to developing countries such as Kenya (Mule et al., 2015).

Further, though the firm values as measured by market capitalization, have taken on an upward trajectory amongst listed firms in Kenya, this is largely on account of one firm, Safaricom which at present accounts for more than 50 per cent of the total market capitalization at the Nairobi Securities Exchange (Capital Markets Authority, 2021). This is an indication that there is a need to investigate the contribution, if any, of financial flexibility to the firm value in Kenya. This disparity, therefore, motivates the present study and sought to link financial flexibility and firm value in the context of listed non-financial firms in Kenya for the period between 2011 and 2019.

While the existing empirical literature has provided evidence on the role of financial flexibility on firm value, there are conceptual, methodological and contextual research gaps that this study sought to address. The majority of studies have been conducted in firms in different contexts such as China (Chang & Ma, 2019), Pakistan (Mahemood et al., 2018) and Indonesia (Iswajuni et al., 2018) where capital markets are developed or emerging. These findings may not apply to firms in the Kenyan context which is a developing market. Further, literature analysing financial flexibility and firm value is far from conclusive. While some researchers reported that financial flexibility enhances firm value. (Attia, 2019; Chang & Ma, 2019; Dimitropoulos et al., 2020). Others find that financial flexibility is unrelated to firm value (Asante-Darko et al., 2018; Madrid-Guijarro, García-Pérez-de-Lema, & Auken, 2016; Mafrolla & D'Amico, 2017). Methodologically, most of the literature was cross-sectional in

nature, for instance, Ayalew & Xianzhi (2019), yet the impact of financial flexibility is likely to have a lagged influence on performance. The moderating role of firm size on the relationship between financial flexibility on firm value in Kenya is lacking. This study takes cognizance of the fact that firm value may be a function of factors key among them financial flexibility. However, this relationship is affected by a host of factors such as firm size. There is therefore a need to critically assess the financial flexibility of the listed firms and how it impacts firms' value as a way of improving the investors' confidence at the NSE.

Kibaya (2019) deduced that cash holding had a significant positive influence on the value of listed firms in Kenya. Wambua (2019) established a significant negative relationship between debt financing and ROA and Kulati (2014) revealed that firm size and capital structure does affect the value of a firm positively. These studies however did not examine the combined effect of financial flexibility on the firm value. This study thus sought to address the gaps identified from the literature review by interrogating the influence of financial flexibility on the firm value of non-financial companies at Kenya's NSE.

1.3 Objectives of the Study

The goals guiding this proposal were classified as either general or specific objectives and are highlighted in the subsection that follows.

1.3.1 General Objective

The general objective of the present study was to examine the influence of financial flexibility on the firm value of non-financial firms listed in Kenya's Nairobi Security Exchange.

1.3.2 Specific Objectives

The specific objectives of this study were to:

Specifically, this study seeks to:

i. Determine the influence of cash holdings on the firm value of non-financial firms quoted at the NSE in Kenya.
ii. Evaluate the influence of debt capacity on firm value of non-financial firms quoted at the NSE in Kenya.
iii. Assess the influence of financing cost restrictions on the firm value of quoted non-financial firms at the NSE in Kenya.

iv. Predict the moderating role of firm size on the association between financial flexibility and firm value of quoted non-financial firms at the NSE in Kenya.

1.4 Hypotheses of the Study

From the specific objectives, the study formulated four corresponding hypotheses for testing.

H_{01}: Cash holdings have no significant influence on the firm value of non-financial firms quoted at the NSE in Kenya.

H_{02}: Debt capacity has no significant influence on the firm value of quoted non-financial firms at the NSE in Kenya.

H_{03}: Financing cost restrictions have no significant influence on the firm value of quoted non-financial firms at the NSE in Kenya.

H_{04}: Firm size has no significant moderating influence on the relationship between financial flexibility and firm value of quoted non-financial firms at the NSE in Kenya.

1.5 Significance of the Research Study

This study is expected to be significant to theory, managerial practice and policy making.

1.5.1 Policy Implication

The outcomes of this empirical literature will not only provide more support to the existing strategic tools but also form a basis for policy formulation that shall act as a guide to the stellar firm value of listed non-financial firms in Kenya. The findings of the study shall help the policy shapers to put into consideration the various dimensions of financial flexibility that have a significant effect on firm value.

1.5.2 Practice Implication

The outcomes of this study will be of benefit to the managerial practice of both listed and unlisted non-financial firms. The findings will guide the managers on the specific financial flexibility components that aid in improving the value of the firm.

1.5.3 Theory

This study has elucidated the relationship between financial flexibility, firm size and firm value thus giving the concepts significant input not only conceptually, but also empirically. There has been limited extant literature previously relating the two concepts to the theoretical framework. Academicians and researchers can refer to this study and identify gaps that would inform future studies.

1.6 Scope of the Study

The main goal of the current research study is to evaluate the effect of financial flexibility on the firm value of quoted non-financial companies in Kenya over the period 2011 and 2019. This corresponds with the most recent nine years thus making the study current. Though the year 2020 would have been the most recent, the period is excluded due to the financial crunch that was occasioned by the global Covid 19 pandemic. The financial companies are excluded from the study since the regulators in the area, the Central Bank of Kenya and the Insurance Regulatory Authority, have prudential guidelines regulating their financial flexibility. The regulations that apply to financial firms do not bind non-financial firms.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

To allow for a better consideration of the concepts of the study, this study must carry out an extensive appraisal of existing literature. This chapter, therefore, presents a review of the literature. At first, a theoretical review examining the theories underpinning the study is carried out. What follows, is a pairwise review of extant literature along the hypothesised relationships. This informs the study of what others have done in the area and thus exposes gaps in the literature. A summary of the reviewed empirical literature is thereafter presented. Based on the reviewed literature, a conceptual framework is developed. Operationalization of the study variables is also presented.

2.2 Theoretical Review

The concepts of this study are anchored on three theories; the free cash flow theory, the pecking order mode; and the trade-off theory. This ensures that the concepts of the study are backed by sound theoretical frameworks. The subsection that follows discusses the theories

2.2.1 The Free Cash Flow Theory

Jensen (1986) presented the free cash flow theory and defined free cashflows as the excess of cashflows from operating activities that are needed for investment in projects. The theory suggests that a firm's value can be increased or decreased depending on how free cash flow is utilised (Jensen, 1986). The free cash flow theory developed by Jensen (1986) and holds that executives of companies have inventive to keep a huge amount of cash in a bid to shore up the total assets they control while gaining discretionally power over the firms' investment decisions and ultimately, firm value. Jensen (1986) posits those managers of firms will systematically keep higher cash out of their free cashflows and invest in self-serving projects and those that increase their compensation and power than those with positive net present value, thus reducing firm value. The free cash flow theory developed by Jensen (1986), therefore proposes the distribution of excess cash to shareholders and raising external funds to finance profitable investment projects as a mitigating measure. However, retaining extra cash in the firm might be crucial for well-managed firms to execute projects with positive net present value.

It has been shown that managers commonly invest the free cashflows in projects having negative net present value when the monitoring system imposed by shareholders is not

efficient (Ullah, 2018). The managers of such companies not only face the problem of optimal performance but also face the problem of efficient utilisation of the firms' cash holdings that are invested in less profitable projects. According to Jensen (1986) reducing free cashflows solves the agency problem and in particular the self-seeking behaviour of managers. In circumstances where managers adopt a policy delinked from the shareholder's wealth maximization, both debt and its attendant financing costs would help mitigate the negative effect of over-investing the excess free cashflows in addition to allowing monitoring by external third parties (Trong, Nghia, & Thanh, 2020).

Similarly, Dogru and Sirakaya-Turk (2017) underscore and place more emphasis on the role of monitoring by third parties in limiting the surplus free cashflows. Moreover, Islam, Ghosh, and Khatun (2021) point out that decreasing the surplus free cashflows can support growth in firm value as well as improve the rate of dividend payable to shareholders. Furthermore, Ullah (2018) argues usage of debt by firms might occasion financial distress and perhaps even more tragic, receivership. At the same time, though, debt offers tax benefits that could shore up firm value. Strict debt covenants issued by debt holders might reduce managers' consumption of perquisites thus improving firm value. Consequently, in the present study, the free cash flow theory is adopted as a key postulation that explains the causal effect relationship between cash holdings, debt capacity and financing costs restrictions and firm value. The firm's value increases if the firm's cash holdings are effectively and efficiently utilised while if the cash holdings are not effectively utilised, then it leads to decreased firm's value. From the arguments, the free cash flow theory thus informs the cash holdings variable. Thus, the theory will help explain the influence cash holdings have on firm value from the context of non-financial firms that are quoted in the Kenya's Nairobi securities exchange.

2.2.2 Pecking Order Model of Financing Decisions

Myers (1984) postulated the pecking order theory of the financing decisions. The pecking order arises in a situation where the cost of raising new finance is greater than the net benefit arising out of using either debt or dividends as modes of financing. The transaction costs arising from raising new finance and the possession of the manager's privileged information lead to a pecking order. In particular, if the privileged information possessed by the managers relates to the riskiness of assets, then we end up with a pecking order (Fama & French, 2002). According to Fama and French (2002), the costs and information asymmetry create a hierarchy through which the firms finance new investments. Initially, the firm uses riskless and costless retained profits and after its exhaustion, riskless debt before turning to risky

debenture financing. It is only after all the other options have been used that the firm moves to equity.

Myers, (1984) argues, as a consequence, the variations in an enterprise capital structure are not based on the trade-off theory but on the firm's cashflows. The motivation for the Myers (1984) pecking order theory which emerges as an alternate theory to the trade-off theory is the seminal paper by Myers and Majluf (1984). The major assumption of the pecking order theory is information asymmetry between managers and investors. By issuing risky securities, managers signal to investors about the firm's prospects who thereafter act by discounting the firm new and existing risky assets (Myers & Majluf, 1984). Managers anticipate the pricing discounts and might forego profitable investments if they must be financed by a new risky source.

The managers prefer financing new projects with retained profits as it involves no asymmetric information to avoid distortions of their investment decisions. Low-risk debt which has a negligible asymmetric problem is then used when retained earnings are exhausted before turning to risky equity (Myers, 1984). The pecking order model has proven to be a key theory in financing decisions for a variety of reasons. In one instance, the theory is a good signal to the outsiders about how well a firm is doing. A firm using retained earnings to finance investments is seen as doing well. A firm using debt financing is seen by financiers as having the ability to meet not only the principal debt obligations but also interest thus giving confidence to the general public. On the other hand, if the is issuing stocks, then this sets in uncertainty on whether the firm has undervalued its stocks and thus questioning its internal financial strength and the ability of the management to manage debt (Fama & French, 2002).

The pecking order model of financing decisions is used to explain financing decisions of firms and has extensive empirical testing but with conflicting results. Some scholars have found an inverse relationship between leverage and shareholders' value (Fama & French, 2002; Rajan & Zingales, 1995). On the other hand, (Morellec & Schurhoff, 2011) found that liquidity and leverage varied negatively with external finance thus contradicting the pecking order theory. The implications of the pecking order model approach and information asymmetry indicate that the extra cost of third-party finance, such as debt results in some firms having liquidity problems. In this instance, cash flows and other forms of internal sources become important determinants of firm value. As a result, investors tend to

undervalue equity, while overvaluing debt. Therefore, firms are reluctant to issue equities preferring internal financings such as cash holdings over external financing and debt over equity thus impacting their debt capacity. Based on the arguments, the pecking order model of financing decisions shall inform the financing cost restrictions concepts while seeking to establish the role of financing cost restriction on firm value.

2.2.3 The Trade-Off Theory

Myers, (1984) postulated the trade-off theory arguing that the ideal level of debt is that in which the discounted tax advantage of using debt financing should outweigh the discounted cost of possible distress. In the context of trade-off theory, there are costs and benefits arising from debt use, which determine the optimum level for a value-maximizing firm. The firm identifies its target debt level which is at the point where the marginal cost of debt is offset by its marginal benefit (Barclay & Smith, 1995) . The cost of debt consists of the financial distress cost and agency costs of asset substitution whilst the benefits are the tax advantage and the reduction in agency costs (Tong & Green, 2005).

As a result, the trade-off theory recommends that the optimal amount of debt is determined by weighing the advantages of tax relief against the cost of possible and higher bankruptcy costs. Taking into account the tax benefits of debt financing on one hand and financial distress on the other, it can be concluded that firm value is maximized at the point where the cost of capital is lowest. This model of financial flexibility is known as the tradeoff model of the capital structure (Hawawini & Viallet, 1999) . Byoun (2016) suggests that flexibility-building firms appear to be inconsiderate regarding their capital structure since they issue equity with a low debt ratio and ample cash holdings. The financial flexibility demand may also explain why firms do not appear to counteract the large influence of stock returns on capital structure. In addition, as Byoun (2016) argue, flexibility-building firms do not increase leverage in response to an increase in a stock value because they are concerned about financial flexibility.

According to the trade-off hypothesis, firms may have low leverage and high cash holdings but for different reasons. Whereas flexibility building firms maintain the low debt- high cash holding by issuing external equity, flexibility recharging firms attain that by replacing debt and accumulating cash with internal funds (Ayalew & Xianzhi, 2019). The trade-off theory however contradicts the Moddigilian and Miller theory. Given that a financial flexible firm requires to have unused debt capacity, the theory does not address that concern opting instead

for a level of debt that is considered optimum. Further, it does not provide a case for either equity or retained earnings as a method of financing. The trade-off theory, however, does explain that using debt is more applicable to companies with assets that can be used as securities, the level of financial distress and also the industry that which a firm belongs.

According to Ayalew and Xianzhi (2019), a firm maximised its value by equating the additional benefit derived from using more debt, and the additional possible cost of financial distress and resulting bankruptcy thus confirming the postulations of the trade-off theory. From the theoretical and empirical arguments of the trade-off theory, this study adopts the theory to anchor the debt capacity and help explain the extent to which it influences firm value.

2.3 Empirical Review of Literature

In this section, extant literature is reviewed and discussed along with the hypothesized relationships. This helps bring out the existing knowledge while revealing gaps in the literature that this study will seek to address and help in understanding how the variables influence firm value.

2.3.1 Cash Holdings and Firm Value

Nguyen et al. (2018) investigated the nonlinear relationship between firm value and corporate cash holdings of non-financial firms in Vietnam from 2008 to 2013. Data on stock prices and firm value was obtained from the Vietnamese securities market and the firms' financial statements. The study was undertaken on 273 firms resulting in a balanced panel of 1,638 firm-year observations. Firm value was measured by two indicators, Tobin's Q and Market to Book ratio. Tobin Q was measured as the sum of equity's market capitalisation and debt evaluated at its book value divided by total assets. The independent variable corporate cash holding was measured as cash and cash equivalents to total assets. The paper employed the generalized method of moments to estimate the model. The study concluded that there was a non-linear relationship between corporate cash holding thus supporting the trade-off theory about cash holding and firm value (Nguyen et al., 2018).

In an examination of the effect of cash holding on firm value of non financial firms in Kenya, Kibaya (2019) deduced that cash holding had a significant positive influence on the value of listed firm in Kenya. It was observed that increased cash holdings raised the value of the firms. Mwangi et al. (2014) examined a sample of 42 non-financial companies quoted on the NSE to determine the effect of capital structure on profitability of Non-Financial Companies between 2006 and 2012. Using Feasible Generalized Least Square (FGLS) regression

showed a positive significant relationship between ROA and ROE resulting from an aggressive financing policy was established. However the study did not examine the effect of cash holding on the value of listed firms.

Asante-Darko et al. (2018) examined the association between cash holdings and the firm value of firms listed on Ghana stock exchange for the period 2010 to 2014. The study had agency and free cash flow as the anchoring theories and employed pooled data and seemingly unrelated regression with panel data methodology. Tobin's Q proxied firms' value, the dependent variable whereas cash holdings were adopted as the independent variable. As a measure of cash holdings of the company, the natural logarithm of year-end cash balances was adopted. Asante-Darko, et al. (2018) employed secondary panel data obtained from financial statements as well as information on the market capitalization of the targeted firms obtained from the Ghana Stock Exchange fact book and the company's annual reports covering the study period. To estimate the regression model, the study adopted the seemingly unrelated regression method. Findings of the study indicated that cash holdings of the firm negatively affected the firm value and this was statistically significant. The study recommendation was that management might engage in non-value-adding activities resulting in cash reserves pilling up. To address the situation the study suggested the use of cash management models to reduce the cost of cash holdings to maximise firm value.

Dimitropoulos et al. (2020) empirically investigated the impact of cash holdings on the financial performance of firms in Greece and considered the period 2003 to 2016. This study period corresponded with the Greece sovereign debt crisis. The study adopted the ratio of cash items and cash equivalents to total assets as the indicator for cash holdings as the independent variable. On the other hand, return on assets was used as the proxy for corporate performance. Further, the Altman Z-score for used for private firms to capture the likelihood of financial distress and thus reduced firm value. The study's theoretical discussions built on Titman's (1984) stakeholder theory of thought with respect to credit financing. Data on the firms' performance was collected from the Greek financial directory and individual firms' audited financial statements over the sample period. The study used an unbalanced sample consisting of 16,076 firm-year observations covering a large sample period of 14 years from 2003 to 2016 (Dimitropoulos et al., 2020). The coefficients were estimated using the panel fixed effect estimation method following a Breusch-Pagan Langrage multiplier test. The findings indicated that cash holdings significantly and positively influenced corporate

performance both in the pre and post-Greek debt crisis and hence firm value (Dimitropoulos et al, 2020).

Chang and Ma (2019) investigated the relationship between financial flexibility and firm value of 287 non-financial firms listed on the Shanghai and Shenzhen Stock Exchange in China. The study adopted an analytical hierarchy process on data that was collected from the Chinese financial database during the period 2010 to 2012. The independent variable, financial flexibility was indicated by cash holdings which were computed as the ratio of cash and cash equivalents to total assets. Return on Assets proxied firm value. The study used a modified index of financial flexibility to fit the eastern capital market context as a result of exclusives regulations in financial reporting that involved certain weights and factors (Chang & Ma, 2019) . Based on the findings of the study, financially flexible firms were found to experience good financial performance (Chang & Ma, 2019).

2.3.2 Debt Capacity and Firm Value

Mafrolla and D'Amico (2017) empirically investigated the influence of borrowing capacity on earning management in private firms. The study tested its hypothesis on a sample of 465 small firms in Italy, Portugal and Spain. Panel data over the period 2002 to 2012 was analysed using the generalized method of moments. The study found that the borrowing capacity was not significantly related to earnings capacity (Mafrolla & D'Amico, 2017).

Attia, (2019) sought to investigate the effect of borrowing capacity on real earnings management of government-owned firms in Tunisia. The focus of the study was on 210 non-financial firms over the period 2001 to 2014. The trade-off theory was the main anchor of the study. Borrowing capacity was measured by two independent variables; the ratio of liabilities to lagged total assets and the ratio of total finance expenses to total debt. Abnormal discretional expenses and abnormal production costs were used as a measure of real earnings management. The research was conducted using a longitudinal survey and applied a simultaneous equation analysis on secondary data obtained from the Tunisia stock exchange. The findings of the study indicated that government-owned firms had a higher borrowing capacity and that borrowing capacity positively and in a statistically significant manner influenced the real earnings management of the Tunisian firms (Attia, 2019)

Wambua (2019) established a significant negative relationship between debt financing and ROA and concluded that an increase in debt financing lowers the ROA, and it was deduced that an increase in debt financing affects firms by lowering the financial

performance of listed firms. Ng'ang'a (2017) examined the effect of debt financing on schools performance in financial terms of privatized secondary schools in Kajiado County. Using secondary data for the the period 2014-2016, it was established that debt financing had positive and insignificant effect on financial performance. Kirimi et al (2017) carried out a research on effect of debt finance on financial performance. A causal research design was used on a populationmtarget of ten saccos with secondary nature data being collected from the saccos financial statements over an 8 year period. The study outcomes exhibited a positive strong relationship between ROE and debt.

Pan et al. (2019) tested the moderating influence of spare debt capacity on the relationship between managerial over-confidence and premium on mergers and acquisitions on firms listed on the Chinese stock exchange in the period between 2008 to 2015. The study took into account six indicators of debt capacity; debt-assets ratio, current ratio, quick ratio, cash ratio, tangible assets, and the ratio of net cashflows from operating activities to fixed charge debt to construct a comprehensive score of debt capacity. The study used the random effect model to investigate the hypothesised relationship. Findings of the study showed that debt capacity strengthened the relationship between managerial overconfidence and the premium in acquisition activities (Pan et al., 2019).

Bhat et al., (2020) investigated how debt capacity influenced financing decisions of Chinese listed non-financial firms. The study focus was on 2,774 firms that were listed on Shenzhen and Shanghai stock exchanges over the period 2007 to 2017. Debt capacity measured as the ratio of fixed assets to total capital employed was deployed as the independent ratio whereas Tobin's Q was taken as the proxy for financing decisions. The researchers' findings indicated that a firm debt capacity had a statistically significant effect on the financing decisions of the Chinese firms (Bhat et al., 2020).

Tripathy and Uzma (2021) empirically investigated the effect of debt diversification on the firm value of manufacturing listed on the National Stock exchange of India. The independent variable, debt heterogeneity was measured as the percentage of total assets financed by debt. Tobin's Q was adopted as the proxy for the dependent variable, firm value, and measured as the quotient of market value and replacement cost of assets. The study employed the dynamic panel model and targeted 233 listed manufacturing firms in India. The study covered the period 2010 to 2019 resulting in a balanced data set with 2,330 firm-year observations. In carrying out the statistical analysis, the study used the Stata 11 package. Tripathy and Uzma,

(2021) study findings indicated that debt diversification had a negative and significant influence on the firm value of public manufacturing companies in India. The study, however, was limited in scope as it only considered Indian manufacturing firms and it is would be prudent to investigate the impact of debt capacity under different institutional settings.

Das, Chowdhury and Islam (2022) investigated the effect of leverage on the performance of listed non-financial companies in Bangladesh. The study employed the generalized methods of moments in analysing the variables. The panel data used in the study was obtained from a sample of 165 listed non-financial firms in Bangladesh for the period between 2007 and 2016. The dependent variable performance was taken as the ratio of net income to total equity. The independent variable, leverage was operationalised as the ratio of long-term liabilities to total assets. Results of the study indicated that leverage had a negative impact on the performance of listed non-financial firms. The study, however, was confined to listed non-financial firms in Bangladesh and it is not clear if the findings can be generalised to the Kenyan contest.

2.3.3 Financing Cost Restrictions and Firm Value

Madrid-Guijarro et al. (2016) examined financial constraints and their impacts on innovations of small and medium enterprises in Spain. The study which was carried out in 2013 had a target population of 1,962 small and medium enterprises out of which a stratified random sampling technique was used to pick 267 firms. The study used primary data which was obtained from each small and medium enterprise chief executive officer with help of a structured questionnaire. Ordinary least squares regression was used to evaluate the relationship between financial constraints and small and medium enterprises' innovation. The findings of the study indicated a negative and statistically significant association between financial constraints and innovation which impacted the firm's ability to remain financially viable over time (Madrid-Guijarro et al., 2016).

Kirui and Gor (2018) studied the effects of financial constraints on firm capital structure and established that pecking order hypothesis is rejected for all specification and for both constrained and unconstrained firms. When non-linearities in debt capacity constraints is omitted and judging by the sizes (Note 8) of the pecking order tests statistics, pecking order prediction is stronger for financially unconstrained firms than for financially constrained firms. The more severe financial constraints are the wider the wedge between the cost of debt and the opportunity cost of internal funds. Kulati (2014) revealed that firm size and capital structure does affect the value of a firm positively. The study suggets that

since the cost of obtaining and using short term debt is lower than in the case of long term loans, firm should utilize more of short term loans with a relative low interest rate. This will lead to increased profit levels and a positive effect of the firm value.

Ayalew and Xianzhi (2019) investigated the influence of financing cost restrictions on firm innovativeness from the context of eleven states in Africa. The targeted countries included Kenya, Congo, Zambia, Ghana, Uganda, Namibia, South Sudan, Nigeria and Sudan. In the study, a recursive bivariate probit model was employed to investigate the relationship between the variables. In the study, both primary data, obtained from five thousand firms across the targeted nations, and secondary data, sourced from the world bank indicators were employed. Innovation, the dependent was proxied by output and input indicators of innovation. The study used direct measures, as opposed to the more often applied indirect proxies such as primordial tests the Tobin's Q measure, the ratio of cashflow sensitivity to investment as well as Euler's equation test proxies for the independent variable, financial costs constraints. Ayalew and Xianzhi (2019) justified using more direct measures since they were premised on companies' financial health and the requirements for raising finance from external sources. The results of the study revealed that a firm's ability to engage in innovative activities and thus its ability to improve on its value was negatively impacted by financing cost constraints (Ayalew & Xianzhi, 2019).

Dhole et al. (2019) examined the relationship between financial constraints and firm value for a sample of Australian firms. The study also examined the role of working capital management in downgrading those chances of future financial constraints and signalling higher firm value. The study used text-based measures of financial constraints by focusing specifically on the language used by financially constrained firms in their annual reports. The percentage of financially constraining words in the Australian annual reports was taken as the measure of financial constraints (Dhole et al., 2019). The empirical analysis was from a sample that had 4,422 firm-year observations relating to the period 2000 to 2016. The targeted firms were listed on the Australia Stock Exchange during the study period. Secondary data collected from the financial reports of each firm was employed in the study. Findings of the study indicated that efficient working capital management was associated with lower financial constraints in the sampled firms. In addition, research findings indicated a negative association between financial constraints and future share price (Dhole et al., 2019).

On their part, Chang and Ma (2019) empirically evaluated the effect financial flexibility had on organisations using 287 non-financial firms listed on Shanghai Stock Exchange and Shenzhen Stock Exchange for the period 2010 to 2012. The study proxied the independent variable, financial flexibility with financial safety which was indicated by Altman's Z-score model. The dependent variable firm performance was indicated by return on assets. Findings of the study revealed that financial flexible firms experienced better firm performance (Chang & Ma, 2019).

2.3.4 Firm Size and Firm Value

Hooshyar and Mohammadi (2019) investigated factors affecting financial flexibility based on panel data in firms listed on Tehran Stock Exchange during the years 2009 to 2014. The study used a sample of 106 firms listed companies on the Stock Exchange of Tehran resulting in 630 observations. The study dependent variable, financial flexibility was indicated by a ratio of operating cash flows to the total assets. Firm size, the independent variable was proxied by the logarithm of total assets. Estimation results showed that the firm size variable has a negative and significant impact on financial flexibility (Hooshyar & Mohammadi, 2019).

Nyamasege (2021) investigates the relationship between leverage and the financial performance of listed firm in Kenya, using annual data for the period 2002 – 2011. Using various panel procedures, the study finds reasonably strong evidence that leverage significantly, and negatively, affects the profitability of listed firms in Kenya. However, leverage has no effect on Tobin's Q, the proxy for firm value in the study. Abraham et al. (2017) conducted a study to examine the effect of tax advantage on financing structure of non listed manufacturing companies operating in Kenya. The study established that higher tax incentives cause a rise in borrowing tendencies by the firms. Secondly, the study opined that high tax incentives imply higher benefits obtained from interest on debt

Mahemood et al. (2018) examined the moderating role of firm size in the relationship between corporate financial flexibility and financial performance of non-financial firms listed in the Pakistan securities market between the periods 1991 to 2018. The study adopted financial flexibility as the dependent variable whereas financial performance was taken as the dependent variable. Firm size, measured as the natural log of total assets was adopted as the moderating variable. The study utilized the fixed effect model with unbalanced panel data. The study sampled 193 firms and used panel data collected from the companies annual reports. Findings of the study indicated that financial flexibility had a significant and positive

influence on firm performance. Further, firm size was found to have a positive moderating role in the relationship between corporate financial flexibility and firm value. This study was however undertaken in Pakistan and it is unclear if the findings can be generalised to firms in Kenya.

Mahmood et al. (2019) evaluated the moderating effects of firm size on the working capital finance flexibility and profitability relationship among Chinese companies during 2000–2017. The study's dependent variable, return on equity, the proxy for profitability was measured by the ratio of net profit to equity and working capital finance was the independent variable. The control variable firm size was measured as the log of total assets. The study used panel data and conducted analyses using the generalized method of moments to handle numerous data problems including endogeneity and heterogeneity. The findings of the study showed that the moderating role of firm size was shown to be highly significant. The results of this study confirm a strong moderating role of firm size in the working capital finance flexibility - profitability relationship (Mahmood et al., 2019).

Bilyay-Erdogan (2020) investigated the effect of financial flexibility on the firms' value of 4,334 firms in Europe from the years 2000 to 2016. Further, the study examined the moderating role of firm size on the relationship. Leverage computed as the ratio of total debt to assets and cash ratio, measured as the quotient of cash holdings to total assets were used as the proxies for financial flexibility, the independent variable. The natural logarithm of total assets was the indicator for the moderator, firm size. Bilyay-Erdogan (2020) used Tobin's Q ratio as the proxy for firm value which was taken as the dependent variable. The study employed the generalized methods of moments to examine the relationship. Unbalanced panel data was obtained from the annual reports of all firms. The results of the study indicated that financial flexibility made a positive and significant firm value. In addition, firm size was found to negatively moderate the relationship between financial flexibility and firm value. However, the study captured only public quoted firms in Europe and it would be difficult to port and generalize the findings in Kenya.

2.4 Summary of Empirical Review

The review of extant literature reveals that a relationship exists between financial flexibility and corporate value. For instance, Nguyen et al. (2018) study indicated a non-linear relationship between corporate cash holding thus supporting the trade-off theory about cash

holding and firm value of non-financial firms in Vietnam. Asante-Darko et al. (2018) found an insignificant negative association between cash holdings and firm value in companies that were listed on the Ghana stock exchange. However, Dimitropoulos et al. (2020) findings indicated that cash holdings significantly and positively influenced corporate performance both in the pre and post-Greek debt crisis.

Mafrolla and D'Amico (2017) in a study that was carried out in small firms in Italy, Portugal and Spain found out that the borrowing capacity was not significantly related to earnings capacity. However, Attia (2019) found borrowing capacity positively and statistical association with the real earning management of firms in Tunisia. On the other hand, Pan, Liu and Wang's (2019) study showed that debt capacity strengthened the relationship between managerial overconfidence and the premium in the acquisition activities. A China study by Bhat et al., (2020) indicated that a firm's debt capacity significantly influenced the financing decisions of the companies in the country.

Madrid-Guijarro et al. (2016) findings indicated a negative and statistically significant association between financial constraints and innovation which impacted the firm's ability to remain financially viable over time. Small and Medium Enterprises (SMEs) in Spain. Similarly, Ayalew and Xianzhi (2019) found that financial constraints adversely affected African firms' ability to engage in innovative activities. Dhole, Mishra and Pal (2019) found a negative association between financial constraints and the future share price of quoted Australian firms during the period 2000 to 2016. On the relationship between firm size and financial flexibility, Hooshyar and Mohammadi (2019) found firm size had a significant but negative influence on the financial flexibility of firms listed on the Tehran Stock Exchange. However, in Pakistan Stock Exchange, (Mahemood et al. (2018) found that when firm size was used as a control variable, a positive but insignificant impact on corporate financial flexibility existed.

From the foregoing, there are conceptual, methodological and contextual research gaps that this study seeks to address. Conceptual there is no consensus on the role of financial flexibility on firm value as the studies are inconclusive. While some argue that financial flexibility is related to firm value (Dimitropoulos et al., 2020; Nguyen et al., 2018), others hold that financial flexibility is unrelated to firm value (Asante-Darko et al., 2018). Most of the studies were carried out in developed nations and findings may not be generalized to a Kenyan situation. For instance, Ferrando et al. (2017) focused on the European countries,

while Chang and Ma's (2019) focus was on Chinese firms. This creates the need to investigate the influence of financial flexibility on the firm value of Kenyan firms.

2.5 Conceptual Framework

To demonstrate the conceptual relation between the independent variable, which in this study is financial flexibility and firm value, and the dependent variable a conceptual framework was schematised in figure 2.1. The framework has been distilled from the review of extant literature in the previous sections.

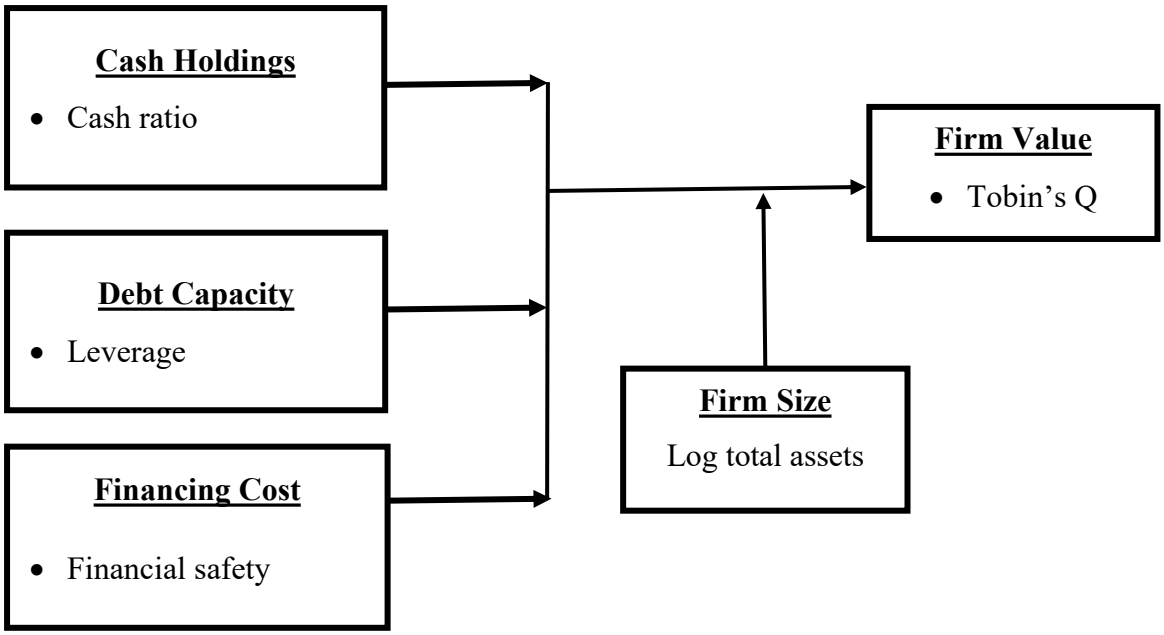

Figure 2.1 Conceptual Framework

2.6 Operationalisation of Study Variables

Operationalizing study variables allows the researcher to measure the study variables and allow the testing of the hypothesised relationships. This study operationalised the variables based on the objectives of the study. Table 4.1 presents the variables' operationalisation.

Table 2.1 Operationalisation of Study Variables

Study Variables	Operationalisation
Cash Holdings	Cash ratio = $\frac{\text{Cash and Cash Equivalents}}{\text{Total Assets}}$
Debt Capacity	Leverage = $\frac{\text{Total Debt}}{\text{Total Assets}}$
Financing Cost Restrictions	Financial safety computed by Z score
Firm Size (Moderator Variable)	The natural logarithm of total assets
Firm Value (Dependent)	Tobin's Q = $\frac{\text{The market capitalisation of Equity+Debt at book value}}{\text{total assets}}$

The operationalization of study variables presented in Table 2.1 is guided by literature. Financial flexibility was operationalised along the indicators proposed by Howton, Howton, and Scheick, (2018); Chang and Ma, (2019) as well as Galpin, (2020). They classify financial flexibility as Cash holdings, debt capacity and financial cost restriction.

Cash holdings are operationalized as cash ratio measured by the quotient of cash and cash equivalents and total assets in line with suggestions made by Chang and Ma (2019), Dimitropoulos et al. (2020); and Galpin (2020). Debt capacity is also an indicator of financial flexibility. In this study, debt capacity is disaggregated into the quotient of total non-current assets and total capital employed Dieter and Philipp (2014); Howton et al. (2018); Mahmood et al. (2019). The financing cost restrictions are operationalised by financial safety measured by the Z score in line with the propositions put forward (Estwick, 2016; Howton et al., 2018).

Firm size was adopted as a moderating variable and through empirical and theoretical exploitation, firm size is measured as the natural logarithm of total assets of each of the firms. This is in line with Mahmood et al. (2019) and Hooshyar and Mohammadi (2019).

The dependent variable is firm value. Analysis of literature indicates various measures of firm value. For instance, Mule et al. (2015) use book value while Asante-Darko et al. (2018) use market value measures. In line with Nguyen et al. (2018) and Asante-Darko et al. (2018), this study adopts Tobin'Q measured as the sum of the market capitalisation of equity, plus book value of debt, dividend by total assets. TQ, as a measure of organization performance and is based on the fact that, being a market-based measure of performance, it is also future-oriented, and therefore reflects the present value of future cash flows based on current and future information (Wahla et al., 2012). Despite its robustness as a measure, technically, a larger ratio of gross profits to capital signals declining operating efficiency since the firm is operating below its optimal scale. As a result, Tobin's Q is an ineffective indicator of a firm's success (Giroud and Mueller, 2010). The estimation of capital using the book value of total assets as a proxy also illustrates how unreliable Tobin's Q is as a predictor of company performance (property, plant and equipment, PPE). Tobin's Q is an unsuitable gauge of operating efficiency since total assets also include some intangible assets that are difficult to evaluate, such as goodwill, brand loyalty etc. which are difficult to estimate, thus, once again rendering Tobin's Q an inappropriate measure of operating efficiency. To mitigate against this weakness, Ishaq (2021) proposes the substitution of capital with sales in the denominator.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods employed while undertaking the study. In the chapter, the plan of the research, research design, is first presented. In what follows is the target population after which the sampling design is presented. Data collection procedures and methods of analysing data are also presented. Finally, the study discusses the various diagnostic tests to be carried out.

3.2 Research Design

Research design is a plan that allows the researcher to select the types and sources of information allowing for the objectives of the study to be met (Saunders & Tossey, 2015). According to Cooper and Schindler (2014) research design helps develop a structure for specifying the relationships among the variables. This study adopted the descriptive longitudinal research design. Alternatively referred to as panel data surveys, longitudinal studies are carried out over a long time (Saunders & Tossey, 2015). In longitudinal surveys, a researcher repeatedly examines the same variable to detect if any changes might occur over a long time (Gujarati & Sangeetha, 2013). This design is considered appropriate for this study as it shall help identify the trends and associations between financial flexibility and firm value as this can only be identified if the variables are studied over a long period.

3.3 Population

This research targets the quoted non-financial firms at the NSE. As of 31st December 2020, 37 such firms were listed in the securities market. These firms are indicated in Appendix 1. Listed firms were chosen to form the population of the study since such firms raise finances from the public and firm value is critical to shareholders' wealth maximization. This study did not consider sampling and adopted the census approach, which is considered appropriate, as the targeted population is 37 firms. This is in line with Cooper and Schindler's (2014) assertion that when the population is small, there is no need of resulting to a sample. In addition, when the census approach is adopted, data validity is enhanced as all cases are included in the study (Cooper & Schindler, 2014). The initial data set consisted of 37 firms. However, some firms were financially distressed and had not traded or had been suspended from trading. Such firms did not form part of the sample. The final sample had 31 non-financial firms that were listed at the NSE as of December 31, 2020. The sample

observations consisted of 9 years between 2011 and 2019, but observations for some companies were less than 9 years because of their late admission to the bourse and data unavailability. As a result, the study had unbalanced panel data with 272 firm-year observations. As the Covid-19 pandemic may have impacted firm value since the first case was reported in Kenya in the first quarter of 2020, this study has kept the sample years up until 2019. This makes the study period unbiased and free from bias as the sample period is not characterised by an unfavourable economic environment occasioned by the pandemic.

3.4 Data Collection Procedure

Before actual data collection, the researcher first obtained clearance to proceed to data collection and thereafter obtain a research permit from the body that regularizes research in the country, NACOSTI – The National Commission for Science, Technology and Innovation. Once the requisite authorisation and permits are obtained, the research shall embark on actual data collection. This study employed secondary panel data from the 31 targeted firms. This information was gathered in a document review guide, Appendix 2 and compiled for relevant analysis in line with the objectives. To compute the ratio in line with operationalisation, the study used the MS excel program.

Panel data is considered appropriate due to its ability to control for individual heterogeneity (Gujarati & Sangeetha, 2013). The data was extracted from audited financial statements of each of the 31 targeted firms and covered the period 2011 to 2019. The period was chosen as it was the most recent. The period after 2019 would have been the most recent, nonetheless, the study did not consider the period. This is because, since early 2020, the world experienced the damaging effect of Covid-19. This led to the shutting down of many social and economic aspects globally. The impact of the novel virus on firm value was devastating(Bose, Shams, Ali, & Mihret, 2022). During this period, there were fluctuations in the market prices of the shares, some firms had poor performance, yet others were deregistered from the exchange. Such firms were excluded from further analysis.

3.5 Data Analysis

The secondary panel data collected from the audited financial statements were used to extract the various ratios identified in Table 2.1, operationalisation of variables. The ratios identified were analysed quantitatively using regression equations that were solved with the help of the STATA statistical package. To summarise the status of cash holdings, debt capacity,

financing cost restrictions, firm size and firm value, the study employed descriptive statistics, correlational analysis as well as inferential statistics. The analyzed data is presented in the form of tabulations, percentages, mean and standard deviation.

This study employed panel data regression analysis. However, to determine whether to use a fixed-effects model or a random-effect model, the study deployed the Hausman specification test. Equation (1) presents the unmoderated model and equation (2) shall apply for the moderated relationship.

$FirVal_{it} = \beta_0 + \beta_1 * Cash_{it} + \beta_2 * DebtCap_{it} + \beta_3 * FinCost_{it} + \varepsilon$...equ (1)

The study will adopt the Shaver (2005) method of testing for moderating effect. Introducing firm size as a moderating variable, the moderated equation shall take the form of equation (2) below.

$FirVal_{it} = \beta_0 + \beta_1 * Cash_{it} + \beta_2 * DebtCap_{it} + \beta_3 * FinCost_{it} + \beta_4(Size_{it} * FinFlex_{it}) + \varepsilon$...equ (2)

Where: FirVal = Firm Value; Cash = Cash Holdings; DebtCap = Debt Capacity; FinCost = Financing Cost Restrictions; FinFlex = Financial Flexibility; Size = Firm Size; β_1, β_2, β_3,= Regression Coefficients for each independent variable, β_4 = Regression Coefficients for the meoderating variable and ε = error term.

Once the regression analysis has been done, it will yield several statistics among them; R – square, the F- statistics and p-values. Table 3.1 Summarises the interpretation of the statistics.

Table 3.1 Interpretation of Results of the Regression Model

Statistics	Purpose	Interpretation
R $-1 \leq R \leq 1$	To quantify the strength of the relationship	If R is close to +1 then a strong positive relationship exists. If R is close to -1, then a strong negative relationship
R^2 $0 \leq R^2 \leq 1$	Goodness of fit	The higher the R square, the better the fit.
F statistic	To check if the model is statistically significant	The higher the F the more the model is significant.

p-value	To test the statisticall significance of the variable	p-value less than 0.05 indicates the variable is statistically significant

3.6 Diagnostic Tests

This study employed several diagnostic tests to rule out violations of the assumptions of the classical linear regression model. Estimating a model while the assumptions are violated would result in spurious results (Gujarati & Sangeetha, 2013). Therefore, this study conducted, in addition to the Hausman specification tests to ensure proper model specification, normality, multicollinearity, autocorrelation and heteroscedasticity tests.

3.6.1 Model Specification

The use of panel regression model requires the researcher to determine if to adopt a random or a fixed-effect model. This study employed the Hausman specification tests to determine between the two. The decision to employ either random or fixed effects model in the study was made after, running the Hausman test whose hypothesis (null) is that the preferred model for purpose of data analyses can be random effect viz-a-vis alternative model's with fixed effects. Random effects postulates interference term not having correlation with the predictor variables that permits for time-invariant variables to play the purpose of the control variables. In short, they permit general inferences outside the sample utilized in the model. In addition, Cooper and Schindler (2013) assert that for fixed effects models they are planned to study the origin of the changes inside an entity. The Hausman test was to test whether the unique disturbances (μ_{it}) had correlation with the regressors with null hypothesis being no correlation between the two. The test was carried out using Durbin–Wu–Hausman. When the *p*-value is less than 0.05, the null hypothesis was rejected (Khan, 2018).

3.6.2 Normality Test

The normality tests help determine whether the analytical data is normally distributed and if any variable, random or otherwise primary to the data is also normally distributed (Gujarati & Sangeetha, 2013). Data that is not normally distributed can distort relationships and significance tests and hence statistical inference (Madrid-Guijarro et al., 2016). Additionally,

when the normality assumption is violated, interpretations and inferences may not be reliable or valid. This study used the Jarque-Bera normality tests. The test was favoured over the graphical method as it is deemed suitable for sample sizes of less than 2,000 as in this case. The data is considered to be normally distributed if the significance value is less than 0.05.

3.6.3 Multicollinearity Test

Multicollinearity is an important assumption for any regression model. Multicollinearity is a situation where there is intercorrelation among the explanatory variables (Greene, 2012). To check for multicollinearity in the independent variables, this study used the Variance Inflation Factor (VIF) as it is the commonly used test of multicollinearity of independent variables in the regression model. If the variance inflation factors of variables are less than 5, the results indicate the absence of multicollinearity. However, values greater than the tolerance level of 5 indicate serious multicollinearity of independent variables and this may seriously affect the ordinary least square estimates.

3.6.4 Heteroscedasticity Test

Homoscedastic, implying the error term has a constant variance, is an equally important assumption of the classical linear regressions (Greene, 2012). If the assumption is violated, that is the variance of the error term is not statistic, then a problem of heteroscedasticity arises. When heteroscedasticity is present, the error term varies with the independent variable. Under the conditions of heteroscedasticity, the ordinary least square estimator becomes inefficient. To determine if the error term is homoscedastic, this study adopted the Breusch Pagan/Cook-Weisberg test. For data to be considered homoscedastic, the computed p-value is greater than 0.05. However, a p-value less than 0.05 would indicate that the error term does not have constant variance and therefore heteroscedastic.

3.6.5 Autocorrelation Test

To establish if residuals were correlated across time, this study will use the Wooldridge test due to its fewer assumptions. The null hypothesis is that no auto-correlation exists and will be accepted if the computed p-value is greater than 0.05. However, the null will be rejected, to indicate the presence of autocorrelation if the computed p-value is less than 0.05. Table 3.2 presents a summary of the diagnostic tests.

Table 3.2 Diagnostic Tests

Diagnosis	Test	Interpretation
Model specification	Hausman specification test	If P < 0.05 use Random Effect Model If P > 0.05 use Fixed Effects Model
Normality	Jarque-Bera	If P < 0.05 data is normal If P > 0.05 data deviates from normal
Multicollinearity	Variance Inflation Factor	If 1 < VIF > 5 no multicollinearity If 1>VIF< 5 multicollinearity
Heteroscedasticity	Breusch Pagan	If P< 0.05 heteroscedastic If P>0.05 homoscedastic
Autocorrelation	Woolridge test	If P < 0.05 no autocorrelation If P > 0.05 No autocorrelation

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

The main objective of this study was to investigate the effect of financial flexibility on the firm value of non-financial firms listed on the Nairobi Securities Exchange. To achieve this, four specific objectives and corresponding hypotheses were formulated. This chapter presents descriptive statistics, results of the diagnostic tests, and inferential statistics together with results of the hypotheses tests.

4.2 Descriptive Statistics

Descriptive statistics were utilized to summarise the qualitative data collected. In particular, mean, standard deviation, maximum and minimum values were utilized to describe the characteristics of the dependent, independent and moderating variables of the study. Table 4.1 presents the descriptive statistics derived from the data that the study collected.

Table 4.1 Summary of Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
Firm Value (Tobin's Q)	272	1.653	1.506	0.105	8.160
Cash Holdings	272	0.048	0.129	-0.601	0.371
Debt Capacity	272	0.554	0.425	0.112	3.196
Financing Cost Restriction	272	3.628	3.256	-2.018	19.531
Firm Size	272	16.277	2.088	12.161	22.235

Table 4.1 presents the descriptive statistics for firm value which is the dependent variable admission by Tobin's Q ratio. From the findings, the mean for firm value was 1.653 with a standard deviation of 1.506. This suggests that non-financial firms listed on the NSE, on average, had their market values exceeding the average. In other words, the market values of the firms were approximately 1.65 times their book values. Other firms, however, showed larger market valuations of approximately 8 times the book value as indicated by the maximum value of 8.160. However, other companies exceed their book values by 10 per cent. Further, the results of standard deviations suggest that the variations in firm value were not overly dispersed.

The results presented in Table 4.1 also present the descriptive statistics for cash holdings. In this case, cash holding was proxied by cash ratio measured as the quotient of cash and total assets. From the findings, the average cash holdings were 0.048 with a standard deviation of 0.129. This suggests that the average cash holding for publicly listed non-financial companies was 4.8 per cent of total assets. However, the standard deviation suggests a moderately large variability of cash ratio among the firms. This large variability in cash holdings can be attributed to the wide variation between maximum values and minimum values. At a minimum, cash holdings were -0.601 and a maximum value of 0.371.

Debt capacity was determined from the panel data that the study collected and proxied by the leverage ratio measured as total debt divided by total assets. The summary statistics presented in Table 4.1 shows that on average, non-financial firms listed at the NSE, on average have a greater proportion of their total assets financed by total debt. The mean value of 0.554 suggests that, on average, listed non-financial firms were financed through debt. Findings further show a standard deviation of 0.425 which suggests that variations of debt capacity are not overly dispersed. The minimum value of 0.112 concerning debt capacity suggests that some firms financed only 11.2 per cent of their assets using debt, while the maximum value reveals that some firms financed their assets by up to 3.2 times the value of their debt.

In addition, Table 4.1 presents the descriptive statistics regarding financing cost restrictions. Financing cost restrictions are proxied by the financial safety score indicated by the Altman Z-Score. From the finding, the average for financial safety is 3.628. As the Z-score value is above 2.9, non-financial firms listed on the NSE are deemed safe. The standard deviation value of 3.256 suggests variations in financial safety are not widely dispersed. However, the minimum value of -2.018, which is below the required threshold of 1.23 suggests that some firms face a high likelihood of financial distress. The maximum value of 19.531 in respect of financial safety indicates that some non-financial companies listed on the NSE are viable.

Finally, the descriptive statistics presented in Table 4.1 indicates that non-financial firms used in the study differed in size. The size of the firm was measured as the natural logarithm of total assets. Whereas on average some firms had total assets, in antilog of 16.277, some firms recorded a minimum size of 12.167 and a maximum size of 22.235. There is variation among forms in terms of this variable though this is minimal as evidenced by a standard deviation of 2.088.

4.3 Diagnostic Tests

To validate the credibility of secondary data collected and the panel regression model adopted for data analysis, the study carried out diagnostic and model specification tests. The

diagnostic tests done were the normality test, multicollinearity test, heteroscedasticity test and the autocorrelation test. Hausman specification test was carried out to determine which regression model to adopt between REM and FEM. The results of the tests are detailed in the subsections that follow.

4.3.1 Test for Normality

To ascertain if the residuals were normally distributed, a normality test was carried out. This study favoured the Jarque-Bera test over the graphical method due to its conclusiveness. The null hypothesis for the Jarque-Bera tests is that the residuals are normally distributed. The null hypothesis should not be rejected if the p-value is less than the critical value of 0.05. Table 4.2 presents the results of the normality test.

Table 4.2 Jarque-Bera Test for Normality

Variable	Observations	Chi-Square	p-value
Residuals	272	31.70	0.000

The null hypothesis cannot be ruled out when the p-value is less than the Chi-sqaure value. As a result, residuals have a normal distribution. According to Table 4.2, the Chi-sqaure value was 31.70, which is higher than 0.05. Because of this, the null hypothesis was not rejected and it meant the residuals were normally distributed.

4.3.2 Multicollinearity Test

A multicollinearity test was undertaken to determine the correlation between the variables. It was essential to determine if multicollinearity was present or not as its presence limits the explanatory power of the model. The multicollinearity tests adopted by the study were the Variance Inflation Factor (VIF) and the tolerance level. Table 4.3 presents the results.

Table 4.3 Test for Multicollinearity

Variable	**VIF**	**Tolerance = $1/VIF$**
Cash holdings	1.29	0.775274
Debt capacity	1.28	0.779273
Financing cost restrictions	1.12	0.890825
Firm Size	1.06	0.946594
Mean VIF	**1.19**	

Table 4.3 presents the results of the multicollinearity tests. All the independent variables had VIF values of less than 5. This indicated a lack of significant presence of harmful collinearity amongst the study variables.

4.3.4 Heteroscedastic Test

In classical linear regression model assume that error terms have a constant variance, that is homoscedastic. If this assumption is violated and the variability of the error terms is not constant, the error terms are said to be heteroscedastic. In such instances, regression gives spurious results. To determine if the error term were homoscedastic, this study adopted the Breusch Pagan/Cook-Weisberg test. The null hypothesis for the test is that error terms are homoscedastic. This is accepted if the p-value is greater than 0.05. Table 4.4 presents the results of the test.

Table 4.4 Test for Heteroscedasticity

Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity	
Variables: Fitted values of Tobin's Q	
Chi^2 (1)	10.48
Prob > chi^2	0.0012

The results presented in Table 4.4 reveals a p-value of 0.0000. As this was less than the p-critical the study rejected the null hypothesis that error terms had constant variance. As a result, the study concluded there was significant heteroscedasticity of error terms.

4.3.5 Autocorrelation Test

To detect if there is correlation among error terms, an autocorrelation test is run. The problem of autocorrelation in pooled data results in biased standard errors. This study has adopted the Wooldridge test for autocorrelation. The study favours this test as it has few assumptions and it is easy to execute. The null hypothesis for the test is that there is no first-order autocorrelation. The null is accepted if the p-value exceeds the critical value of 0.05. The results of the test are presented in Table 4.5.

Table 4.5 Results of Autocorrelation Test

Wooldridge test for autocorrelation in panel data	
F (1, 30)	14.693
Probability > F	0.0006

The results of the Wooldridge test for autocorrelation in panel data presented in Table 4.5 indicated that the p-value is 0.0006. This is less than the critical value of 0.05. As a result, the null hypothesis that there is no autocorrelation is rejected. This suggests that the panel data suffer from autocorrelation problems.

Noting that the assumptions of homoscedasticity and autocorrelation have been violated, pooled OLS model cannot be adopted as this would lead to wrong conclusions due to compromised standard errors giving rise to spurious t and p-values. Though with the violation of the autocorrelation and constant variance assumption, the parameters are still linear and unbiased, there is a need for the model to be corrected by obtaining robust estimates of the standard errors. Such robust models are either the REM or FEM.

4.3.6 Hausman Specification Test

In the event assumptions of constant variance and autocorrelation are desecrated in panel models are violated, the use of robust estimates, other than pooled OLS is preferred. The alternatives, in this case, are either the random effect model or the fixed effect model. The Hausman specification test was carried out to determine between REM and FEM. The decision was made based on the null hypothesis that the unobserved effect was correlated with an independent variable, predicting random effects. The alternative hypotheses were that the unobserved effect was correlated with the independent variable, predicting fixed effects. The null hypothesis was to be accepted if the p-value was greater than 0.05. Table 4.6 presents the results of the Hausman test.

Table 4.6 Hausman Specification Test Results

Model	Chi^2	Chi^2 degrees of freedom	p-value
1	2.66	4	0.6155

The Hausman test results for this study presented in Table 4.6 indicated that the regression model follows the random effect model because its computed p-value of 0.6155 is greater than the critical p-value of 0.05. Unlike the fixed effects model, the variation across entities in random effect model is assumed to be random and uncorrelated with the predictor or independent variables included in the model.

The random effect model adopted was :

$Y_{it} = \sum_{i=1}^{3} \beta 1 Xit + \alpha + u_{it} + \varepsilon_{it}$……(iii)

U_{it}=Between-entity error

Eit=Within-entity error

4.4 Panel Correlation Analysis

The study undertook correlational analysis to determine the nature of the association between the variables. This also helped establish if the association was statistically significant. The results are presented in Table 4.7

Table 4.7 Correlational Matrix

	Tobin's Q	**Cash holdings**	**Debt capacity**	**Financing costs**	**Firm size**
Tobin's Q	1.000				
Cash holdings	-0.0515	1.0000			
Debt capacity	0.2892*	-0.4424*	1.0000		
Financing cost	0.6759*	0.2338*	-0.2319*	1.000	
Firm size	-0.0796	0.0374	0.0952	-0.1929*	1.0000

(*) represents a 5 per cent level of significance

The results presented in Table 4.7 correlation matrix reveal debt capacity and financing cost restrictions had positive and were significantly associated with firm value. Cash holdings and firm size were both found to have a negative and weak association with firm value.

4.5 Hypotheses Testing

This section presents the hypotheses test results as well as their interpretation of those results. The main objective of the current study was to examine the influence of financial flexibility on firm value of listed non-financial firms listed on the NSE in Kenya. To attain the objective, a quantitive research design was applied and random effect regression was used. Data was collected from the financial statements of each firm and is analysed using the STATA software.

The study utilized bi-variate, multi-variate and moderated multi-variate panel data regression analysis in determining the association among the hypothesised relationships. Bi-variate panel regression was utilised in examining the independent effects of each of the specific independent variables against the dependent variable. The results of the bivariate regression disclosed the strength, extent and significance of the hypothesised relationships. Muli-variate regression was used to examine the combined effects of independent variables and the dependent variable while the moderated panel regression was used to test for the moderating effects. The tests were carried out at a 95 per cent level of significance ($p<0.05$). The study extracted the R-squared values and the f-values.Decisions on whether to reject or fail to reject the null hypotheses were dependent on the computed p-values. Where the computed p-values were less than the critical p-value of 0.05, the study rejected the null hypothesis and the alternative was accepted. However, if the computed p-value was greater than 0.05, the study failed to reject the null hypothesis. The R-square value was used to explain the variations in the dependent variables that were explained by a change in the independent variable. The sign of the beta coefficients explained whether the independent variables had either a positive effect or a negative effect on the dependent variable. The findings of the study are presented in the subsections that follow the study objectives and the corresponding hypotheses.

4.5.1 Cash Holdings and Firm Value of Listed Non-Financial Firms in Kenya

The first objective of this study was to examine the influence of cash holdings on firm value. To establish this relationship, a corresponding null hypothesis was stated as **$H0_1$: Cash holdings do not have a statistically significant influence on firm value.** This was tested along with the operationalization measures identified in chapter two. The results of the test are presented in Table 4.8.

The results presented in Table 4.8 indicated that the p-value was 0.4926. This suggested that on its own, cash holdings' influence on firm value was negative though statistically not significant as the computed p-value was higher than the critical value of 0.05. Moreover, the R-squared value of 0.026 indicated that on its own, cash holdings were not able to explain the variations in firm value. In addition, the study findings revealed a statistically not significant model that was not robust enough to explain the results. This is evidenced by the p-value of -0.4926. This suggests that independently, cash holdings do not influence firm value. On the basis that the p-value was greater than 0.05, the study failed to reject the hypothesis with respect to cash holdings and thus concluded that cash holdings do not have a statistically significant association with the firm value of non-financial firms listed in the NSE. The

results are however contradictory to other previous studies. For instance, Dimitropoulos et al. (2020) and Nguyen et al. (2018) studies indicated that cash holdings had a positive and statistically significant association with firm value. Further, the findings of the study are in variance with Asante-Darko et al. (2018) whose findings were that cash holdings had a negative and significant influence on firm value. Nonetheless, the results in Kenya can be explained by Asante-Darko et al. (2018) who assert that when firms have cash holdings, they are likely to engage in non-value adding activities. Furthermore, Myers and Rajan (1998) while focusing on the darker side of liquidity argued that the more the liquid assets of the firm, the lesser the firm's ability to commit to a specific course of action.

Table 4.8 Cash Holdings and Firm Value

```
Random-effects GLS regression                   Number of obs      =       272
Group variable: FirmId                          Number of groups   =        31
R-sq:  within  = 0.0015                         Obs per group: min =         5
       between = 0.0073                                        avg =       8.8
       overall = 0.0026                                        max =        10
                                                Wald chi2(1)       =      0.47
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.4926
------------------------------------------------------------------------------
     tobinsq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
cashholdings |  -.3783628   .5513762    -0.69   0.493     -1.45904    .7023147
       _cons |   1.718913   .2625617     6.55   0.000     1.204301    2.233524
-------------+----------------------------------------------------------------
     sigma_u |  1.4359697
     sigma_e |   .7418236
         rho |  .78934277   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

4.5.2 Debt Capacity and Firm Value

The second objective was to establish the influence of debt capacity on firm value of non-financial firms listed on the NSE. The Debt capacity refers to the firm's borrowing capability and includes the ability of a firm to repay the debt within the specified duration (Bhat et al., 2020). To establish the influence of debt capacity on firm value, a hypothesis was formulated as **H02: Debt capacity has no significant effect on firm value of listed non-financial firms in Kenya** and tested. The results of the test of this hypothesis are presented in Table 4.9.

Table 4.9 Debt Capacity and Firm Value

```
Random-effects GLS regression                   Number of obs      =       272
Group variable: FirmId                          Number of groups   =        31
R-sq:  within  = 0.0418                         Obs per group: min =         5
       between = 0.1094                                        avg =       8.8
       overall = 0.0836                                        max =        10
                                                Wald chi2(1)       =     13.91
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0002
------------------------------------------------------------------------------
     tobinsq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
debtcapacity |   .9413976   .2523772     3.73   0.000     .4467472    1.436048
       _cons |   1.165645   .2862913     4.07   0.000     .6045244    1.726766
-------------+----------------------------------------------------------------
     sigma_u |  1.3585905
     sigma_e |  .72670365
         rho |  .77753668   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

The results show an R-squared value of 0.0836 which indicated that 8.36 per cent of the variation in the firm value of listed non-financial firms was explained by debt capacity. Moreover, the results presented in Table 4.9 further revealed a beta coefficient of 0.9414. This implies that a unit change in debt capacity would cause an increase of 0.9414 in firm value for listed non-financial firms in Kenya. In addition, the results revealed that the independent effect of debt capacity on firm value was statistically significant. This is confirmed by the p-value of 0.0000 which is less than the critical value of 0.05. On basis of these results, the study rejected the null hypothesis. Consequently, the alternative hypothesis that debt capacity has a significant effect on the firm value of public non-financial firms was accepted. These findings were depicted in the following equation.

$$FirVal = 1.1656 + 0.9414DebtCap$$

Where; FirVal = Firm Value and DebtCap = Debt capacity.

These results are also supported in the literature and concur with the findings of Attia (2019) a positive and significant association between borrowing capacity and firm value of government-owned entities in Tunisia. The results concur with the findings of Bhat et al., (2020) who found that debt capacity related positively and significantly to the firm value of listed non-financial organisations in China. The findings are however in variance with Tripathy and Uzma (2021) who argued that leverage negatively impacted on firm value of Indian manufacturing entities. Further, the findings were at variance with Das et al. (2022) who found that debt capacity negatively influences firm value.

4.5.3 Financing Cost Restrictions and Firm Value

Low financing cost sustains corporate financial safety and is a decisive factor in firm value (Chang & Ma, 2019) To test the influence of financing cost restrictions on firm value, hypothesis **H03: financing cost has no significant influence on the firm value of listed non-financial firms** was tested. The findings are presented in Table 4.10

Table 4.10: Financing Cost Restrictions and Firm Value

```
Random-effects GLS regression                   Number of obs      =       272
Group variable: FirmId                          Number of groups   =        31
R-sq:  within  = 0.4628                         Obs per group: min =         5
       between = 0.4588                                        avg =       8.8
       overall = 0.4568                                        max =        10
                                                Wald chi2(1)       =    230.28
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
------------------------------------------------------------------------------
             tobinsq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------------+--------------------------------------------------------------
financingcostrestrictions |   .2770337   .0182559    15.18   0.000     .2412529    .3128146
               _cons |   .6991663   .2043243     3.42   0.001      .298698    1.099635
---------------------+--------------------------------------------------------------
             sigma_u |   1.060489
             sigma_e |   .5441054
                 rho |  .79161451   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

The results presented in Table 4.10 shows the regression results for the influence of financing cost restrictions on firm value. The coefficient of determination as established by the Rosquare value was 0.4568 indicating that 45.68 per cent of the variation in firm value was explained by financing cost restrictions. The overall model had a p-value of 0.0000. which revealed a statistically significant model. The study, therefore, rejected the null hypothesis and accepted the alternative hypothesis. This means that financing cost restrictions have a significant influence on firm value. The relationship in Table 4.10 is represented by the following equation.

$$FirVal = 0.6992 + 0.2770FinCost$$

Where: FirVal = Firm value; FinCost = Financing cost restriction

The regression equation shows that for every unit change in financial resources, there is an increase of 0.2770 in firm value. However, the results contradict those in (Ayalew & Xianzhi, 2019; Dhole et al., 2019; Madrid-Guijarro et al., 2016) whose findings were that financing cost restrictions negatively influenced firm value.

4.5.4 The Joint Influence of Financial Flexibility on Firm Value

The study sought to establish the joint influence of financial flexibility on firm value of listed non-financial firms in Kenya. The variable in equation (1) were subjected to a regression analysis nd the results displayed in Table 4.11

$$FirVal_{it} = \beta_0 + \beta_1 * Cash_{it} + \beta_2 * DebtCap_{it} + \beta_3 * FinCost_{it} + \varepsilon ...equ\ (1)$$

Where: FirVal = Firm Value; Cash = Cash Holdings; DebtCap = Debt Capacity; FinCost = Financing Cost Restrictions; FinFlex = Financial Flexibility; β_1, β_2, β_3 = Regression Coefficients for each independent variable and ε = error term.

Table 4.11: Combined influence of Financial Flexibility on Firm Value

```
Random-effects GLS regression                   Number of obs      =       272
Group variable: FirmId                          Number of groups   =        31
R-sq:  within  = 0.6652                         Obs per group: min =         5
       between = 0.6495                                        avg =       8.8
       overall = 0.6511                                        max =        10
                                                Wald chi2(3)       =    528.42
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
------------------------------------------------------------------------------
             tobinsq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------------+--------------------------------------------------------------
        cashholdings |   -.667148    .330859    -2.02   0.044     -1.31562   -.0186763
        debtcapacity |   1.930173    .161207    11.97   0.000     1.614214    2.246133
financingcostrestrictions |   .3374158   .0152456    22.13   0.000      .307535    .3672967
               _cons |  -.5888311   .1966605    -2.99   0.003    -.9742786   -.2033836
---------------------+--------------------------------------------------------------
             sigma_u |  .84766481
             sigma_e |  .43110278
                 rho |  .79450172   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Findings presented in Table 4.11 indicated that the joint influence of financial flexibility on firm value was statistically significant and that it explained 65.11 per cent of the variations in firm value. This relationship can be explained by the equation:

FirVal = -0.5888 – 0.6671*Cash + 1.9301*DebtCap + 0.3374*FinCost

Where FirVal = Firm Value; Cash = Cash holdings; DebtCap = Debt Capacity; FinCost = financing cost restrictions.

When considered jointly with other variables, the study reveals a negative relationship between cash holdings and firm value. This was found to be statistically significant This result is in tandem with the findings in Asante-Darko et al. (2018) where they revealed that cash holdings had a negative influence on firm value. The findings in Kenya can be explained from Myers and Rajan (1998) who found that in cases where liquid assets such as cash were

piled up, the firm's management was likely to engage in activities that did not value adding to the firm. In addition, the managers could convert cash holdings to personal benefits, which eventually would negatively hurt firm value (Myers & Rajan, 1998). Therefore excess cash holdings by non-financial firms listed at the NSE reduce their value, as the management might be engaging in certain activities that might not be value-adding because of excess cash holdings. A position aligned to Fishers separateion theorem that liquid assets like cash are the most unproductive assets (they result in lost oppornity cost). The results in Kenya, however, do not support the findings such as those in Dimitropoulos et al. (2020) where it was found that cash holding positively influenced firm value. Dimitropoulos et al. (2020) explained the positive relationship through the transaction cost theory but admitted that this happened when this was contingent on other parameters. They argued that when cash interacted with financial structure there was a positive impact recognised by Myers and Rajan (1998).

Debt capacity was found to have a positive relationship with the firm value of firms listed on the Nairobi Securities Exchange. This relationship is also statistically significant. Firms with more long-debt that operate in a market that os distress free tend to meet shareholders' expectations, thus firm value and hence the positive relationship. This results resonate with the findings of Bhat et al., (2020) who found that debt capacity related positively and significantly to the firm value of listed non-financial organisations in China. In contrast however, Tripathy and Uzma (2021) posited that leverage on debt negatively impacted on firm value of Indian manufacturing entities. Further, the findings were at variance with Das et al. (2022) who found that debt capacity negatively influences firm value.

Likely, the present value of tax-deductible interest allowed by Kenya's Income Tax Act added in a significant way to the value of the firm hence the direct relationship observed. Financing cost restrictions were also found to have a statistically significant association with the firm value of publicly listed firms in Kenya.

4.5.5 Moderating Influence of Firm Size on the Relationship Between Financial Flexibility and Firm Value

The fifth objective of the study was to determine the moderating influence of the firm size on the relationship between financial flexibility and firm value of listed non-financial firms in Kenya. To determine this, the following hypothesis was formulated and tested. **H04: Firm size does not have a moderating effect on the relationship between financial flexibility and firm value of listed non-financial firms in Kenya.** The study, therefore, conceptualised

that firm size would accelerate or decelerate the relationship between financial flexibility and the firm value of listed companies in Kenya. A moderator is a variable influencing the direction and/or strength of the relationship between dependent and independent variables (McClelland, Irwin, Disatnik, & Sivan, 2017). In assessing the moderating influence, the study adopted the moderated multiple regression model suggested by McClelland et al. (2017). To capture the moderating effect of firm size on firm value as a function of financial flexibility, the study introduced an interaction term. The interaction term was a product of each independent variable and firm size. The moderation effect is supported when the results of moderated multiple regression are significant. The study adopted equation (2) below in testing the moderating effect.

$FirVal_{it} = \beta_0 + \beta_1 * Cash_{it} + \beta_2 * DebtCap_{it} + \beta_3 * FinCost_{it} + \beta_4 (Size_{it} * FinFlex_{it}) + \varepsilon$...equ (2)

Where: FirVal = Firm Value; Cash = Cash Holdings; DebtCap = Debt Capacity; FinCost = Financing Cost Restrictions; FinFlex = Financial Flexibility; Size = Firm Size; β_1, β_2, β_3,= Regression Coefficients for each independent variable, β_4 = Regression Coefficients for the meoderating variable and ε = error term. The results of the moderating effect are presented in Table 4.12.

Table 4.12 Moderating Effect of Firm Size

```
Random-effects GLS regression                   Number of obs      =       272
Group variable: FirmId                          Number of groups   =        31
R-sq:  within  = 0.6473                         Obs per group: min =         5
       between = 0.6293                                        avg =       8.8
       overall = 0.6323                                        max =        10
                                                Wald chi2(3)       =    487.64
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
------------------------------------------------------------------------------
                     tobinsq |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----------------------------+------------------------------------------------------------------
            cashholdings_Mod |  -.0431375    .021526    -2.00   0.045    -.0853277   -.0009472
            debtcapacity_Mod |   .1175964   .0103612    11.35   0.000     .0972888     .137904
financingcostrestrictions_Mod |   .0210612    .000985    21.38   0.000     .0191306    .0229919
                       _cons |  -.5865831   .2035916    -2.88   0.004    -.9856153    -.187551
-----------------------------+------------------------------------------------------------------
                     sigma_u |  .86530583
                     sigma_e |  .44242824
                         rho |  .79275448   (fraction of variance due to u_i
```

Table 4.12 present the results of the moderating role of firm size on the relationship between financial flexibility and firm value. From the findings, the R-squared value of 0.6323 indicates that 63.23 per cent variations were accounted for by the moderated relation between financial flexibility and firm value. The results also indicate that the inclusion of the interaction term in the regression model yielded a statistically significant model (p-value = 0.0000). As a result, the study rejected the null hypothesis and accepted the alternative hypothesis that firm size had a significant moderating influence on the relationship between financial flexibility and firm value of non-financial firms listed at the NSE. The R-square value was 65.11 per cent for the joint effect of financial flexibility and firm value as presented in Table 4.11. Consequently, the moderating effect of firm size resulted in a marginal decrease in variation of 1.88 per cent.

These findings are supported by the existing extant literature. For instance, Mahmood et al. (2019) observed that firm size had a strong moderating effect on the relationship between liquidity and firm value of Chinese firms. Similary, Bilyay-Erdogan, (2020) found that firm size had a significant and moderating role in the relationship between financial leverage and firm value. Finally, Mahemood et al. (2018) found a significant moderating relationship between firm size, this association was found to be negative as in the instant case. Though Hirdinis (2019) argues that the firm size variable has a significant negative effect on firm value and that the variable of capital structure significantly influences company value. The size of the company is one measure of the performance of a company. Hirdinis (2019) reasons that the size of the company can be seen from the total assets. Companies with large assets and inventories may not be able to pay dividends (retained earnings) due to assets that accumulate on accounts receivable and inventory.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The objective of this study was to examine the effect of financial flexibility on firm value of publicly quoted non-financial firms in Kenya. This chapter presents a summary of findings along with the hypothesised relationship together with the conclusion of the study. This chapter further provides recommendations and suggestions for further studies.

5.2 Summary of Findings

This section presents a summary of the study findings. There were four objectives out of which a corresponding number of hypotheses were developed and tested.

5.2.1 Cash Holdings and Firm Value

Cash holdings represent a key component in most firms' set of assets (Akhtar, Tareq, Sakti, & Khan, 2018). Based on the data collected, the study established that cash holdings among listed non-financial firms were overly dispersed. Based on the resulting coefficient of determination (R-square) it was revealed cash holdings were not robust enough to explain the variations in firm value. As a result, the study rejected the null hypothesis. This suggested that cash holdings did not have a statistically significant influence on firm value.

5.2.2 Debt Capacity and Firm Value

Debt capacity is the ability of the firm to uptake more financial obligations without hurting its obligations (Attia, 2019). From the findings, most of the listed firms finance their assets using debts. The associated R-square value part of the variations in firm value of publicly listed non-financial firms in Kenya is explained by debt capacity. Resulting from the analysis, a unit change in debt capacity significantly affected firm value for public non-financial companies. Debt capacity also had a significant positive effect on firm value of listed non-financial firms. Consequently, the study rejected the second null hypothesist that debt capacity did not have a significant effect on firm value.

5.2.3 Financing Cost Restrictions and Firm Value

Financing cost restrictions are obligations placed on a firm as a result of borrowing costs (Chang & Ma, 2019). From the findings of the study, the average value for financial safety indicated a moderately low variations when it came to financial safety among public listed non-financial firms in Kenya. The findings further revealed a strong positive correlational

coefficient between financial safety and firm value. The resulting R-square value meant that variations in firm value for listed non-financial firms in Kenya is partly attributed financing cost restrictions. In addition, findings revealed that financing cost restrictions had a positive effect on firm value. Furthermore, from the resulting coefficients value, financing cost restrictions had a positive and significant effect on firm value of publicly listed non-financial firms in Kenya. Thus, the study rejected the null hypothesis that financing cost restrictions did not have a significant influence on listed non-financial firms in Kenya.

5.2.4 Moderating Effect of Firm Size on the Relationship Between Financial Flexibility and Firm Value

Firm size was hypothesised to have moderating effects on the relationship between financial flexibility and firm value of public non-financial firms in Kenya. In testing the moderating effect, first, the study examined the combined effect of financial flexibility on firm value and found that jointly, the independent indicators of financial flexibility explained a significant change in firms value of quoted non-financial companies in Kenya. As this model was found to be robust enough to explain variations in firm value, moderating effects were examined by introducing an interaction term. It was noted that the introduction of the interaction term, resulted in a significant model. The model was found to be robust and the study concluded that firm size had a significant moderating influence on the relationship between financial flexibility and firm value of publicly-listed non-financial firms in Kenya. The study, therefore, failed to reject the null hypotheses that firm size did not have a significant moderation effect on the relationship between financial flexibility and firm value.

5.3 Conclusion

This study sought to establish the influence of financial flexibility on firm value of non-financial firms listed on the Nairobi Securities Exchange in Kenya. To achieve this goal, four specific objectives and a similar number of hypotheses were stated and tested. The study adopted a longitudinal research design. Secondary panel data were analysed using the random effect model. Descriptive and inferential regression was carried out and varied results were obtained. The findings of the study were compared with existing empirical literature and conclusions were made.

On its own, cash holdings were found not to have any effect on the firm value of listed non-financial companies in Kenya. Independently, debt capacity was found to have a positive and statistically significant influence on the firm size of public non-financial firms. Similarly,

financing cost restrictions were found to have a positive and statistically significant effect on firm value.

Overall, the combined influence of financial flexibility significantly explained variations in firm value. When the firm size was introduced as the moderator variable, it was found that financial flexibility accounted equally explained a significant portion of the variations in firm value. The study, therefore, concluded that firm size exalted a negative but marginal moderating role in the relationship between financial flexibility and firm value of listed non-financial firms in Kenya. Though the findings in relation to financial flexibility and firm value were mixed, this was not inconsistent with the existing empirical literature.

5.4 Recommendations of the Study

Literature has implied that financial flexibility is critical to firm value. Firm size has also been linked to firm value. However, limited extant literature exists on the influence of financial flexibility, firm size and firm value. This study sought to establish this association. The findings of the study will arouse deeper discourse on the relationship of these variables and it will form a basis for making recommendations to policy, and managerial practice in Kenya's listed non-financial firms and beyond.

5.4.1 Recommendations to Policy Makers

Based on the findings of the study, several recommendations to policymakers are made. Listed non-financial firms remain instrumental to the growth of the economy and control vast portions of the gross domestic product. The firm value of these corporates remains important. This study has brought out various critical issues that require a relook at the policy level. First, the study revealed that cash holdings did not have a statistically significant influence on firm value. This was not unexpected as cash on its own is an ideal resource, and insufficient cash balances may financially distress a firm. However, the study revealed that non-financial firms' cash holdings were moderate, meaning they may have not been sufficient. Policymakers should be focussing on a policy that would encourage the non-financial firms, just as their counterparts, financial firms should have optimal cash balances that are prescribed by policy or regulation.

5.4.2 Recommendations for Managerial Practice

Based on the findings of this study, several recommendations for managerial practice are made. The study established that various financial flexibility mechanisms existed and varied influence on firm value. It is recommended to managerial practitioners to map out those financial flexibility

mechanisms that have a higher impact on firm value. Managerial practitioners may consider expanding their debt capacity and enhancing their financial safety to have stellar firm value.

5.5 Limitations of the Study

The study aimed at establishing the effect of financial flexibility on firm value of non financial firms listed and the Nairobi Securities Exchange in Kenya. While the objective was met, nonetheless, the present study had some limitations which spontaneously provide directions for future research. One such limitation was that the study focussed on a single country and as such the findings may not be generalised to other states. In addition, the study focussed on publicly listed firms, there would be a need to carry out similar studies but with a focus on the unquoted firms. Furthermore, the study focused on non-financial firms that were spread across different industries. The study recommends that a similar, but industry-specific study is carried out. The second limitation relates to the fact that the present study did not consider the financial sector. It is therefore recommended that future research should consider the financial sector to give a proper view of the financial flexibility of firms where liquidity is of paramount importance.

5.6 Areas for Further Research

The study adopted Tobin's Q ratio as the proxy for firm value. This is consistent with existing literature. However, the measure has a defect in that it fail to accurately predict outcome over a long period of time. Further studies should consider other proxies for firm value such as economic value added.

REFERENCES

Abraham M.,Tobia O., Mbithi M. and Clive M. (2017). Influence of Tax Shield on Capital Structure of Private Manufacturing Firms in Kenya. *Journal of Economics and Finance* 8(3):47-53.

Akhtar, T., Tareq, M. A., Sakti, M. R. P., & Khan, A. A. (2018). Corporate governance and cash holdings: the way forward. *Qualitative Research in Financial Markets*, *10*(2), 152–170. https://doi.org/10.1108/QRFM-04-2017-0034

Alali, F., & Cao, L. (2010). International financial reporting standards—credible and reliable? An overview. *Advances in Accounting*, *26*(1), 79-86.

Asante-Darko, D., Bonsu, B., Famiyeh, S., Kwarteng, A., & Goka, Y. (2018). Governance structures, cash holdings and firm value on the Ghana Stock Exchange. *Corporate Governance (Bingley)*, *18*(4), 671–685. https://doi.org/10.1108/CG-07-2017-0148

Attia, M. B. R. (2019). Firm borrowing capacity, government ownership and real earnings management: Empirical evidence from a developing country. *International Journal of Public Sector Management*, *33*(2–3), 339–362. https://doi.org/10.1108/IJPSM-01-2019-0029

Ayalew, M. M., & Xianzhi, Z. (2019). The effect of financial constraints on innovation in developing countries: Evidence from 11 African countries. *Asian Review of Accounting*, (1987). https://doi.org/10.1108/ARA-02-2019-0036

Bhat, K. U., Chen, S., Chen, Y., & Jebran, K. (2020). Debt capacity, debt choice, and underinvestment problem: Evidence from China. *Economic Research-Ekonomska Istrazivanja* , *33*(1), 267–287. https://doi.org/10.1080/1331677X.2019.1699438

Bilyay-Erdogan, S. (2020). Does financial flexibility enhance firm value? A comparative study between developed and emerging countries. *Business: Theory and Practice*, *21*(2), 723–736. https://doi.org/10.3846/btp.2020.12680

Bose, S., Shams, S., Ali, M. J., & Mihret, D. (2022). COVID-19 impact, sustainability performance and firm value: international evidence. *Accounting and Finance*, *62*(1), 597–643. https://doi.org/10.1111/acfi.12801

Byoun, S. (2016). The Effects of Financial Flexibility Demand on Corporate Financial Decisions. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2817972

Capital Markets Authority. (2021a). *Quarterly Statistical Bulletin Quarter ended December 2021*.

Capital Markets Authority. (2021b). *The CMA Quarterly Capital Markets Statistical Bulletin – Q1.2021*. Nairobi, Kenya.

Chang, H. Y., & Ma, C. A. (2019). Financial flexibility, managerial efficiency and firm life cycle on firm performance: An empirical analysis of Chinese listed firms. *Journal of Advances in Management Research*, *16*(2), 168–180. https://doi.org/10.1108/JAMR-06-2017-0072

Cherkasova, V., & Kuzmin, E. (2018). Financial flexibility as an investment efficiency factor in Asian companies. *Gadjah Mada International Journal of Business*, *20*(2), 137–164. https://doi.org/10.22146/gamaijb.26239

Cooper, D. R., & Schindler, P. S. (2014). *Business research methods* (Twelfth Ed). New York: McGraw-Hill/Irwin.

Das, N. C., Chowdhury, M. A. F., & Islam, N. (2022). The heterogeneous impact of leverage on firm performance : empirical evidence from Bangladesh. *South Asian Journal of Business Studies*, *11*(2), 235–252. https://doi.org/10.1108/SAJBS-04-2020-0100

Dhole, S., Mishra, S., & Pal, A. M. (2019). Efficient working capital management, financial constraints and firm value: A text-based analysis. *Pacific Basin Finance Journal*, *58*(October), 1–19. https://doi.org/10.1016/j.pacfin.2019.101212

Dieter, H., & Philipp, I. (2014). *How much is too much? Debt capacity and financial flexibility* (No. 14–03). Cologne.

Dimitropoulos, P., Koronios, K., Thrassou, A., & Vrontis, D. (2020). Cash holdings, corporate performance and viability of Greek SMEs: Implications for stakeholder relationship management. *EuroMed Journal of Business*, *15*(3), 333–348. https://doi.org/10.1108/EMJB-08-2019-0104

Dogru, T., & Sirakaya-Turk, E. (2017). The value of cash holdings in hotel firms. *International Journal of Hospitality Management*, *65*, 20–28. https://doi.org/10.1016/j.ijhm.2017.05.004

Estwick, S. A. (2016). The impact of principal-principal conflict on financial flexibility: A Case of Caribbean Firms. *Qualitative Research in Financial Markets*, *8*(4), 305–330. https://doi.org/10.1108/QRFM-12-2015-0043

Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividend and debt. *The Review of Financial Studies*, *15*(1), 1–33.

Ferrando, A., Marchica, M. T., & Mura, R. (2017). Financial Flexibility and Investment Ability Across the Euro Area and the UK. *European Financial Management*, *23*(1), 87–126. https://doi.org/10.1111/eufm.12091

Galpin, N. (2020). Cash holdings, costly financing and the q theory of returns. *Accounting & Finance Journal*, *60*(4), 1149–1174. https://doi.org/10.2139/ssrn.2817972

Greene, W. H. (2012). *Econometric Analysis* (7th Editio). London, United Kingdom: Pearson Education Limited.

Gujarati, D., & Sangeetha, S. (2013). *Basic Econometrics* (4th Editio). Boston: McGraw-Hill.

Hooshyar, A. M., & Mohammadi, M. F. (2019). Factors Affecting Financial Flexibility of Firms Listed in Tehran Stock Exchange. *IOSR Journal of Economics and Finance*, *08*(01), 109–114. https://doi.org/10.9790/5933-080103109114

Howton, S. D., Howton, S. W., & Scheick, B. (2018). Financial Flexibility and Investment: Evidence from REIT At-the-Market (ATM) Equity Offerings. *Real Estate Economics*, *46*(2), 334–367. https://doi.org/10.1111/1540-6229.12211

Ishaq, M., Islam, Y., & Ghouse, G. (2021). Tobin's Q as an Indicator of Firm Performance: Empirical Evidence from Manufacturing Sector Firms of Pakistan. *International Journal of Economics and Business Administration, IX*, (1), 425-441.

Islam, S. M. T., Ghosh, R., & Khatun, A. (2021). Slack resources, free cash flow and corporate social responsibility expenditure: evidence from an emerging economy.

Journal of Accounting in Emerging Economies, 1–19. https://doi.org/10.1108/JAEE-09-2020-0248

Iswajuni, I., Manasikana, A., & Soetedjo, S. (2018). The effect of enterprise risk management (ERM) on firm value in manufacturing companies listed on Indonesian Stock Exchange year 2010-2013. *Asian Journal of Accounting Research*, *3*(2), 224–235. https://doi.org/10.1108/ajar-06-2018-0006

Jensen, M. C. (1986). Agency costs of free cashflow, corporate finance, and takeovers. *The American Economic Review*, *76*(2), 323–329.

Kibaya, I. (2019). *Effect of Cash Holding on Value of Non-financial Firms Listed at the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Kirui, B. K., & Gor, S. O. (2018). Financial Constraints and Firm Capital Structure in Kenya. *International Journal of Economics and Finance*, *10*(1), 177-190.

Koori, J. M., Korir, J., & Gachanja, P. (2016). *Financial flexibility and corporate investment among non financial companies listed on Nairobi Securities Exchange, Kenya.* Nairobi, Kenya.

Kulati, M. K. (2014). *The relationship between capital structure and firm value for companies listed at Nairobi securities exchange* (Doctoral dissertation).

Madrid-Guijarro, A., García-Pérez-de-Lema, D., & Auken, H. (2016). Restricciones Financieras y la innovación en la PYME durante las crisis económicas. *Academia Revista Latinoamericana de Administracion*, *29*(1), 84–106. https://doi.org/10.1108/ARLA-04-2015-0067

Mafrolla, E., & D'Amico, E. (2017). Borrowing capacity and earnings management: An analysis of private loans in private firms. *Journal of Accounting and Public Policy*, *36*(4), 284–301. https://doi.org/10.1016/j.jaccpubpol.2017.05.001

Mahemood, Y., Faisal, M., & Rashid, A. (2018). Exploring the Relationship between Financial Distress , Financial Flexibility , and Firm Performance : Empirical Evidence from Pakistan Stock Exchange. *NICE Research Journal*, *11*(2), 1–16.

Mahmood, F., Han, D., Ali, N., Mubeen, R., & Shahzad, U. (2019). Moderating effects of firm size and leverage on the working capital finance-profitability relationship: Evidence from China. *Sustainability (Switzerland)*, *11*(7), 19–22. https://doi.org/10.3390/su11072029

Mari, C., & Marra, M. (2019). Valuing firm's financial flexibility under default risk and bankruptcy costs: a WACC based approach. *International Journal of Managerial Finance*, *15*(5), 688–699. https://doi.org/10.1108/IJMF-05-2018-0151

McClelland, G. H., Irwin, J. R., Disatnik, D., & Sivan, L. (2017). Multicollinearity is a red herring in the search for moderator variables: A guide to interpreting moderated multiple regression models and a critique of Iacobucci, Schneider, Popovich, and Bakamitsos (2016). *Behavior Research Methods*, *49*(1), 394–402. https://doi.org/10.3758/s13428-016-0785-2

Mohmood, W., Rashid, A., Rizwan, F., & Ahmad, M. (2019). The role of macroeconomic and institutional factors in creating corporate financial flexibility. *Management Decision*, 1–15. https://doi.org/10.1108/MD-12-2018-1332

Modigliani, F., & Miller, M. (1961). Dividend policy, growth, and the valuation of shares. The Journal of Business, 34(4), 411–433. https://doi.org/10.1086/294442 Modigliani, F., & Miller, M. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 53(3), 433–443.

Morellec, E., & Schurhoff, N. (2011). Corporate investment and financing under asymetric information. *Journal of Financial Economics*, *99*, 262–288.

Mule, R. K., Mukras, M. S., & Mutunga, N. O. (2015). Corporate size, profitability and market value: an econometric panel analysis of listed firms in Kenya. *European Scientific Journal*, *11*(13), 376–396.

Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Relationship between capital structure and performance of non-financial companies listed in the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, *1*(2), 72-90.

Myers, S. (1984). The capital structure puzzle. *The Journal of Finance*, *39*(3), 575–592.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, *13*(2), 187–221.

Myers, S. C., & Rajan, R. G. (1998). The paradox of liquidity. *Quarterly Journal of Economics*, *113*(3), 733–771. https://doi.org/10.1162/003355398555739

Ng'ang'a, D.W. (2017).Effect of Debt Financing on Schools Performance in Financial Terms of Privatized Secondary Schools in Kajiado County. *Unpublished Master of Science in Finance Project*, University of Nairobi

Nguyen, T. L. H., Nguyen, L. N. T., & Le, T. P. V. (2018). Firm Value, Corporate Cash Holdings and Financial Constraint: A Study from a Developing Market. *Australian Economic Papers*, *55*(4), 368–385. https://doi.org/10.1111/1467-8454.12082

Nyamasege, D. (2021). *ROLE OF FIRM SIZE IN THE RELATIONSHIP BETWEEN FINANCING DECISIONS DETERMINANTS AND VALUE OF FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE* (Doctoral dissertation, KISII UNIVERSITY).

Pan, A., Liu, W., & Wang, X. (2019). Managerial overconfidence, debt capacity and merger & acquisition premium. *Nankai Business Review International*, *10*(4), 570–590. https://doi.org/10.1108/NBRI-04-2019-0016

Rajan, R., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance*, *50*(5), 1421–1460.

Rostami, V., & Rezaei, L. (2021). The effect of competition in the product market and financial flexibility on business strategy. *Journal of Facilities Management*, 1–20. https://doi.org/10.1108/JFM-11-2020-0086

Salehi, M., & Moghadam, S. M. (2019). The relationship between management characteristics and firm performance. Competitiveness Review. *An International Business Journal*, *29*(4), 440–461.

Saunders, M., & Tossey, P. (2015). *Handbook of Research Methods in Management*. Northhamton: Edward Elgal Publishing Limited.

Shaver, J. M. (2005). Testing for mediating variables in management research: Concerns,

implications, and alternative strategies. *Journal of management*, *31*(3), 330-353.

Terra, M. C. T. (2003). Credit constraints in Brazilian firms: evidence from panel data. R*evista Brasileira de Economia*, 57(2), 443-464.

Tripathy, A., & Uzma, S. H. (2021). Does debt heterogeneity impact firm value ? Evidence from an emerging context. *South Asian Journal of Business Studies*, *11*(1), 1–18. https://doi.org/10.1108/SAJBS-06-2020-0179

Trong, N., Nghia, N., & Thanh, C. (2020). Firm performance: the moderation impact of debt and dividend policies on overinvestment. *Journal of Asian Business and Economic Studies*, *28*(1), 47–63. https://doi.org/10.1108/jabes-12-2019-0128

Ullah, S. (2018). *Impact of Free Cash Flow, Dividend and Financial Leverage on Earnings Management; Evidence From Pakistan*. Islamabad, Pakistan.

Wahla, K.-U.-R., Shah, Z.A. and Hussain, Z. (2012) 'Impact of Ownership Structure on Firm Performance Evidence from Non-Financial Listed Companies at Karachi Stock Exchange', *International Research Journal of Finance and Economics*, 84, 6-13.

Wambua, M. F. (2019). *Effect Of Debt Financing On Financial Performance Among Firms Listed At Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Yi, J. (2020). Financial flexibility, dynamic capabilities, and the performance of manufacturing enterprises. *Journal of Research in Emerging Markets*, *2*(2), 19–33. https://doi.org/10.30585/jrems.v2i2.465

APPENDICES

Appendix 1: Target Population: Listed Non-Financial Companies

	Company	Sector
1.	Eaagads Limited	Agricultural
2.	Kakuzi Limited	Agricultural
3.	Kapchorua Tea Company Limited	Agricultural
4.	Limuru Tea Company Limited	Agricultural
5.	Sasini Limited	Agricultural
6.	Williamson Tea Kenya Limited	Agricultural
7.	Car and General Kenya Limited	Automobiles and Accessories
8.	Express Kenya PLC	Commercial and Services
9.	Sameer Africa PLC	Commercial and Services
10.	Kenya Airways Limited	Commercial and Services
11.	Nation Media Group PLC	Commercial and Services
12.	Standard Group PLC	Commercial and Services
13.	TPS Eastern Africa (Serena) Limited	Commercial and Services
14.	Scan group Limited	Commercial and Services
15.	Uchumi Supermarket Limited	Commercial and Services
16.	Longhorn Publishers Limited	Commercial and Services
17.	Deacons East Africa PLC	Commercial and Services
18.	Nairobi Business Venturers Limited	Commercial and Services
19.	Athi River Mining	Construction and Allied
20.	Bamburi Cement Limited	Construction and Allied
21.	Crown Paints Kenya PLC	Construction and allied
22.	East Africa Cables Limited	Construction and Allied
23.	East Africa Portland Cement Limited	Construction and Allied
24.	Total Kenya Limited	Energy and Petroleum
25.	KenGen Limited	Energy and Petroleum
26.	Kenya Power and Lightening Company Limited	Energy and Petroleum
27.	Umeme Limited	Energy and Petroleum
28.	B.O.C Kenya Limited	Manufacturing and Allied

29.	British American Tobacco Kenya Limited	Manufacturing and Allied
30.	Carbacid Investment Limited	Manufacturing and Allied
31.	East African Breweries Limited	Manufacturing and Allied
32.	Mumias Sugar Company Limited	Manufacturing and Allied
33.	Unga Group Limited	Manufacturing and Allied
34.	Eveready East Africa Limited	Manufacturing and Allied
35.	Kenya Orchard Limited	Manufacturing and Allied
36.	Flame Tree Group Holdings Limited	Manufacturing and Allied
37.	Safaricom PLC	Telecommunication and Technology

Source: (Capital Markets Authority, 2021)

FIRM	YEAR	Cash Holdings	Debt Capacity	Financing Cost Restrictions	Total Assets	Tobins Q
Eaagads Limited	2011	0.0017	0.249849	12.2372	354922	4.2590
Eaagads Limited	2012	0.0009	0.160297	8.1986	573356	2.0672
Eaagads Limited	2013	0.0010	0.195021	4.8795	499561	1.8365
Eaagads Limited	2014	0.0010	0.191436	6.4454	445793	2.2833
Eaagads Limited	2015	0.0043	0.106396	8.6060	732548	1.5221
Eaagads Limited	2016	0.0013	0.090951	6.7872	761165	1.0204
Eaagads Limited	2017	0.0004	0.078257	6.6061	922802	0.8449
Eaagads Limited	2018	0.0003	0.099051	4.4511	905895	0.8267
Eaagads Limited	2019	0.0317	0.101245	2.6181	942324	0.4459
Kakuzi Limited	2011	0.2351	0.277827	3.2394	3817320	0.6347
Kakuzi Limited	2012	0.2513	0.215717	3.3042	3571700	0.6108
Kakuzi Limited	2013	0.2434	0.218831	3.2405	3717543	0.7197
Kakuzi Limited	2014	0.2524	0.226244	4.3217	3857454	1.1408
Kakuzi Limited	2015	0.2580	0.243966	5.6833	4555179	1.6080
Kakuzi Limited	2016	0.3078	0.2621	5.4168	4647676	1.5652
Kakuzi Limited	2017	0.3214	0.277642	5.1198	5129226	1.5348
Kakuzi Limited	2018	0.2526	0.214031	4.2709	5941042	1.2367
Kakuzi Limited	2019	0.2625	0.192339	5.5893	6461035	1.2238
Kapchorua Tea Company Limited	2011	0.0981	0.378171	2.8354	1570203	0.6647
Kapchorua Tea Company Limited	2012	0.0972	0.422468	2.1668	1962897	0.6636
Kapchorua Tea Company Limited	2013	0.1495	0.382233	2.5271	2078475	0.6551
Kapchorua Tea	2014	0.0698	0.284318	2.7439	1929161	

Company Limited						0.5621
Kapchorua Tea Company Limited	2015	0.0395	0.468356	3.4517	1186192	0.8971
Kapchorua Tea Company Limited	2016	0.0516	0.294833	2.7792	2329151	0.5602
Kapchorua Tea Company Limited	2017	0.0912	0.302814	2.3349	2030309	0.6072
Kapchorua Tea Company Limited	2018	0.0570	0.328409	2.5692	2489043	0.5767
Kapchorua Tea Company Limited	2019	0.2386	0.278117	2.2484	2033173	0.5860
Limuru Tea company Limited	2011	0.0316	0.21717	8.7648	191242	2.3192
Limuru Tea company Limited	2012	0.0216	0.243076	7.1551	320023	1.8555
Limuru Tea company Limited	2013	0.0226	0.240989	6.3768	343007	1.9902
Limuru Tea company Limited	2014	0.0232	0.256601	7.9615	338600	2.9890
Limuru Tea company Limited	2015	0.0253	0.2569	19.5313	342161	7.8674
Limuru Tea company Limited	2016	0.0263	0.268791	11.4518	282193	4.7763
Limuru Tea company Limited	2017	0.0302	0.283315	10.8831	262009	4.8633
Limuru Tea company Limited	2018	0.0247	0.535125	6.4783	268255	5.0085
Limuru Tea company Limited	2019	0.0052	0.627645	5.8229	235670	5.2103
Sasini Limited	2011	0.0517	0.285336	2.2624	9462027	0.6047
Sasini Limited	2012	0.0301	0.279733	1.8755	8923425	0.5787
Sasini Limited	2013	0.0304	0.295046	2.0633	9054366	

						0.6640
Sasini Limited	2014	0.0218	0.188124	1.8964	1492957	0.3844
Sasini Limited	2015	0.0748	0.154945	2.4548	1604452	0.3873
Sasini Limited	2016	0.1491	0.133108	3.1754	1310613	0.4472
Sasini Limited	2017	0.1066	0.142478	3.6469	1319602	0.6005
Sasini Limited	2018	0.1003	0.144596	2.6618	1132530	0.5453
Sasini Limited	2019	0.0322	0.134103	1.7629	1334276	0.4230
Williamson Tea Kenya	2011	0.0764	0.291992	3.2151	6032743	0.6845
Williamson Tea Kenya	2012	0.1161	0.317286	2.5355	7243227	0.5953
Williamson Tea Kenya	2013	0.0866	1	2.1586	8023834	1.2488
Williamson Tea Kenya	2014	0.1285	1	2.1913	8549409	1.2970
Williamson Tea Kenya	2015	0.1161	0.230824	3.0204	8558558	0.8181
Williamson Tea Kenya	2016	0.1337	0.249373	2.3475	9285306	0.5945
Williamson Tea Kenya	2017	0.1135	0.27138	2.3305	8364127	0.6545
Williamson Tea Kenya	2018	0.0902	0.27961	2.4960	9505074	0.5560
Williamson Tea Kenya	2019	0.1584	0.236287	2.1652	8271918	0.5316
Car and General Kenya	2011	0.0272	0.654757	1.9752	5562239	0.8188
Car and General Kenya	2012	0.0185	0.624364	1.9110	5705400	0.7931
Car and General Kenya	2013	0.0059	0.637151	1.7972	6901430	0.7592
Car and General Kenya	2014	0.0070	0.652586	1.8678	8152812	0.8838
Car and General Kenya	2015	0.0076	0.663874	1.6477	8988047	0.8423
Car and General Kenya	2016	0.0092	0.666309	1.4702	9705198	0.7861
Car and General Kenya	2017	0.0275	0.642787	1.4670	9400007	0.7345
Car and General Kenya	2018	0.0061	0.64575	1.5054	1017350	0.7305
Car and General Kenya	2019	0.0156	0.693182	1.2938	1177412	0.7664

Express Kenya PLC	2011	-	0.2640	0.753563	- 0.6053	769296	0.9954
Express Kenya PLC	2012	-	0.0109	0.599912	0.7043	495609	0.9369
Express Kenya PLC	2013	-	0.0200	0.586877	0.8455	480525	0.9741
Express Kenya PLC	2014	-	0.1040	0.628343	- 0.0893	477922	1.2772
Express Kenya PLC	2015	-	0.1064	0.728175	- 0.4046	441898	1.2572
Express Kenya PLC	2016	-	0.1263	0.938932	- 1.4834	379575	1.5046
Express Kenya PLC	2017	-	0.1324	1.186616	- 2.0183	359932	1.6837
Express Kenya PLC	2018	-	0.1499	1.426429	- 1.4036	320942	2.1697
Express Kenya PLC	2019	-	0.0071	0.936995	- 0.9918	471738	1.6288
Sameer Africa PLC	2011	-	0.0966	0.280077	3.1558	3125040	0.6720
Sameer Africa PLC	2012	-	0.0526	0.315599	3.1321	3399651	0.6554
Sameer Africa PLC	2013	-	0.0236	0.269559	3.5149	3668487	0.6679
Sameer Africa PLC	2014	-	0.0647	0.34241	2.6398	3857791	0.7753
Sameer Africa PLC	2015	-	0.0098	0.3356	2.3156	3750826	0.6139
Sameer Africa PLC	2016	-	0.2107	0.442337	0.8726	3290867	0.6792
Sameer Africa PLC	2017	-	0.1491	0.381166	1.8384	2969868	0.6436
Sameer Africa PLC	2018	-	0.3529	0.563503	0.2937	2587824	0.7625
Sameer Africa PLC	2019	-	0.2451	0.954854	- 0.9621	1530847	1.5821
Kenya Airways Limited	2011		0.0641	0.706095	2.1736	78743000	1.3190
Kenya Airways Limited	2012		0.0780	0.702668	2.0258	77432000	0.9723
Kenya Airways Limited	2013		0.1173	0.74564	0.5411	122696000	0.8981
Kenya Airways Limited	2014		0.0755	0.810106	0.4964	148657000	0.9349
Kenya Airways Limited	2015		0.0179	1.026639	- 0.3539	182063000	1.0669
Kenya Airways Limited	2016		0.0305	1.225149	- 0.5463	158415000	1.2686
Kenya Airways	2017		0.0628	1.307334	0.5818	1461440	

Limited					00	1.3688
Kenya Airways Limited	2018	0.0471	1.018217	- 0.5986	1366340 00	1.3883
Kenya Airways Limited	2019	0.0158	1.091459	- 0.3218	1956730 00	1.1510
Nation Media Group PLC	2011	0.3113	0.305559	8.0611	8816300	2.8006
Nation Media Group PLC	2012	0.3709	0.314112	10.7623	1067740 0	4.1842
Nation Media Group PLC	2013	0.3577	0.279688	12.6193	1144420 0	4.5906
Nation Media Group PLC	2014	0.2890	0.265918	12.6502	1194430 0	4.4174
Nation Media Group PLC	2015	0.2413	0.294801	8.5746	1269670 0	3.1311
Nation Media Group PLC	2016	0.1105	0.28513	5.8806	1217410 0	1.7254
Nation Media Group PLC	2017	0.1495	0.278615	6.7301	1132030 0	2.2106
Nation Media Group PLC	2018	0.0276	0.719807	3.4343	1119800 0	1.8732
Nation Media Group PLC	2019	0.0859	0.724032	2.7420	1209670 0	1.3444
Standard Group PLC	2011	- 0.0792	0.529059	2.1824	3512257	1.1108
Standard Group PLC	2012	- 0.0790	0.474832	2.4044	3501548	0.9837
Standard Group PLC	2013	- 0.0782	0.509666	2.5030	4136762	1.0234
Standard Group PLC	2014	- 0.0681	0.461683	2.8930	4101749	1.1541
Standard Group PLC	2015	- 0.1034	0.56893	1.6358	4355614	1.0943
Standard Group PLC	2016	- 0.0681	0.528689	2.1429	4404931	0.8348
Standard Group PLC	2017	- 0.0829	0.581747	1.7813	4459637	1.2598
Standard Group PLC	2018	- 0.0324	0.582066	2.1338	4676133	1.0977
Standard Group PLC	2019	- 0.0171	0.66129	0.8798	4195946	1.1979
TPS Eastern Africa	2011	0.0148	0.387228	1.8895	1313184 0	1.0080
TPS Eastern Africa	2012	0.0036	0.406542	1.4442	1335769 4	0.8504
TPS Eastern Africa	2013	- 0.0073	0.34581	1.6498	1613609 7	0.8595
TPS Eastern Africa	2014	- 0.0056	0.346736	1.3266	1593917 7	0.7582

TPS Eastern Africa	2015	0.0179	0.387615	0.9897	1581580	0.6756
TPS Eastern Africa	2016	0.0850	0.441912	1.0424	1678501	0.6631
TPS Eastern Africa	2017	0.0350	0.475913	1.0238	1748682	0.8145
TPS Eastern Africa	2018	- 0.0103	0.480764	0.7091	1759812	0.7189
TPS Eastern Africa	2019	- 0.0085	0.488435	0.7814	1798645	0.6662
Scangroup Limited	2010	0.2720	0.553301	3.2403	8009431	2.3544
Scangroup Limited	2011	0.3120	0.487051	3.4759	8489938	1.8791
Scangroup Limited	2012	0.2245	0.426123	6.1811	8353595	3.5328
Scangroup Limited	2013	0.2194	0.36236	3.4471	1274458	1.7967
Scangroup Limited	2014	0.2833	0.356928	3.3665	1328410	1.6617
Scangroup Limited	2015	0.3258	0.309919	2.9983	1246847	1.2215
Scangroup Limited	2016	0.2899	0.34685	2.0049	1348639	0.8666
Scangroup Limited	2017	0.2469	0.34841	1.9206	1375891	0.8716
Scangroup Limited	2018	0.3035	0.41149	1.7881	1442519	0.8309
Scangroup Limited	2019	0.1659	0.43822	1.6663	1280317	1.0188
Longhorn Publishers Limited	2012	- 0.0038	0.600128	2.4937	661675	1.5019
Longhorn Publishers Limited	2013	0.0669	0.436708	4.7719	685019	1.5896
Longhorn Publishers Limited	2014	0.1349	0.418994	4.5684	747531	1.1272
Longhorn Publishers Limited	2015	- 0.0048	0.448184	3.3963	689320	1.0720
Longhorn Publishers Limited	2016	- 0.0018	0.49245	2.5805	1866944	1.3242
Longhorn Publishers Limited	2017	0.1079	0.49121	2.4589	1858734	1.2314
Longhorn	2018	0.1739	0.568172	2.0120	2407529	

Publishers Limited						1.0898
Longhorn Publishers Limited	2019	0.0312	0.528928	2.3514	2344234	1.3146
Bamburi Cement Limited	2010	0.1470	0.34538	2.3393	49085000	0.9369
Bamburi Cement Limited	2011	0.1254	0.336537	3.0230	50146000	1.2956
Bamburi Cement Limited	2012	0.1657	0.296655	4.2636	47203000	1.6807
Bamburi Cement Limited	2013	0.2175	0.269339	5.3750	40811000	1.6923
Bamburi Cement Limited	2014	0.2285	0.361658	5.6228	33446000	2.2608
Bamburi Cement Limited	2015	0.2062	0.289625	4.5460	40991000	1.5204
Bamburi Cement Limited	2016	0.1621	0.267482	5.8959	43016000	2.0394
Bamburi Cement Limited	2017	0.0474	0.282936	5.3877	43038000	1.8431
Bamburi Cement Limited	2018	0.0287	0.278431	5.5602	33502000	1.6327
Bamburi Cement Limited	2019	0.0401	0.253168	7.1310	33306000	2.2910
Crown Paints Kenya PLC	2010	0.0442	0.502846	2.7226	1972337	0.6472
Crown Paints Kenya PLC	2011	0.0511	0.524942	2.7793	2215352	0.5981
Crown Paints Kenya PLC	2012	0.0762	0.479156	3.1359	2258263	0.6280
Crown Paints Kenya PLC	2013	0.0232	0.537686	2.9162	2945434	0.7391
Crown Paints Kenya PLC	2014	- 0.0447	0.650299	2.2613	3852814	0.8782
Crown Paints Kenya PLC	2015	- 0.0115	0.701974	2.4542	4539148	1.6586
Crown Paints Kenya PLC	2016	0.0141	0.691222	2.2770	5059029	1.2822
Crown Paints Kenya PLC	2017	- 0.0195	0.700658	2.6092	5871607	1.6705
Crown Paints Kenya PLC	2018	0.0607	0.812469	2.5032	5475693	1.8524
Crown Paints Kenya PLC	2019	0.0871	0.763754	2.0127	4470366	1.7589
East Africa Cables Limited	2010	- 0.0066	0.66063	0.5182	6274877	0.7615
East Africa Cables Limited	2011	- 0.0056	0.772661	- 0.5714	6603660	0.8769

East Africa Cables Limited	2012	0.0026	0.733065	- 0.2545	7038421	0.9291
East Africa Cables Limited	2013	- 0.0081	0.661331	0.2419	7548406	0.8609
East Africa Cables Limited	2014	- 0.0349	0.624292	0.9047	8384143	0.9443
East Africa Cables Limited	2015	- 0.0113	0.608102	1.6162	7889496	1.1279
East Africa Cables Limited	2016	0.0066	0.549652	1.9453	6809265	1.1723
East Africa Cables Limited	2017	0.0351	0.435167	2.0693	6248642	0.9091
East Africa Cables Limited	2018	0.0334	0.409421	2.5527	4993032	0.9443
East Africa Cables Limited	2019	0.0489	0.451597	2.6255	4518445	1.1799
East Africa Portland Cement	2010	0.1840	2.903609	0.9315	5173261	3.1559
East Africa Portland Cement	2011	0.1577	3.586482	14.7068	3567508	3.9901
East Africa Portland Cement	2012	- 0.1125	3.195522	4.8187	3275335	3.9374
East Africa Portland Cement	2013	- 0.1328	2.917151	11.6518	3392132	3.5407
East Africa Portland Cement	2014	- 0.0896	2.112886	10.6480	4402977	3.0685
East Africa Portland Cement	2015	0.0984	2.090974	3.2222	4310232	3.3020
East Africa Portland Cement	2016	- 0.3290	2.064646	5.6805	4380144	3.4824
East Africa Portland Cement	2017	- 0.6014	3.000071	2.9967	3125050	4.1233
East Africa Portland Cement	2018	- 0.2749	2.097877	4.4956	3731369	3.4486
East Africa Portland Cement	2019	- 0.3329	1.861475	4.7727	3403948	3.9767
Total Kenya Limited	2010	- 0.1654	0.684621	3.5260	30375677	1.2857
Total Kenya Limited	2011	- 0.2850	0.73877	3.4047	35198166	1.0026
Total Kenya Limited	2012	- 0.1110	0.569666	4.1889	32980604	0.8331
Total Kenya Limited	2013	0.0621	0.615371	4.7216	39984165	0.9991
Total Kenya Limited	2014	- 0.2102	0.495252	6.4885	32541800	0.9595
Total Kenya Limited	2015	- 0.0425	0.48611	5.2007	34200671	0.8220
Total Kenya	2016	- 0.0077	0.465587	4.4005	3616100	

Limited					8	0.7659
Total Kenya Limited	2017	- 0.0619	0.436849	5.2263	3798775 1	0.8594
Total Kenya Limited	2018	0.1707	0.422915	4.3857	3923455 7	0.8561
Total Kenya Limited	2019	0.0941	0.351156	4.9476	3754034 0	0.8123
KenGen Limited	2011	0.0194	0.568811	0.6675	1609932 90	0.7538
KenGen Limited	2012	0.0027	0.570507	0.6200	1631448 73	0.6864
KenGen Limited	2013	0.0212	0.608007	0.6392	1886732 82	0.7845
KenGen Limited	2014	0.0185	0.693413	0.4324	2502055 24	0.7892
KenGen Limited	2015	0.0096	0.586611	0.4094	3425199 95	0.6460
KenGen Limited	2016	0.0184	0.52963	0.5590	3672487 96	0.6472
KenGen Limited	2017	0.0208	0.10654	1.1104	3771965 43	0.2211
KenGen Limited	2018	0.0089	0.498874	0.7024	3793530 05	0.6440
KenGen Limited	2019	0.0232	0.514314	0.6342	4014220 00	0.6303
Kenya Power	2011	0.0965	0.668473	0.9922	1198789 93	0.9796
Kenya Power	2012	0.0060	0.583441	0.9044	1341319 83	0.8046
Kenya Power	2013	- 0.0114	0.656714	0.6510	1842125 35	0.8103
Kenya Power	2014	0.0300	0.668863	0.7133	2201093 52	0.7872
Kenya Power	2015	0.1037	0.782567	0.8859	2722860 82	0.9141
Kenya Power	2016	0.0185	0.779474	0.7140	2975421 80	0.8441
Kenya Power	2017	- 0.0034	0.795226	0.6219	3416532 27	0.8406
Kenya Power	2018	- 0.0226	0.809278	0.3819	3366551 89	0.8332
Kenya Power	2019	- 0.0165	0.828823	0.0039	3284946 15	0.8465
Umeme Limited	2012	0.0621	0.683243	1.6952	7559330 00	0.7047
Umeme Limited	2013	- 0.0250	0.678521	1.8433	8889060 00	0.7023
Umeme Limited	2014	- 0.0021	0.741149	1.4059	1211939 000	0.7586

Umeme Limited	2015	-	0.0125	0.716162	1.2675	1774869000	0.7317
Umeme Limited	2016	-	0.0100	0.719721	1.0766	2226053000	0.7296
Umeme Limited	2017	-	0.0095	0.737099	0.7618	2349433000	0.7464
Umeme Limited	2018	-	0.0076	0.706857	0.9145	2463643000	0.7123
Umeme Limited	2019		0.0116	0.210237	1.3783	4533472000	0.2132
B.O.C Kenya Limited	2011		0.1285	0.290534	3.0384	2141747	0.9743
B.O.C Kenya Limited	2012		0.1701	0.27711	3.6473	2228669	1.2145
B.O.C Kenya Limited	2013		0.1828	0.2403	3.6798	2223838	0.9603
B.O.C Kenya Limited	2014		0.2060	0.261466	3.7082	2320956	1.1196
B.O.C Kenya Limited	2015		0.1741	0.240459	3.9799	2300320	1.3015
B.O.C Kenya Limited	2016		0.0271	0.211551	4.9340	2633093	1.1385
B.O.C Kenya Limited	2017		0.0368	0.270722	4.3233	1994865	1.2446
B.O.C Kenya Limited	2018		0.0112	0.268742	4.2472	1816803	1.3435
B.O.C Kenya Limited	2019		0.0199	0.261641	4.8794	1904995	1.6179
British American Tobacco	2011		0.0647	0.836217	8.7693	10797442	7.5508
British American Tobacco	2012		0.0156	0.997385	8.1542	9991492	8.6039
British American Tobacco	2013	-	0.0286	0.947039	9.6746	10245634	9.8191
British American Tobacco	2014	-	0.0677	0.907912	8.9164	10824846	8.1597
British American Tobacco	2015	-	0.1618	1.016862	9.3500	9958667	10.1345
British American Tobacco	2016	-	0.1814	1.012689	7.7228	9296353	7.4668
British American Tobacco	2017	-	0.2118	1.035868	8.1750	7798847	7.3573

British American Tobacco	2018	0.0249	0.962329	6.5315	7625751	4.1882
British American Tobacco	2019	0.3420	1.13418	6.9029	5296557	6.2486
Carbacid Investment Limited	2010	0.0605	0.107324	4.9653	3503501	0.6893
Carbacid Investment Limited	2011	0.0452	0.097003	6.4918	3371233	0.8530
Carbacid Investment Limited	2012	0.0128	0.011579	5.0351	3306679 4	0.1052
Carbacid Investment Limited	2013	0.2261	0.132252	7.0783	3081768	1.2404
Carbacid Investment Limited	2014	0.2151	0.165627	7.0580	2968727	1.5649
Carbacid Investment Limited	2015	0.3428	0.147246	11.1883	2533163	2.3354
Carbacid Investment Limited	2016	0.4304	0.127005	39.0861	2204399	7.8729
Carbacid Investment Limited	2017	0.0025	0.178877	9.1021	2012816	2.2389
Carbacid Investment Limited	2018	0.0135	0.15668	8.7727	1739985	1.9436
Carbacid Investment Limited	2019	0.0941	0.144435	15.1749	1512166	3.2910
East African Breweries	2010	0.0918	0.814453	2.7167	8706562 7	2.6173
East African Breweries	2011	0.0095	0.836455	2.7219	7124682 6	2.7760
East African Breweries	2012	- 0.0029	0.820176	3.6862	6666631 2	3.6433
East African Breweries	2013	- 0.0744	0.834552	3.6007	6568360 8	3.7721
East African Breweries	2014	- 0.0159	1.292844	5.6001	4144862 3	6.5013
East African Breweries	2015	- 0.0323	1.248644	5.1206	4305878 9	6.9051
East African	2016	- 0.0675	0.855964	4.4423	5855605	

Breweries					3	4.7723
East African Breweries	2017	0.0608	0.840323	4.8119	5458431 6	4.6794
East African Breweries	2018	0.0641	0.459123	5.3895	4971213 0	3.1951
East African Breweries	2019	0.3245	0.37657	8.9209	3842069 1	4.5273
Unga Group Limited	2011	0.0991	0.528705	4.2253	8177691	0.8939
Unga Group Limited	2012	0.0460	0.604183	3.5424	7925611	0.8812
Unga Group Limited	2013	0.0872	0.493593	4.3642	7097046	0.8616
Unga Group Limited	2014	0.1264	0.495123	4.5571	6698360	0.8766
Unga Group Limited	2015	0.2015	0.533711	4.6718	5920380	1.0420
Unga Group Limited	2016	0.1667	0.576522	3.6737	6613813	0.7826
Unga Group Limited	2017	0.3227	0.455604	4.4534	5313910	0.6415
Unga Group Limited	2018	0.2300	0.414978	4.3138	4732654	0.5590
Unga Group Limited	2019	0.2151	0.434476	4.4498	3912105	0.6474
Kenya Orchard Limited	2011	0.0105	1	- 0.1816	7037249 1	1.5346
Kenya Orchard Limited	2012	0.0058	0.998694	- 0.1357	6893627 2	1.5444
Kenya Orchard Limited	2013	0.0052	1	0.1988	7059730 0	1.5329
Kenya Orchard Limited	2014	0.0006	1	15.9554	5020217 7	28.4753
Kenya Orchard Limited	2015	- 0.0041	0.919356	10.5634	7873122 3	16.5275
Kenya Orchard Limited	2016	- 0.0264	0.890929	9.6249	8924162 7	14.3798
Kenya Orchard Limited	2017	- 0.0317	0.68091	8.4940	1363835 61	9.5992
Kenya Orchard Limited	2018	- 0.0458	0.626301	1.8995	1442138 31	1.8436
Kenya Orchard Limited	2019	- 0.0313	0.760129	1.2759	1360037 54	1.9126
Flame Tree Group	2014	0.0448	0.613273	3.7960	1054454 805	1.8413
Flame Tree Group	2015	0.0100	0.542627	3.8860	1372229 753	1.5453
Flame Tree Group	2016	0.0683	0.527236	3.5447	1521194 765	1.2689

Flame Tree Group	2017	0.0516	0.564806	2.6040	1680769787	1.1030
Flame Tree Group	2018	0.0318	0.557958	2.2478	1839271808	0.9887
Flame Tree Group	2019	0.0389	0.536578	1.7459	2281167941	0.7286
Safaricom PLC	2011	0.0505	0.401704	5.1806	104120850	2.5338
Safaricom PLC	2012	0.0774	0.407543	3.9173	113854762	1.7426
Safaricom PLC	2013	0.1164	0.377095	5.1211	128856157	2.2396
Safaricom PLC	2014	0.1123	0.335639	8.0904	156957626	3.4754
Safaricom PLC	2015	0.0755	0.331998	9.9520	157828605	4.4698
Safaricom PLC	2016	0.0384	0.266634	12.5158	159182579	4.5203
Safaricom PLC	2017	0.0368	0.335202	11.0445	161686996	4.7955
Safaricom PLC	2018	0.0567	0.259945	15.7072	167439000	5.5720
Safaricom PLC	2019	0.1041	0.250052	19.0613	192476000	6.8070

Appendix 2: Data Collection Sheet for Each Firm

	$\frac{\text{Cash and Cash Equivalent}}{\text{Total Assets}}$	$\frac{\text{Non Current Assets}}{\text{Total Capital Employed}}$	Z score	$\frac{\text{Total assets for individual firm}}{\text{Total Assets for all firms}}$	$\frac{\text{market value of equity + book}}{\text{total assets}}$
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018					
2019					