EFFECTS OF CAPITAL STRUCTURE ON LIQUIDITY OF COMMERCIAL AND SERVICE FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I hereby declare that this dissertation is my original output and it has never been taken to any other learning institution or research organization by anybody else apart from KCA University in pursuance for academic credit. Secondly, I declare that this dissertation does not contain any published or written contents apart from where the researcher has made clear reference and the duly acknowledged the original authors.

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ABSTRACT

Despite some commercial and service firms in Kenya experiencing favourable liquidity ratios, majority of the firms continue to display poor liquidity ratios. The study seeks to assess effect of capital structure on liquidity of commercial and services firms listed in Nairobi Securities Exchange. The study used descriptive research design. The study utilized the data of 8 firms categorized as commercial and service companies listed in Nairobi Securities Exchange between 2009 to 2018. The researcher examined secondary data to establish the effect of capital structure as measured by debt, shareholder capital and retained earnings on liquidity. Liquidity was measured through the current and quick ratios. The data was collected from NSE reports and individual firm reports. In this study both multiple regression panel data and descriptive analysis was done. From the regression analysis, a unit rise in the debt ratio was found to decrease the current ratio as shown by the negative regression coefficient. The effect was found to be strong as shown by a regression coefficient above 0.5. However, a unit rise in the debt ratio was found to increase the quick ratio. However, debt showed a lower absolute coefficient with quick ratio. The study found that increase in shareholders capital ratio would increase current ratio within the period. On the other hand, increase in shareholders capital ratio would increase quick ratio by a lower proportion compared to the current ratio. Retained earnings ratio showed a positive regression coefficient below 0.5 against current ratio. Increase in retained earnings ratio was also found to lead to increase in quick ratio by a small proportion. The findings showed that increase in firm size would increase the current ratio and quick ratio of the firms. The study concludes that debt, shareholders capital, retained earnings and firm size are the main determinants of the liquidity of listed commercial and service firms in Kenya. The study concludes that shareholders capital, retained earnings and firm size have a positive effcet on the liquidity of listed commercial and service firms in Kenya. The study recommeds that commercial and service firms should maintain an optimal level of debt in order to avoid liquidity issues in their firms. The listed commercial and service firms, in order to improve their liquidity ratios, should bring in more shareholders into the firms which would increase the level of shareholders capital in the firm. Listed commercial and service firms in Kenya retain more profits in order to improve their liquidity ratios.

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ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
CBK	Central Bank Kenya
CMA	Capital Markets Authority
EA	East Africa
GDP	Gross Domestic Product
IT	Infromation Technology
JMP	Jump
KQ	Kenya Airways
MM	Modigiliani and Miller
NBM	National Bank of Commerce
NMB	National Microfinance Bank
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
OMX	Open Mobile Exchange
PO	Pecking Order
SME	Small and Medium Enterprise
SPSS	Statistical Package For Social Sciences
SPVs	special purpose vehicles
UNCTAD	United Nations Conference on Trade and Development
US	Unite States
USA	United States of America

OPERATIONAL DEFINITION OF TERMS

Capital structure	This is the process setting up, mechanisms and courses of actionto ensure that the firm is run in towards fosterings high shareholder capital value in the long run via ensuring that managers are accountable in their jurisdictions and enhance liquidity of the firm (Kajananthan & Nimalthasan, 2013).
Liquidity	It is the monetary measure that aide the firms to gauge outcome of their operations or payoff of an organization's strategies and processes (Erasmus, 2008).
Debt	Total loans that a firm has on its alance sheet (Haq & Zaheer, 2011).
Shareholder capital	This is a firm's share capital (Moyer et al., 2009)
Retained earnings	The profits that a firm, less any dividends or other distributions paid to investors (Kanwal, 2012).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Capital structure is the composition of a firm's liabilities. A firm can be financed by the shareholders or debt holders or hybrid (Umar, Tanveer, Aslam & Sajid, 2012). If the liquidity can be affected by capital structure or financing decision, a firm would like to have a capital structure which maximizes the market value of the firm. The crucial decision that any company takes is that of capital structure because capital structure decision plays undeniable role in the success or failure of the firm. The choice of the long term financing mix is generally called the capital structure decision. It indicates the extent of financing risk in the firm and also determines the proportion of borrowed funds in financing firm's assets. It shows the ways in which a firm finances its assets. Thus, deciding how to finance a firm is very important not just to the managers of a firm but also to fund providers and owners (Ajao & Ema, 2012). Firm with significantly high level of debt may have problem in paying financing costs and are generally faced with the risk of bankruptcy. A liquid firm is one that pays all its obligations timely and can minimize the risk of bankruptcy.

Firms in their operations seek to maintain sufficient liquidity position for timely paying their short-term obligations and smooth functioning. Moreover, Williamson (2018) has argued that liquidity of the assets is limited by the optimal level of debt of the firm and it depends on the average usage of the debt in the particular industry. In this scenario, a closer link may be expected between capital structure and liquidity. Likely, access to external funding is generally easier for liquid firms whose financial ratios correspond to the criteria of commercial and service firms.

Firms are constantly looking for ways to achieve high liquidity and therefore a lot of studies have been conducted by firms in efforts to determine the factors that influence liquidity of firms. The studies identify capital structure as one of the factors affecting a liquidity on one hand and on the other hand these studies contradict the view that capital structure does not affect a firm's liquidity arguing that capital structure is irrelevant to a firm's liquidity. The capital

structure of a firm is basically the way a firm finances its assets through some combination of debt and shareholder capital that a firm deems as appropriate to enhance its liquidity (Stewart, 2011).

1.1.1 Capital Structure

In their book, Naveed et al (2010) defines capital structure is a composition of diverse sources of funds that firms utilize to finance daily operations and future expansion, this is dependent on shareholder capital and debt composition also known as hybrid financing. Capital structure is the process by which an enterprise finances its long term and long term financial requirements, preferece stock and common stock (Moyer et al., 2009). It is termed as shareholder capital from owners and debt bearing interest which include short duration bank loans. Capital structure is a process of istituting the framework, procedures and mechanisms that safegurad the operations of the the firm and warrant that it is run prudently to enhance value of shareholder capital in the long run via ensuring that the managers are accountable of their actions, it also boost liquidity of the organization (Kajananthan & Nimalthasan, 2013).

Capital structure is a combination of common stock and other financial obligations that a business organization utilize to finance its daily monetary needs, it can also be termed as a combination of different stocks (Abor, 2015). An organization has liberty of choosing among many other alternative capital structures. An example of this is lease financing, bonds, forward contracts swaps and options among others. The firm is in a position to allot to investors diverse stocks in different mix for the maximization of the entire marketworth. Globally cultural and institutional differences may affect a company capital structure and liquidity from different regions. Booth (2011) research on Chinese listed companies capital structure found out that that their capital structure is influenced by different institutional structure as compared with Europe and countries such as USA. He found there is a great difference in capital structure between China and western world caused by institutional structure.

1.1.2 Liquidity

According to Graham (2010), liquidity is defined as how cash, cash equivalents and other assets can be easily converted into cash. Liquidity ratio is able to calculate the firm's ability to pay off its short term debt obligations. Here, cash reserve ratio is referred as liquidity. Liquidity as a term, is usually used in many ways. Firms liquidity is how capable a firm is in retaining

enough funds to meet its maturing obligations (Greuning & Bratanovic, 2004). How easily one can convert an asset into cash often describes the asset's liquidity (Berger & Bouwman, 2008). According to Greuning and Bratanovic (2004), liquidity management mitigates two kinds of risks; the first one being that low liquidity levels will lead to attracting other sources of deposits which are expensive and will reduce profitability hence leading to insolvency. The second risk is having high levels of liquidity which will reduce return on assets and eventually lead to low profitability.

The International Financial Reporting tandards (2006) define liquidity as the available cash for the near future, after taking into account the financial obligations corresponding to that period. It is argued that firm can use liquid assets to finance its activities and investments when external finance are not available (Liargovas and Skandalis, 2008). On the other hand, higher liquidity can allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings. Firm liquidity has been established as a factor that affect firms capital structure decisions and financial perfromance (Almajali et al 2012). The liquidity is essential for company existence. It principally has an effect on financial costs reduction or growth, changes in the sales dynamic, as well as it influences on company risk level.

The decisive significance of liquidity means that it is important for company development and at the same is one of the fundamental endogenous factors which are responsible for company market position. The significance of liquidity to company performance might lead to the conclusion that it determines the profitability level of company. This issue was the subject of many theoretical and empirical studies which were conducted, among others, by Smith (2001), Shin and Soenen (2004) and Obida (2010) Hence, it should be emphasized that although a number of studies, the nature of liquidity impact on profitability is still not entirely recognized.

A firm should ensure that its liquidity is enough in order to cater for its short-term requirements. Liquidity should be studied with great importance due to its influence on the daily operations of business by both internal and external analysts (Brigham & Gapenski, 1994).The overall goal in liquidity management is to get an efficient balance between leverage and liquidity (Nahum et al.,2007).

1.1.3 Capital Structure And Liquidity

Capital structure and liquidity has been extensively studied. Frieder and Martell (2006) find that higher liquidity is associated with lower leverage, as predicted by the trade-off model. Likewise, Lipson and Mortal (2010) discover that firms with more liquid equity carry less debt. Further, when considering external financing, firms with more liquidity are more inclined to raise equity than debt.

Williamson (2018) showed that liquidity of the assets limits the optimal level of debt of the company regarding the average of debt usage in the particular industry. Submitter and Anderson (2012) demonstrated the positive relationship between liquid assets and debt of the firm. It can be explained that company is trying reduces the probability of distress of high leverage characteristics of capital structure with holding liquid asset as a precautionary solution. They also showed a negative relation between liquid assets and borrowings of the firm, assuming the substitute financing role for them in situation of lack of cash. Amazingly, they conducted the same test on the sample of Belgian firms and their findings showed a positive relationship between liquid asset and ST debt, while the relation between liquid assets and debt is negative.

The company will follow the "pecking order style" to finance investments (Deesomsak, Paudyal & Pescetto, 2014). Myers and Majluf (1984) explained that firms follow a hierarchy of financial decisions when establishing its capital structure. Initially, firms finance projects using retained earnings because this financing method incurs no flotation costs and require no disclosure of the firm's financial information (Bevan & Danbolt, 2012). If the retained earnings are insufficient, then firms opt for debts (DeAngelo & DeAngelo, 2017); if further financing is required, then the last option for the firm is to issue equity. The findings of several studies are parallel with PO theory (Eriotis, Vasiliou & Ventoura-Neokosmidi, 2017; Rajan & Zingales, 2015; Seifert & Gonenc, 2010; Sheikh & Wang, 2011). The studies show that, capital structure has a significant effect on liquidity.

According to Holmstrom and Tirole (2008), commercial and service are better positioned to absorb liquidity shocks that may affect their investments. Berger and Bouwman (2005) document that this is an important activity for commercial and service firms because about half of the liquidity they create is done via loan commitments. Further, there is abundant evidence

that firms' funding choices affect their credit provision role to corporations, suggesting that they may also affect their ability to provide liquidity to corporations. Finally, as firms increased their use of the wholesale funding markets and broadened their liquidity provision role to include special purpose vehicles (SPVs) and conduits, they became exposed to new sources of liquidity shocks with potential effects on their ability to provide liquidity.

According to Berger and Bouwman (2015) for large firms, the net effect of capital on liquidity creation to be positive and statistically significant, consistent with empirical dominance of the risk absorption effect. In sharp contrast, they found a negative, statistically significant effect of capital on liquidity creation for small firms, consistent with dominance of the financial fragility-crowding out effect. Liquidity held by commercial and service firms depicts their ability to fund increases in assets and meet obligations as they fall due. The Kenyan commercial and service sectors' average liquidity in the twelve months to December 2018 was above the statutory minimum requirement of 20 per cent.

1.1.4 Commercial and Services Firms listed in Nairobi Securities Exchange

Nairobi securities exchange is the largest in East Africa and it dates back to 1920s but it was officially recognized by london stock exchange in 1953. It has categorized the listed firms into fourteen and this research is going to work on commercial and services sector that has eleven firms in total listed in NSE. Commercial firms includes companies providing mass printing, ecological and service facilitation, supplies services and other miscellaneous services. Services firms provide services to people without production of goods.

Commercial and service industry is a major player in Kenyan economic growth and development through creation of employment opportunities, increasing GDP and earnings from foreign exchange for largest part of the post-independence period (UNCTAD, 2018). The contribution of these two sectors to the country's economy has been even larger, with the industry contributing to 63% of GDP in 2018 (CBK, 2018). The key contribution of the services segment to the Kenyan economy is very important to trade balance. The annual export of services account for around 50% for the period since 1980 (UNCTAD, 2018).

To enhance their liquidity, commercial and services firms should efficiently manage their capital structure components in order to minimize costs and maximize profits in their operations. Decisions on capital structure play a key role in overall firm strategy in order to enhance shareholder firm value in both commercial and services firms (Siddiquee, Khan, Shaem & Mahmud, 2017). Determining the optimal composition and level of debt and specific short term debt relative to shareholder capital can enable a commercial and service firm to gain competitive advantages over its rivals (Haq & Zaheer, 2011).

Commercial and services firms that manage capital structure efficiently aims to ensure an optimum balance between profits and liquidity risk (Saccurato, 2014). Recent activities by these firms indicate their awareness on role of capital structure on liquidity of the firm. The additional issuance of new shares by Atlas Development and Support Services Limited which was cross-listed in both the NSE and London Stock Exchange and rights issue that was further approved for Longhorn Publishers Limited indicate the firms are sensitive on the importance of decreasing leverage and therefore risk (CMA, 2016).

The success of commercial and service sector heavily depends on the effective skills of financial managers in making optimal capital structure decisions. In Kenya companies, commercial firms listed in Nairobi Stock Exchange majorly rely on short term finance in financing their investments as a result of hardships in acquring long term credit (Kamau, 2009). Decisions of firm capital structure is essential to all Kenyan firms as a result of wealth maximaization of the securities holders and the impact of the decision on the enterprise capability to administer its compettitive industry atmosphere in which it operates (Kibe, 2009).

1.2 Statement of The Problem

Establishing an optimal capital structure is a crucial assignment for the management of any firm. The optimal capital structure is a very difficult decision for finance managers to make (Noreen, 2013). If wrong combination of financing mix is adopted; survival and firm's liquidity may be affected in a negative way. In Kenya, numerous business organizations have liquidity issues which have resulted in some of these firms been delisted or suspended from the Nairobi Securities Exchange in the last decade. The most recent is Deacons (EA) PLC which falls in the commercial and services sector.

Despite some commercial and service firms in Kenya, like Longhorn, experiencing favourable liquidity ratios, majority of the firms continue to display poor liquidity ratios (NSE, 2018). For example, Uchumi supermarkets which has been looking for potential strategic investor and government shareholder loan is imminent with expected release of 700m (NSE, 2018). KQ Commercial and service firms have also experienced capital related problems. Kenya airways' current liabilities exceeded their current assets by KShs. 44,554 million and KShs. 46,895 million in 2017 and 2016 respectively (KQ, 2018). Commercial and service firms listed in NSE have also experienced challenges related to capital structure. For example, Uchumi has been struggling to pay Ksh.2.8 billion debt which has accumulated since the year 2000 (NSE, 2018). In May, 2019 KQ breached debt ratios on Sh77 billion debt by international lenders (CMA, 2019). KQ on the has also been in the recent months pushing for a merger with KAA in order to overcome capital structure problems. This trend may shatter the dreams of Kenya meeting the economic pillar of vision 2030. Majority of the firms including commercial and service firms do not maintain optimal capital structure mix which has created the financial issues in the firms. This creates the need for firms to maintain optimal capital which would enhance liquidity .

How capital structure affect the liquidity of a firm has currently become a hot research topic over the years (Sibilkov, 2007). The implications of the effect of capital structure and liquidity is however not agreed upon in research. Globally, Anderson (2012) found a positive effcet of capital structure on liquidity. Locally, a similar study was done by Oduol (2011) on the relationship between liquidity and leverage of companies quoted at the NSE. This study focused on all firms other than specifically focusing on commercial and service firms. The study covered a period of five years (2006 to 2010). However, this study covered a period of ten years (2009-2018). He also focused on debt as the only measure of capital structure. This study based the analysis on debt, shareholders equity and retained earnings as the measures of capital structure. Other studies done locally included Ayot (2013) on capital structure of listed non financial firms in Kenya; and Gathogo (2014) who studied the relationship between firm specific factors and capital structure of Kenyan Firms. The studies were based in different sectors with the current study based on commercial and service firms. The inconclusive results and the research gaps on effect of capital structure on liquidity creates the need for this study. There is also scanty studies

on the area of study that relate to effect of capital structure on liquidity of commercial and service firms listed in NSE.

1.3 Objectives of the Study

1.3.1 General Objective

To assess effect of capital structure on liquidity of commercial and services firms listed in Nairobi Securities Exchange

1.3.2 Specific Objectives

i. To examine effects of debt on liquidity of commercial and service firms listed in Nairobi Securities Exchange.
ii. To analyze effects of shareholder capital on liquidity of commercial and service firms listed in Nairobi Securities Exchange.
iii. To find out effects of retained earnings on liquidity of commercial and service firms listed in Nairobi Securities Exchange.

1.4 Research Questions

i. What are the effects of debt on liquidity of commercial and service firms listed in Nairobi Securities Exchange.
ii. What are the effects of shareholder capital on liquidity of commercial and service firms listed in Nairobi Securities Exchange.
iii. What are the effects of retained earnings on liquidity of commercial and service firms listed in Nairobi Securities Exchange.

1.5 Justification of the Study

The study findings will be of great importance to the financial decision makers in the firms listed in Nairobi Securities Exchange in the category of commercial and services sector in making effective and efficient capital structure decisions considering its repercussions on their liquidity. It will enable management come up with a capital structure that yields maximum capital flows. The findings will be of great importance to the existing investors and potential investors who will have a platform to base their decision on where to invest their funds in the

commercial and services sector. The findings will help them see the outcome of different capital structures on liquidity of the firms.

The findings will enlighten the government on formulation of capital structure policies for the corporations to adhere to inorder to safeguard investors funds, this will be through setting rules and regulations on limits of borrowed capital and shareholder capital inorder to maximize liquidity. Scholars will find this study of great importance because it will add contibution on existing body of knowledge on capital structure effects on liquidity of business organizations.

Scholars will also be in a position to compare the findings of this study with those of other scholars and check for consistency and build up the knowledge by further research on this area of study. Finally Nairobi Securities exchange and capital market authority who are the regulators of commercial and services firms whose shares are listed in the stock exchange have a base of setting rules and regulations that will govern these firms actions in making decisions that are for the better interest of the other stakeholders.

1.6 Scope of the Study

The study focused on the effect of capital structure on liquidity, commercial and service firms listed in NSE were involved. The study was conducted on 8 firms in a 10 year period from 2009 to 2018. This is due to the fact that the number of listed commercial and service firms in Kenya are very few. Hence, the researcher used the most current years on a 10-year period in order to base the study on the most current data and get enough data for analysis. The study focused on debt, shareholder capital and retained earnings as the independents variables whereas the dependent variable was liquidity (quick ratio and cash ratio).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review chapter will cover an overview of analysis of literature from the past on capital structure and firm liquidity and capital structure theories that are related to this study, empirical review, conceptual framework and operationalization of variables that the researcher has considered in the research.

2.2 Theoretical Review

Here the researcher gives an overview of theories on capital structure and liquidity that scholars have reviewed in the past and they are recorded in the diverse body of financial literature. These theories include Modigliani and Miller theorem, the tradeoff theory, pecking order theory and Agency theory.

2.2.1 Modigliani and Miller Theorem

The starting point in the modern theory of capital structure is the publication by Modigliani and Miller in the year 1958 . The main conclusion from this paper was that the value of a company is independent on its capital structure, also known as the "capital structure irrelevance". This conclusion was however based on the assumption that firms act in a perfect market, in which Modigliani and Miller assume that individuals can borrow and lend at the risk-free rate and there are only two types of finance which is risk-free debt and risky equity. In the hypothesis of MM theory, all firms are in the same level of risk, no growth, symmetry information and no agency costs.

Modigliani and Miller Theorem has two propositions. Proposition I is based on assumptions of perfect market conditions. Breuer and Gürtler (2008) argue that the percentage of either debt or equity in capital structure does not influence the market value of a given firm. In this proposition, the value of the firm is computed by capitalising the net operating. Thus, under this theory, the proponents conclude that there is no optimal capital structure (Stern & Chew, 2013).

MM II proposes that the cost of equity financing is equal to the constant average cost of overall capital plus a risk premium (Luigi & Sorin, 2011). Ideally, this proposition holds that the cost of capital will remain constant even when excessive debt is raised. This is not true as the cost of debt varies with the level of debt raised. This implies that even with increase in debt, there is no added value created since the burden of individual risk is shifted between different classes of investors. This proposition introduces the aspect of arbitrage to further support the proposition (Sethi, Derzko & Lehoczky, 2011). The market equilibrium will always be restored through an arbitrage process whereby the investors will engage in personal leverage for firms with similar firms except for the degree of leverage (Stern & Chew, 2013). MM with taxes considers the tax deductibility of interest expense, which makes debt financing cheaper. An ideal capital structure would be made up of pure debt under MM II. Thus, under this proposition, for firms to increase their financial performance, they should make use of more debt to equity since it results in to a lower cost of capital.

Research work on capital structure is based on foundations layed down by Modigiliani and Miller (1958) contribution, they established the theory of capital structure referred to as the MM theory. MM theory postulates that optimal capital structure does not exist in any organization because every firm institute its capital structure depending on its principals and needs. The theory is based on the assumption that firm operates in a perfect market and and that it does not pay no taxes to the government. They layed a firm foundation of ongoing research on capital structure.

In a study by Watson and Head (2010) they observed that amendment was done to rectify the earlier theory since Modigliani and Miller agreed to the fact that interest rate payments are tax allowable when paying corporate taxes. In view of this assumption corporations could replace shareholder capital with debt which believed to cheaper as a result of been tax allowable. The Modigliani-Miller theory of capital structure was criticized because the assumption that capital markets are perfect is completely unrealistic. The arbitrage, as proof of the Modigliani-Miller theory, was also strongly criticized. If there are no perfect capital markets, the arbitrage will be useless because a levered and an unlevered firm within the same class of business risk will have different market values (Titman, 2012). According to Sethi, Derzko and Lehoczky (2011), MM model does not consider the fact that there exist bankruptcy costs that usually rise

due to the fact that there is a tradeoff amongst cost of debt and shareholder capital based on their proportions in the capital structure. They thus consented that firm value tends to improve as a result of reduction in costs associated to capital which reduce when debt is used since interest on debt is allowed when paying corporate taxes to the government.

2.2.2 Trade off Theory

According to Modigliani and Miller (1963), the value of a firm increases with debt due to the benefits of tax shields. This means that firms should strive for as high debt/equity ratio as possible. However, this is not what is seen in the real world because of the fact that other factors determine the optimal level of capital structure as well. One theory that develops this further is the trade-off theory. This theory emphasizes a moderate borrowing of external sources by tax paying companies. Basically, the theory states that there is a trade-off between the benefits of leverage, such as tax shields, and increased cost of financial distress. Moreover, according to this theory it seems that firms strives for an optimal ratio between debt and equity.

According to Keynes (1936), firms need liquidity to face their current expenses. Thus they have to raise funds in capital markets or liquidate existing assets. However, capital markets are imperfect and there are transaction costs which can be avoided by holding a sufficient cash level. Thus, the firm can avoid the situations where it is forced to forgo its profitable investments, to cut its dividend payments or to liquidate its assets. And this is one of the principal benefits of holding a sufficient cash level.

Cost of liquidity and illiquidity are involved in maintaining a particular level of current assets. Very high level of current assets means excessive liquidity hence return on assets will be low as funds are tied up in idle cash and stocks earn nothing while high levels of debtors reduce profitability. Therefore cost of liquidity through low rates of return increases with the level of current assets. Conversely, cost of illiquidity means holding insufficient current assets whereby a firm will be unable to honor its obligations forcing it to borrow on short-term at high interest rates. This adversely affects a firm's creditworthiness and may limit future access to funds and possible insolvency. In a study carried out by Liargovas and Skanda (2008) argues that firm can use liquid assets to finance its activities and investments when external finance is not available.

One cost considered to determine the optimal size of cash balance is the opportunity cost of holding cash (Baumol, 1952; Whalen, 1966). In a perfect capital market, a firm can raise debt and hold as cash on the balance sheet at no cost, since cash will generate the same interest as charged for the debt. In reality however, the cost of debt is likely to be greater than the return on cash (Miller, 1986). If assuming that managers act in shareholders' interest and maximizes firm value, the only cost of cash is the difference between return on cash and the interest paid to finance another investment of the same risk. This opportunity cost, often called cost of carry, affects firm value negatively and is borne by the shareholders. (Servaes & Tufano, 2006).

Berk (2017) gave an overall explanation of the theory by stating that according to the trade-off theory; the total value of a levered firm equals the value of the firm without leverage plus the present value of the tax savings from debt, less the present value of financial distress costs. According to Myers (1984) the cost of financial distress comprise the legal and administrative costs of bankruptcy, as well as the subtler agency, moral hazard, monitoring and contracting cost which can erode firm value even if formal default is avoided. As mentioned earlier, debt has tax advantages due to the tax shield but too high leverage increases the risk to financial distress since the firm have an obligation to pay interest and amortization even if they are short of cash. If the firm cannot pay their obligations to debtholders, the creditors can take legal actions and confiscate the firm's assets.When financial distress appear, the bankruptcy risk also increases. There are two kinds of financial distress costs; indirect and direct.

This hypothesis states that any enterprise usually accept additional debts up to the level where the benefits or savings secured by the firm in terms of marginal value of tax shields is offset by increase in the present cost of financial distress. This in return will lead to reduction of firm value due to increase in financial distress cost (Myers, 2001). Financial distress according to scholars is defined as insolvency cost, re-structuring cost and agency costs that result from increased doubts in a firm's creditworthiness as a result of increase in levels of debt. If a company debt proportion is high investors consider the firm as a risky organization to invest their funds in. For the investors to invest in such a firm it has to pay higher returns to the investors. It is thus assumed that the firm will substitute debt for equity in such a scenario thus

increasing its debt to a point where it is uneconomical to use more debt in place of equity. The firm's conservative nature is not explained in this theory when utilizing borrowed capital. According to this theory both levered and unlevered firms have equal values when you add back the present value of tax shield and less financial distress cost to the levered firm cost of capital.

2.2.3 Pecking Order Theory

Pecking order theory originally come from Myers and Majluf (1984). The theory assume perfect capital markets with the exception that investors are excluded information about the true value of either the assets or the investments opportunity, which result in difficulties to estimate an exact value of the securities issued to finance the new investment. The pecking order theory illustrate why the main part of external financing comes from debt. It shows why firms that generate positive earnings borrow less. Firms that generate profits have higher degrees of internal financing because they have more liquid funds. Firms with lower levels of positive earnings require external financing through debt.

The pecking order theory originates from a publication by Myers in 1984. This theory of financial choice presumes that companies do not specifically aim for a certain debt ratio, but instead use external sources of financing only when internal sources are not sufficient. Myers (1984) states that adverse selection entails that retained earnings should be preferred over debt and that it is better to finance the operations from debt instead of equity. Assumption of the pecking order theory is that a company have three means of financing its business. Moreover, Frank and Goyal (2005) emphasizes that the specific order emanate from several different sources such as taxes and agency conflicts.

As a contradiction to the trade-off theory, this ordering opposed the presence of an optimal level of debt due to the fact that both internal and external sources of financing involved equity. Firms may choose to adopt a hierarchy when selecting financial sources due to the information asymmetry emerged between managers and investors. From the assertion of Serrasqueiro and Caetano (2012), the more profitable a firm is, the greater the capability is to acquire retained earnings, and hence there is a lower obligation to use external sources. With this reasoning, it should be a negative correlation between debt and profitability, which means that high profitable firms should have lower debt/equity ratios.

Guglielmo (2008) explains that if a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earnings than it would have without this outside financing. If this were to increase earnings by a greater amount than the debt cost (interest), then the shareholders benefit as more earnings are being spread among the same amount of shareholders. However, if the cost of this debt financing ends up outweighing the returns that the company generates on the debt through investment and business activities, 13 stakeholders' share values may take a hit. If the cost of debt becomes too much for the company to handle, it can even lead to bankruptcy, which would leave shareholders with nothing (Tirole, 2010).

On the other hand, the pecking order theory assumes that firm prefers internal to external financing and debt to equity if it issues securities. Firm has no well-defined target debt to value ratio (Acaravci, 2015). The pecking order theory was first suggested by Donaldson (1961) but it received its rigorous theoretical foundation by Myers and Majluf (1984). In Myers (1984) and Myers and Majluf (1984) pecking order model there is no optimal debt ratio. The implication of the Pecking Order Theory is that firms do not have a target debt equity ratio as they choose their leverage ratio based on their financing needs. This theory also implies that firms do not have target cash balances but cash is actually used as a buffer between retained earnings and investment needs (Ferreira & Vilela, 2004). This also means that when a firm increases its internal funds, its leverage falls. As a firm continues to maintain a surplus of internal funds for the purpose of reducing adverse selection costs, it will accumulate excess cash which it will use to pay off its debt when due. As for a firm which does not have a constrained investment policy, it simply uses cash flow to increase cash (Opler et al. 1999).

Pecking order theory is majorly based on asymmetric information cost. According to this theory firms usually give the first priority to internal financing sources, then debt and equity is given the last priority. Firms first raise funds from internal sources until they are depleted then they utilize debt to finance the remaining projects. When the company is not able to issue anymore debt they now resort to issuance of equity. Pecking order theory advocates for firms to stick to hierarchy of financing at all times. The order of preferences is a clear indicator of the proportionate costs of above mentioned strategies of financing (Abor, 2015; Berk & DeMarzo, 2007).

Asymmetry of information amongst different users who include both outsiders and insiders usually prompt the management of the firm to firm to opt for internal funding sources followed by debt and finally shareholder capital as it adds outsiders to ownership of the firm. The preference is dependent on the respective costs of funds available that the firm can use in financing its operations which is as result of information asymmetry problems that arises amongst present and potential providers of capital to the firm (Javed & Ahtar, 2012).

2.2.4 Agency Cost Theory

The theory of Agency cost was as a result of conflicting interests between management on other stakeholders of the firm, it states that interest of these stakeholders are not perfectly correlated (Jensen & Meckling, 1976). One of the benefits in using debt as a mean to finance a firm's assets can be explained by the agency theory. According to Stretcher and Johnson (2011), the owners' incentives might differentiate from the agents' (the managers) incentives regarding the decision on what capital structure to pursue. Moreover, Jensen and Meckling (1976) emphasize that managers may have incentives to use the company's cash in a wasteful manner.

According to Jensen and Meckling (1976), capital structure is determined by agency costs. Agency theory focuses on the costs which are created due to conflicts of interest between shareholders, managers and debt holders. The conflicts between managers and shareholders occur due to disagreements over an operating decision. Harris and Raviv (1990) adopt that even if shareholders or debt holders prefer liquidation of the firm, managers always choose to continue the firm's business. On the other hand, Stulz (1990) assumes managers always prefer to invest all usable funds even if paying out cash is better for shareholders. So debt constrains the amount of free cash flow available for profitable payments. Therefore, capital structure is determined by the conflicts of interest between inside and outside investors (Bas et al., 2009).

If the assumption of aligned interests between managers and shareholders is relaxed, managers may hold cash to pursue its own objective rather than maximize shareholders' wealth (Jensen, 1986). Jensen (1986) argues that managers have an incentive to hoard cash as it allows them to stay independent from capital markets and remain control over the firm's assets. With cash readily available, managers can pursue investments that are value destroying,

which capital market does not agree to finance. Investing in cash can hence have negative impact on firm value as it allows management to avoid the discipline of capital markets (Ferreira & Vilela, 2004).

When there exist debt in a firm, eventually a conflict between stockholders and bondholders will occur, under the condition when the outcome of investment decisions affect the value of debt and equity. Managers often take equity holders side in these conflicts due to the reason that they have a personal interest to increase the value of equity and the second reason is that they are elected by the board and the board is chosen by stockholders of the company. Such actions from the managers can decrease the firm value (Berk & DeMarzo, 2014). During the condition of financial distress, disagreements between stakeholders come to surface and the cost of solving those disputes are named agency costs. Thus agency problems can never totally be solved, because shareholders interests will always be subordinated when managers wealth are at stake. On the other hand, Berk (2017) argue that managers in a firm exposed to high levels of financial distress may favor shareholders and disfavor debtholders which will lead to decrease in firm value.

In their assertion, Jensen and Meckling (1976) observed that agency conflicts bring about three categories of agency costs which usually reaffirm the importance of capital structure in a firm. The first category of agency cost is asset substitution effect that emphasizes that management is pleased by an increase in debt to equity ratio in the capital structure and they become motivated to invest in risky or even negative present value projects since if the project succeeds shareholders get all the gains and if the project fails the debt issuers get the entire pinch. Project failure would decrease the value of the firm thereby transferring wealth from lenders of capital to the common stock shareholders (Jensen & Meckling, 1976).

The second category of agency cost is the problems associated with management under investing the available funds in the projects where if risk of the debts is high then the cash flows from the investments would accrue to lenders instead of the owners of the company. Here the management of the firm invest in projects with negative present value and forego projects with positive net present value that would enhance the value of the firm which is a selfish aspect of management. Lastly we have agency costs that arise from the firm's free cash flows, these cash flows should be given back to the investors because if its left at the disposal of management they

would be motivated to destroy the firm by building empires within the firm through huge remunerations at the expense of giving the excess funds to the shareholder capital holders (Jensen & Meckling, 1976). They made a conclusion that firms should increase debt level in order to instill liquidity management discipline the management.

2.3 Empirical Review

In their research, Khalaj, Farsian and Karbalaee (2013) found that there is a significant relationship between two of three proposed liquidity ratios and leverage. Halil and Hasan (2012) examined the effect of firm size on liquidity, with evidence from Turkish manufacturing companies. The data for the study were retrieved from web sites of Istanbul Stock Exchange (ISE) and Public Disclosure Platform covering the period of 2005 - 2011 for the manufacturing firms listed in the ISE. All the firms that were present for the entire period of the study were considered in order to obtain a uniform panel. The firms that were on the Watch List Companies Market and have missing data were excluded from the data set. After this elimination a balanced data set of 143 companies was used. Total assets were used as the proxies of firm size. Furthermore, leverage and the ratio of inventories to total assets were considered as the control variables. According to the results, firm size had a positive impact on the liquidity of Turkish manufacturing companies.

In Slovenia, Mocnik and Sirec (2015) shed light on the factors like firm size, leverage ratio and labour costs that determine the liquidity of a developing firm using a sample of 782 Slovenian fast-growing firms. The study covered a span of 2 years (2008 - 2009) and the data was analyzed using a combination of ordinary least square regression method and multiple least square dummy variable regression. Quick and current ratios were used to measure liquidity while log of assets was used to measure the firm size. The result from the findings showed a negative relationship between firm size and liquidity.

2.3.1 Debt and Liquidity

According to Tirole (2006), debt takes many forms. The essence of debt is that the borrower must repay the funds along with agreed-upon service charges such as interest and loan origination fees. If the money is not repaid as promised, the lender can start collection proceedings. This process can become very uncomfortable for the entrepreneur, who

could stand to lose the business and any non business assets pledged to secure the loan. A long term loan usually has a payback period between one and five years. Depending upon the deal negotiated, these loans are normally secured (collateralized by assets) and guaranteed by the entrepreneurs. Rates and terms on longterm loans vary greatly based on the lending institution's policies and the business's age and financial status (Bichsel & Blum, 2005). Debt can either be short term or long term; the short term debt is measured by the ratio of current liabilities to total assets while long term is the ratio of non-current liabilities to total assets (Bean, 2008). Interest rates on loan facilities have remained low owing to the cutthroat competition in the financial sector market. At the same time, asset financing has become a very popular product amongst commercial banks and micro-finance institutions and many firms have embraced the product.

Collateral (personal assets) is pledged by the entrepreneur to offset the loss to the lender should the entrepreneur default on the loan. If a borrower fails to meet the terms of a secured note, the lender takes possession of whatever asset was pledged as collateral and sells it. The proceeds of the sale are then applied to the amount due on the note. The loss of collateral will not release the borrower from all liability on the debt if the collateral sale proceeds are not enough to pay off the loan and the lender's costs of retaking and selling the collateral. If the sale of the collateral is insufficient to repay the debt, the lender may then look to the guarantee provided by the entrepreneur for the remaining unpaid balance (Central Bank of Kenya, 2013).

According to Anderson (2002) firms with high liquid assets prefer high degree of long-term debt without changing the structure of their liquid assets. Liquid assets is a guarantee that in times of lower earnings, or when it is difficult for a company to get financed on the capital market, or when the cost of capital is extremely high, can survive such situations. Such firms will avoid riskier projects that might bring them higher profit and for that reason growth of the company will be slower. There exists a variety of empirical studies that address the critical issue of effect of capital structure on firm performance in the first world states however despite there been a number of studies their results are contradictory since they yield mixed outcomes; as for the developing nations research shows that there exists a limited number of studies which give empirical evidence on effect of capital structure on financial performance. Anderson (2012)

showed the positive relationship between long term debt and liquid assets of the company. It can be explained with the precautionary motive in holding the liquid assets for the company with high leverage long term characteristics of its capital structure. In the companies the relationship between debt and liquid assets was negative.

In Nigeria, Uwalomwa and Uadiale (2012) did a study to investigate the relationship between capital structure and the liquidity of listed firms in Nigeria. The study considered a total sample of 31 listed firms on the floor of the Nigerian stock exchange. The annual reports for the period 2005-2009 were analysed using the Ordinary Least Squares (OLS) technique of model estimation to test the research propositions stated in this study. The study observed that two of the explanatory variables in the study (retained earnings and shareholders' funds) have a significant positive impact on the liquidity of listed firms in Nigeria. In addition, the study observed that debt has a significant negative impact on the liquidity of firms. The study concludes that employing high proportion of debt in firms' capital structure will invariably result in a low liquidity ratios of a firm. Dube (2013) did a study on the impact of debt financing on liquidity of small and medium scale enterprises in Zimbabwe. The study found that liquidity in a firm was positively related to the level of debt financing.

In Malaysia, Mahmood and Mansor (2018) used a sample of 17 firms for a period from 2000 to 2015 to understanding the debt policy changes among Malaysian listed firms after crisis of 1997. Their results showed that there was a negative relation between liquidity and level of debt. In the Unitd States, Sibilkov (2009) investigated the effect of liquid assets on capital structure. Testing data from a wide sample of public listed firms on U.S., he found that leverage is positively associated with liquid assets. More analysis showed that the relation between secured debt and asset liquidity is positive, while the relation between unsecured debt and asset liquidity is curvilinear.

In America, Gill, Nahum and Neil (2011) conducted research on capital structure effects on illiquidity of firms. A sample of 272 American firms listed on New York Stock Exchange for a period of 3 years from 2005–2007 was selected. The correlations and regression analyses were used to estimate the functions relating to liquidity (measured by current ratio) with debt ratio as a measure of capital structure. Empirical results show a negative relationship between

debt to total assets and liquidity in the service industry. The findings of this paper show a positive relationship between debt to total assets and liquidity in the manufacturing industry.

In Malaysia, Ghasemi and Ab Razak (2016) investigated the effect of liquidity on the capital structure among the three hundred listed companies in the main market of Bursa Malaysia from 2005 to 2013 fiscal years. Pooled OLS is applied to investigate the impact of liquidity ratios on different debt ratios. Liquidity of a company, which is the independent variable of this study, is measured by two common ratios which are: quick ratio and current ratio. Additionally, the debt to equity and debt to asset ratios represent the capital structures. The results show that all the measures of liquidity had significant impacts on all the proxies of capital structure. According to the results, Quick ratio has a positive effect on leverage; although, Current ratio is negatively related to leverage.

Findings by Akdal (2010) have demonstrated, on a sample of British companies listed on stock exchanges, through all five measures of debt, negative relationship between liquidity and debt of the firms. On the other hand, Vu (2012) considered the influence of the internal variables of commercial banks affecting liquidity with the sample of thirty seven Vietnamese commercial banks in the period from 2006 to 2011. Through statistical analysis, disproportionate correlation and regression of data with the fixed effect, the study found the impact of debt on liquidity. Bad debt ratio positively correlated with the liquidity of Vietnamese commercial banks.

In Ethipoia, Fola (2015) studied factors affecting the liquidity of commercial banks in Ethiopia from 2002 to 2013. The findings showed that bad debt has a positive relationship to liquidity status. On the other hand Vodova (2011) demonstrated that banking liquidity depends on both internal and external factors. Using the regression model on EViews 7, the study focuses on the 8-year period from 2001 to 2009 in Czech Republic. The result proved that there was a positive relationship between the liquidity (current ratio) of a bank and debt ratio. He studied liquidity and its determinants in Czech Republic using 22 banks during the 2006-2009 periods. The results show that the liquidity of Czech commercial banks is higher when capital adequacy is higher and when the interest rates on loans are higher. Furthermore, the liquidity measures identify a positive relationship with shareholders capital.

In Vietnam, Tran, Nguyen, Nguyen and Tran (2019) identifies factors that explain the liquidity of listed commercial banks in the Vietnam banking system from 2010 to 2015. Using the OLS regression method for analysis, it was found that the larger the loan size, the higher the liquidity risk. However, the total debt to total capital ratio is negatively related to liquidity of listed banks. It is found that a 1% decrease in the total loans to total capital ratio will increase bank liquidity risk by approximately 0.97%. Anderson and Carverhill (2010) analyzed the liquidity and capital structure. Results revealed that firm's policy toward liquid asset holding is closely connected to the question of the firm's capital structure. In particular, results show that higher levels of long term debt will result in higher levels of liquid asset holding and a reduction in the optimal use of short term debt. The value of the firm is rather insensitive to the long term debt level outstanding.

In the USA, Lipsona and Mortal (2019) did a study on liquidity and capital structure. We examine the relation between equity market liquidity and capital structure. The study found that firms with more liquid equity have lower leverage and prefer equity financing when raising capital. For example, after sorting firms into size quintiles and then into liquidity quintiles, the average debt-to-asset ratio of the most liquid quintiles is about 38% while the average for the least liquid quintiles is 55%. Similar results were observed in panel analyses with clustered errors and using instrumental variables. Our results were consistent with equity market liquidity lowering the cost of equity and, therefore, inducing a greater reliance on equity financing.

In Pakistan, Rashid and Mahmood (2017) empirically examines the impact of equity market liquidity on firms' leverage decisions in Pakistan using a firm-level panel data covering the period 2000-2013. We use alternative measures of leverage and liquidity to ensure the robustness of equity liquidity effects. The study found that equity market liquidity is significantly and negatively related to the leverage decisions of firms. The study also showed that firms with more liquid stocks are likely to prefer equity to debt financing. The negative effects of liquidity on leverage decisions hold even after controlling for several firm-specific determinants of capital structure.

In Ethiopia, Saddam (2014) did a study on the factors affecting capital structure decision: evidence from ethiopian insurance firms. This study aimed to assess the impact of firm specific and macroeconomic factors on capital structure decision in the environment of Ethiopian

insurance sector by using seven years data (2007-2013). In order to achieve this aim the researcher regressed profitability, liquidity, business risk, size, growth opportunity, age, GDP growth rate, interest rate, and inflation rate against the dependent variable as measured by total debt ratio. Such regression was made based on random effects model with the help of EVIEWS 6 software. The results of this study suggest that liquidity as measured by current ratio was a significant factor affecting leverage of insurance firms in Ethiopia positively; confirming pecking order theories as prominent theories for the sector.

In Pakistan, Muhammad et al. (2013) did a study on capital structure and liquidity. The study was based on a case of insurance companies in Pakistan over the period of ten years from 2001-2010. The researchers regressed six explanatory variables of profitability, size, risk, tangibility, liquidity, and firm growth against the dependent variable of leverage represented by total debt ratio. Their study result revealed that debt had a negative relationship with liquidity. Sidra et al. (2013), on their evidence from Pakistani banking sector by using a panel data set for the period of 2007-2011 found liquidity had a significant relationship with capital structure (debt ratio). More specifically, according to their study results; liquidity of the banks in the sample had positive impact on debt. Najjar and Petrov (2011) examined the impact of debt as measured by total debt ratio on liquidity, in case of Bahraini insurance companies for the period from 2005-2009. According to their regression results debt ratio showed a positive effcet on liquidity.

In India, Dawar (2014) in his study where he used fixed effects and panel analysis models to regress the data seeking to find out the relationship between firm debts and its financial performance. His findings showed that there exists a significant negative effect between LTD and financial performance of Indian listed firms which in return contrast agency theory assumptions. Furthermore, Dawar (2014) did further analysis to other sectors to find out whether the relationship is different from the earlier conclusion.

In Jordan, Hisham and Basil (2017) from their study in case of Jordanian industrial sector for the period of five years from 1996-2010 found debt as an influential factor affecting liquidity of Jordanian industrial firms. More specifically, liquidity appeared to have a negative association with leverage of Jordanian industrial firms. Moreover, they revealed that asset structure factor is significant and negative for only short term debt ratio.

This study conducted a research to important factors that determine the capital structure of Dutch companies. Based on the the trade-off, pecking order and agency theory different hypotheses are established to test which factors are the most important in determining leverage. For the hypotheses, variables are developed and those are tested by using the ordinary least square (OLS) regression method. The data for this research is collected from Dutch non-financial publicly listed companies in the period between 2005 and 2009. The results of this research indicate that firm size and liquidity are the most important factors in determining leverage of Dutch companies.

In Nigeria, Olayinka (2011) examined the determinants of capital of 66 firms listed on the Nigerian stock Exchange during the period 1999-2007 using panel data. The results show that there is a negative relationship between debt and growth opportunities, but positively related to liquidity as well as size. This negative coefficient shows that growing firms use lower amount of debt financing. The results suggest that leverage is negatively correlated with liquidity.

In Sri Lanka, Kajananthan and Achchuthan (2013) analyzed capital structure and liquidity in the Sri Lanka Telecom Plc using data during period 2005 to 2011. Based on the results from separate models, debt to equity in the capital structure had a significant effect on the liquidity ratios such as current, and quick ratios. The authors conclude that the decision making on the liquidity management is highly depending on the capital structure of the Sri Lanka Telecom Plc. The authors asserted that firm should focus on the capital structure to take the decision on liquidity management.

In Romania, Miloś (2015) analyzed the determinants of capital structure of the Romanian companies using panel data. He focused on selected financial indicators related to the structure of own funding sources and debt funding sources. He used variables including ratio between total debt and total liabilities and liquidity (ratio between current assets and current liabilities). The results show that there is a negative connection between liquidity and debt. The results suggest that less liquid companies obtain the necessary capital by borrowing. Companies often prefer and use a short-term loans when there is a lack of liquidity.

In Kenya, Sang (2015) did a study the relationship between the liquidity and the capital structure decisions of listed companies at Nairobi Securities Exchange, Kenya in the industrial and allied sector. This study relied on secondary data. The study sampled 16 companies in the

industrial and allied sector listed at the NSE. Regression analysis was used to analyze the data and find out whether there exists a relationship between the variables. The findings revealed that there is a strong inverse relationship between debt and liquidity while there is a weak inverse relationship between retained earnings and liquidity.

In Kenya, Oduol (2011) did a study on the relationship between liquidity and leverage of companies quoted at the NSE. The study considered thirty companies out of forty seven quoted firms at the NSE between 2006 to 2010. Secondary data was collected from the financial statements of individual companies ANOVA and analyzed using multivariate regression analysis. The t statistics and F significance were used to test the hypothesis. The findings revealed that there is negative insignificant relationship between liquidity and debt.

2.3.2 Shareholder capital and Liqudity

In the USA, DeYoung et al. (2018) demonstrated that the relationship existed between the bank capital and bank liquidity at U.S. banks. The researchers concluded that a minimum capital compulsion significantly mitigates liquidity danger at the banks. On the other hand, Bunda and Desquilbet (2008) interpreted the influence of factors on the bank's liquidity risk for a data set of commercial banks in thirty six emerging countries from 1995 to 2000. This study aims to find out the effect of the shareholders on the liquidity of commercial banks. The authors believed that liquidity of the bank depended on the following factors: total assets as a measure of the size of banks, lending interest rates as a measure of lending profits, the crisis finance and inflation that have a negative impact on liquidity banks. Meanwhile, the ratio of equity to assets as a measure of capital safety and gross domestic product as a measure of economic growth and exchange rate have a positive impact on liquidity.

In Sri Lanka, Velnampy and Niresh (2012) investigated the relationship between equity and liquidity. The study focused on ten listed Srilankan banks over 8 year period from 2002 to 2009. The data was analyzed by using descriptive statistics and correlation analysis. Results of the analysis showed that there was a negative association between capital structure and liquidity except for shareholders equity ratio and quick ratio. According to a study by Javed and Aktar (2012) where they investigated the effects of capital structure on liquidity of firms listed in Pakistan at Karachi Stock Exchange. They found out that equity had mixed effects on the liquidity ratio of different firms listed in the stock Karachi stock Market.

In Tanzania, Xuezhi, Qin and Dickson (2012) employed the liquidity measures of the commercial banks; avid on that basis the performance in terms of the liquidity position was established. The paper used the causal research design as the methodology of the study since the causal design is best suited to determine cause and effects of the phenomena. This paper utilizes the secondary data from National Bank of Commerce (NBM) and National Microfinance Bank (NMB). The criteria used was total deposit to core funding, liquid asset to demand liabilities and Gross loans to total deposit in Tanzania for the period of ten years. The study found that shareholder capital has a negative effect on liquidity ratios.

In Nigeria, Uwalomwa and Uadiale (2012) did a study to investigate the relationship between capital structure and the liquidity of listed firms in Nigeria. The study considered a total sample of 31 listed firms on the floor of the Nigerian stock exchange. The annual reports for the period 2005-2009 were analysed using the Ordinary Least Squares (OLS) technique of model estimation to test the research propositions stated in this study. The study observed that two of the explanatory variables in the study (retained earnings and shareholders' funds) have a significant positive impact on the liquidity of listed firms in Nigeria.

In a population of 145 firms listed in Nigerian Stock Exchange, Ishaya and Adduljaleel (2014) investigated the relationship of capital structure and liquidity. The researchers chose a sample of seventy firms in a period covering period between 2000 to 2009. They declared the data to be Panel data and performed analysis on the data set where they performed various diagnostic tests that include random effects, fixed effects, and Hausman Chi Square estimation tests. They based the research on agency cost theory and established that there exists a negative relationship between shareholder equity ratio and liquidity. A comparison of the findings revealed that their results were consistent with those of an earlier study done by Shubita and Alsawalhal (2012), their findings also provided evidence that advocates against agency cost theory.

In Nepal, Bhattarai (2016) studied the effect of liquidity on the capital structure of nepalese manufacturing companies. This study has examined the effect of capital structure on liquidity of Nepalese manufacturing companies. The descriptive and causal comparative research designs have been adopted for the study. The pooled data of 5 manufacturing companies for the

period of 2008 to 2014 have been analyzed using regression model. The regression results reveal that shareholders' capital is significantly negatively associated with liquidity.

Khalaj, Farsian and Karbalaee (2013) investigated the linkage between liquidity and capital structure among the top 100 Malaysian public listed companies from 2006 to 2010 fiscal years. Based on the multiple regressions results the authors concluded that there is a significant relationship between shareholders capital ratio and liquidity ratios.

A study by Falak and Shah (2015) was done on the impact of capital structure on liquidity risk of food and personal care good industry listed in karachi stock exchange. The analysis consisted of seven active companies of food and personal care good industry and used the data for a period of 2009-2014. The study used convenience sampling of non- probability method and used linear regression and Spearman's correlation analysis. The study found a weak and insignificant relationship between retained earnings and liquidity risk. The study also found a moderate positive and significant relationship between shareholders equity ratio and liquidity risk. The study concluded that the retention of earnings has a weak and insignificant relationship with liquidity risk.

Performance evaluation and ratio analysis of Pharmaceutical Company in Bangladesh was done by Hossan and Habib (2010). The thesis applies performance evaluation of pharmaceutical company in Bangladesh. It means evaluate how well the company performs. The main aim is achieved through ratio analysis of two pharmaceutical (Beximco and Square pharmaceutical) companies in Bangladesh. The main data collection from the annual financial reports on Beximco and square pharmaceutical companies in 2007 to 2008. Different financial ratio are evaluated such liquidity ratios, asset management ratios, profitability ratios, market value ratios, debt management ratios and finally measure the best performance between two companies. The mathematical calculation was establish for ratio analysis between two companies from 2007-2008.

In Czech Republic, Rauch, Steffen, Hackethal and Tyrrel (2010) studied the determinants of liquidity risk and attempted to identify the determinants of liquidity creation. Their results highlight that the most important determinants are macroeconomic variables and monetary policy, while not showing a significant relationship between liquidity creation and bank specific variables such as size and performance. They also found that shareholders capital measured by

the ratio between shareholder equity and total assets has a significant and positive relationship with liquidity and an insignificant relationship with inflation rate and growth rate. Vodova (2011) studied liquidity and its determinants in Czech Republic using 22 banks during the 2006-2009 periods. The results show that the liquidity of Czech commercial banks is higher when capital adequacy is higher and when the interest rates on loans are higher. Furthermore, the liquidity measures identify a positive relationship with shareholders capital.

Seligová (2017) sought to determine the effect of selected financial indicators related to the structure of funding sources on liquidity of companies in selected sectors in the Czech Republic from 2000 to 2015. With the purpose to fulfill the aim, we examine existence and character of relationship between selected financial factors related to the structure of funding sources (debt ratio, shareholder equity ratio) and liquidity of the companies in sectors such as mining and quarrying, manufacturing, construction, service sector and energy sector. The existence of relationship between financial indicators related to the structure of funding sources and liquidity of companies was tested by correlation analysis and regression analysis. The results showed that there was a negative impact of shareholders equity ratio on liquidity of companies in service sector in the Czech Republic. The liquidity of companies was positively influenced by shareholder equity ratio in energy sector in the Czech Republic.

In Kenya, Kago (2012) attempted to establish capital structure levels of tea companies in Kenya and find out factors that determine capital structures for the tea companies. The study made use of primary data and secondary data from unlisted tea companies and listed tea companies, at the Nairobi Stock Exchange (NSE) respectively. Liquidity of the firms was represented by the ratio of current assets to current liabilities (current assets/current liabilities). Debt and shareholder equity ratios were used as a proxy for capital structure. The study findings showed that shareholder equity ratios was positively influenced by liquidity.

Trippner (2013) analyzed the relationship between liquidity (cash ratio, current ratio and quick ratio) and selected capital structure indicators of own funding sources such as shareholder capital ratio in the Polish companies from 2002 to 2012. Using correlation analysis it was found that there is a negative relation between shareholder capital ratio and liquidity of polish firms. In Nigeria, Akinlo (2011) investigated the determinants of capital structure among sixty six listed firms on the Nigerian stock Exchange over eight years from 1999 to 2007 by using panel data.

The findings revealed that shareholder equity was positively related to liquidity. The findings confirmed that the positive correlation between equity and liquidity.

In Kenya, Mugenyah (2015) did a study on the determinants of liquidity risk of commercial banks. The objective of this study was to establish the determinants of liquidity risk for commercial banks in Kenya. The study employed a descriptive research design. A census targeting the 43 commercial banks licensed in Kenya between 2010 and 2014 was conducted. The study used secondary data obtained from the Central Bank of Kenya website and the respective banks website. Multiple regression analysis was used to evaluate the determinants of liquidity risk.Capital adequacy ratio, liquid assets ratio, ownership type, size and leverage were regressed on loan to deposit ratio. The coefficient of determination R2 was used to evaluate the explanatory power of the regression. Analysis of variance (ANOVA) was used to test significance of the regression result at 5% level. The result of regression indicated that shareholder equity ratio had positive effect on liquidity.

In Turkey, Acaravci (2015) studied the determinants of capital structure: evidence from the turkish manufacturing sector. The sample period spans from 1993 to 2010 for 79 firms in the manufacturing sector traded on the Istanbul Stock Exchange. The base model was expanded with firm size and sectorspecific effects. This study compares also effects on capital structure according to sectors and firm size of variables used in models. Size and liquidity are used as the factors that affect a firm's capital structure decision. Empirical results present that there are significant relationships between size and liquidity on capital structure as measured by shareholders equity ratio and debt ratio.

In Kenya, Ayot (2013) did an analysis of capital structure of listed non financial firms in Kenya. The study is conducted based on a sample of 29 non-financial firms listed on the Nairobi Securities Exchange during the period 2004-2012 using panel data estimation technique. Both the fixed effects and random effects models were estimated and the results reveal that liquidity was the main factor affecting the capital structure (shareholder capital) of listed firms in Kenya.

2.3.3 Retained Earnings and Liqudity

Retained earnings are as a result of undistributed net income, prior period adjustments (error corrections) and certain changes in accounting principle, and adjustment due to quasi reorganization. Bayrakdaroğlu et al. (2013) demonstrated that that the highly profitable Turkish

companies prefer retained earnings as their funds, thus, their debt ratio is low. This, the study claims, shows that the companies run lower risk of bankruptcy and consequently, leads to a decrease in the debt ratio of the companies in the capital structure hence leading to an increase in equity value. This behavior is in unison with the Pecking order theory which stipulates that in the presence of asymmetric information, a firm will prefer internal finance, but would issue debt if internal finance was exhausted.

In India, Shah (2012) dealt with the relationship between selected financial indicators related to the structure of own funding sources and liquidity of companies. He examined relationship between profitability and liquidity trade off through the application of capital structure analysis in India. This study undertook the identification of the key variables that influence the working capital management and its impact on profitability and liquidity of pharmaceuticals manufacturers. He examined the relationship between liquidity (dependent variable measured by current ratio) and independent variables (capital structure) such as retained earnings ratio and debt ratio. It was found that there is a positive relationship between retained earnings ratio and liquidity.

A study by Falak and Shah (2015) was done on the impact of capital structure on liquidity risk of food and personal care good industry listed in karachi stock exchange. The analysis consisted of seven active companies of food and personal care good industry and used the data for a period of 2009-2014. The study used convenience sampling of non- probability method and used linear regression and Spearman's correlation analysis. The study found a weak and insignificant relationship between retained earnings and liquidity risk. The study also found a moderate positive and significant relationship between shareholders equity ratio and liquidity risk. The study concluded that the retention of earnings has a weak and insignificant relationship with liquidity risk.

In Nigeria, Uwalomwa and Uadiale (2012) did a study to investigate the relationship between capital structure and the liquidity of listed firms in Nigeria. The study considered a total sample of 31 listed firms on the floor of the Nigerian stock exchange. The annual reports for the period 2005-2009 were analysed using the Ordinary Least Squares (OLS) technique of model estimation to test the research propositions stated in this study. The study

observed that two of the explanatory variables in the study (retained earnings and shareholders' funds) have a significant positive impact on the liquidity of listed firms in Nigeria.

In Pakistan, Kanwal (2012) did a study on effect of retained earnings on liquidity risk– a case of chemical and pharmaceutical industry of Pakistan. A sample of twenty nine companies listed at KSE-100 Index is taken from the period of 2001 to 2010. Results of this study was predicated on Fixed and Random Effect Model which was applied on Panel data to explicate the relationship between retained earnings and liquidity risk after controlling the variables like firm size. The study found that retained earnings had significant negative effect on liquidity risk.

In Nigeria, Bassey, Edom and Aganyi (2016) assessed the impact of retained profit on firm performance: empirical evidence from Niger Mills Company, Calabar-Nigeria. Current ratio was used as a proxy for firm perfromance which wss based on the liquidity. Retained earnings to asset ratio was used to measure retained earnings. The research evaluated the importance of retained profits as an alternative source of financing the activities of a corporation. Data were collected from the annual report of Niger Mills Company Ltd. Calabar and the statistical model used for data analysis was Karl Pearson product moment correlation coefficient. Findings revealed that the future earnings capacity of Niger Mills Ltd. Calabar depends on its retained profit. It was also found that retained earnings had a positive effect on firm perfromance (current ratio).

In Czech, Vodova (2011) studied liquidity and its determinants in Czech Republic using 22 banks during the 2006-2009 periods. The results show that the liquidity of Czech commercial banks is higher when capital adequacy is higher and when the interest rates on loans are higher. Furthermore, the liquidity measures identify a positive relationship with shareholders capital.

In Sweden Karlsson and Svensson (2015) did a comparative analysis essay between real estate and IT companies in Sweden to establish the linkage between liquidity management and capital structure. The link between liquidity and capital structure is ambiguous and previous studies about the subject indicates inconsistent relationships between them. Data have been gathered from annual reports between 2003 and 2014 for eleven IT companies and twelve real estate companies listed on Nasdaq OMX. Moreover, a simple regression analysis has been performed to investigate the relationship between liquidity and capital structure. The analysis was done by using a statistical program called JMP. The results from this thesis indicated that

there was a correlation between liquidity as measured by the quick ratio and capital structure as measured by retained earnings, debt and equity in both sectors. What is interesting though is that there seem to be different correlations between the sectors. In the case of real estate companies the result shows a positive correlation between retained earnings and liquidity whereas the result for the IT companies depictures a negative correlation.

Aryal (2017) did an analysis of capital structure and liquidity of banks in Nepal with Nepal Rastra Bank used as the case. This study was based on pooled cross-sectional analysis of secondary data of 17 commercial banks with 102 observation for the period of 2008 to 2013. Liquidity as measured by current and quick ratio are selected as the dependent variables for this study. retained ratio were used as the explanatory variables. The secondary data were collected from the supervision report of Nepal Rastra Bank, annual reports of commercial banks, different published articles,reports and concerned banks in some cases. The multiple regression models were applied to test the significance and impact of retention ratio on liquidity of banks in Nepal. The study found that retained ratio was negatively related to liquidity of commercial banks.

Sarlija and Harc (2012) did a study on the impact of liquidity on the capital structure: a case study of Croatian firms. Pearson correlation coefficient is applied to the test on the relationship between liquidity ratios and debt ratios, the share of retained earnings to assets and liquidity ratios and the relationship between the structure of current assets and leverage. A survey was conducted on a sample of 1058 Croatian firms. The study found a statistically significant correlations between the share of retained earnings to assets and liquidity ratios. Udomsirikul, et, al. (2010) examined the impact of liquidity on capital structure decisions in Thailand. The results showed that firms with more retained earnings were significantly less liquid. They argue that their results are interesting because they examined firms in Thailand, where capital markets are less sophisticated and corporate ownership is more concentrated.

In Kenya, Sang (2015) did a study the relationship between the liquidity and the capital structure decisions of listed companies at Nairobi Securities Exchange, Kenya in the industrial and allied sector. This study relied on secondary data. The study sampled 16 companies in the industrial and allied sector listed at the NSE. Regression analysis was used to analyze the data and find out whether there exists a relationship between the variables. The findings revealed that

there is a strong inverse relationship between debt and liquidity while there is a weak inverse relationship between retained earnings and liquidity.

In Kenya, Gathogo (2014) studied the relationship between specific factors and capital structure of Kenyan firms. Stratified sampling technique was used to select two hundered firms which included 22 quoted firms, 25 unquoted firms and 153 SMEs. The data for the empirical analysis were derived from the financial statements of these firms during the period 2000–2010. Information on the heterodox factors was obtained through a questionnaire survey. The field survey was carried out between June and July 2012. Statistical package ,STATA 10, was used to analyze the data and a panel regression model was used for analysis of data. Wald goodness-of-fit test statistics was carried out. Correlation analysis and ANOVA test were carried out. It was found that there was a positive relationship between liquidity ratios (quick ratio); and capital structure (debt and shareholder equity ratio).

2.4 Conceptual Framework

Conceptual framework is the diagrammatic footing by which the researcher bases his study (Sekeran & Bougie 2013). The diagram displayed a pictorial the relationship that exists between the explanatory and the response variables which are theoretically explained by the researcher. The independent variables are elements of capital structure: debt, shareholder capital and retained earnings. The effect was controlled by firm size.

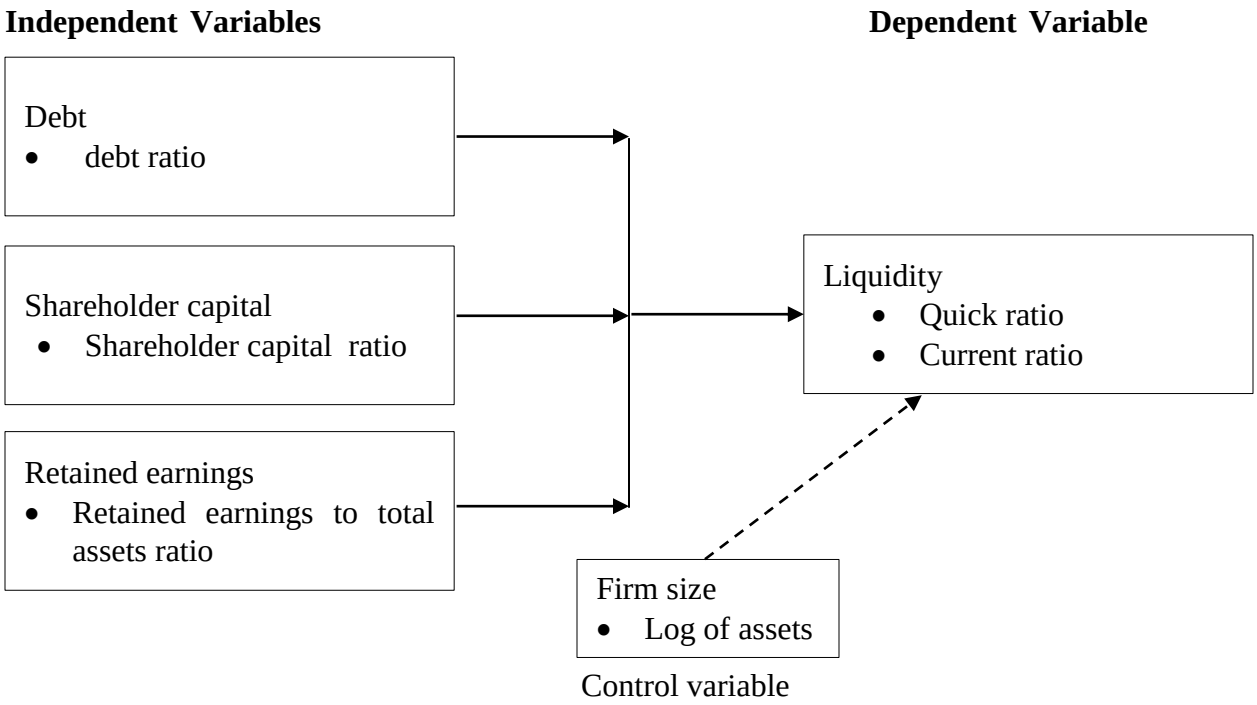

Figure 2.1: Conceptual Framework

2.5 Operationalization of Variables

This section gave the meaning of the above independent and dependent variables and elaborates how these variables were measured to facilitate data analysis and measurement by the researcher in the study.

Table 3.1: Operationalization of Variables

Variables		**Indicators**	**Measures**
Dependent	Liquidity	Cash ratio	Current assets / Current liabilities
		Quick ratio	Current assets-inventory / Current liabilities
Independent	Debt	debt ratio	Total debt / total assets
Independent	Shareholder capital	Shareholder capital ratio	Shareholder capital / total assets
Independent	Retained Earnings	Retained earnings to total assets ratio	Retained earnings / total assets
Control	Firm size	Total assets	Log of total assets

2.6 Summary of Literature

From the analysis of existing capital structure theories the researchers seem to agree that capital structure and liquidity are inseparable and they are of significant importance to any firm. All firms ought to put in place mechanisms that would yield to optimum liquidity for the firm. Decision on composition of capital structure is of vital concern to every business enterprise for diverse reasons that are not limited to its effect on the firms liquidity but also because such a decision helps the firm to maintain its competitive environment in the industry.

The above chapter reviewed both the theoretical and empirical literature related to the study variables and their underlying relationships. The review then provided a basis for developing a conceptual framework that facilitates a quick understanding of the connection between the response, explanatory and moderating variables by the reader. This connection is particularly important in ascertaining the economic plausibility of variables so that only the variables that have logical and defensible relationship are related. Failure to do a background check on variables is likely to result to spurious relations or relations that do not make business sense. In addition, the chapter provides a positive critique to the literature that forms the basis of identifying the research gaps as also discussed in the chapter.

2.7 Knowledge Gap

From empirical review there is a research gap since different studies conducted by different researchers have diverse results some of which are conflicting each other. Some researchers have showed a positive or negative relationship of capital structure on liquidity. However, other researchers have found no relationship between the two. Most of the existing research is from the developed world and very few studies have been undertaken in the developing nations like Kenya. The studies have also studied the effcet of liquidity on capital structure other than the other way round.

In Kenya, the existing studies have majorly concentrated on financial institutions and they have looked at capital structure as a whole without splitting it to debt, shareholder capital and retained earnings. Most studies investigated effect of capital structure on financial performance and very few researching on capital structure and liquidity. Furthermore the results from past research are different based on the sector, economy size of the firm and time

period thus there is need for further research on this topic. The researcher investigated these independent variables (debt, shareholder capital and retained earnings) whereas the dependent variable is liquidity with current ratio and quick ratio used as its proxies.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter explains the methodology that the researcher will follow to conduct the research. It is subdivided into the following subsections; research design, target population, sampling and sampling procedure, research instrument, validity and reliability of the instrument, data collection procedure and data processing and analysis.

3.2 Research Design

This is a strategy or platform of inquiry directed towards answering the queries raised by the researcher in the research questions of this study (Sukamolson, 2007). Research design act as a roadmap which the researcher uses to identify the objectives under study. The researcher adopted descriptive research design to carry out the research. This type of research design described the cause effect relationship between variables under study. Descriptive research design helped the researcher in determining the cause-effcet relationship of capital structure elements (debt, shareholder capital and retained earnings) on liquidity of commercial and services firms listed in NSE.

3.3 Target Population

Population is the total compilation of elements from which inferences are made (Mofolo, 2011). The study targets commercial and service sector listed in the Nairobi Securities Exchange between 2009 and 2018. According to NSE (2018), there were eight (8) commercial and services firms listed between 2009 and 2018 as shown in Appendix I.

Table 4.2: Target population

Sector	Number of firms	Proportion (%)
Commercial	3	37.5
Service	5	62.5
Total	8	100.0

3.4 Sampling and Sampling Procedure

This section elaborates the composition of sample that the research was put under consideration as the sample frame and the procedures to be followed.

3.4.1 Sample frame

Samling frame is described as the composition of constituents from which the study sample can be obtained from. In reality this is a composition of only those items been considered as part of the population. The sampling frame for this study was the 8 commercial and service firms listed on the Nairobi Securities Exchange between 2009 and 2018 as shown in Appendix I.

3.4.2 Sampling Procedure

Sampling procedure is the process of choosing an appropriate and suitable sample for the purpose of realizing the best parameter necessary for the whole population. The research used a census survey where all the 8 firms was involved in the research. Census was appropriate for this study as the population was small and secondary data relating to all the 8 commercial and services firms listed at NSE was used. This was a great importance since it helped the researcher to avoid sampling errors which might influence the outcome of the study. According to Njeri (2017), census helps the researcher to gather and analyze the data for all the components of the population.

3.5 Research instrument

The researcher compiled secondary data on commercial and services firms colected for the period between 2009 and 2018. Data collection sheet was used in data collection. The data consisted of information that enabled the researcher to calculate; debt ratio, shareholder capital ratio, retained earnings to asset ratio, quick ratio and current assets. The researcher used the relevant information obtained from documents provided by NSE and published reports from commercial and services firms' websites. This enabled the researcher get all the required information for consideration in the research.

3.6 Data Collection

The Researcher visited NSE offices and official site to collect secondary data that is available from financial statements and reports of commercial and service firms listed in Nairobi Securities Exchange, these reports are availed to the NSE annually as a requirement for all the listed firms. The data obtained from NSE is credible and accurate since these financial statements have been audited. The researcher notified NSE staff in advance so as to have the required documents ready during the collection period.

3.7 Diagnostic Tests

The researcher used panel data for analysis of the data that was collected form all commercial and service firms listed in NSE for a period of ten years ranging from 2009 to 2018. This compeled the researcher to perform a number of panel data diagnostic tests to find out which model to settle for that gave the correct and appropriate outcomes for this particular study.

3.7.1 Heteroskedoscity

The researcher used Breusch-Pagan Test to test for heteroskedoscity. Heteroscedasticity test was used to test whether the error term was the same across the observations. Heteroscedasticity is a problem in regression assumes that all residuals are drawn from a population that has a constant variance. From the test results the researcher made an informed and credible decision in a way that if p-value is less than 0.05 ($p<0.05$), the researcher would reject the null hypothesis and assume there is heteroskedoscity and if p-value is greater than 0.05 ($p>0.05$), the researcher would fail to reject the null hypothesis and thus assume that heteroskedoscity is not a problem.

3.7.2 Normality test

Normality tests are used to determine whether a data set is modelled for normal distribution (Green, 2012). Normality testing is incorporated checking for peculiarities in information. The study used the shapir wilk in order to test for normality. The null hypothesis was that the data is normally distributed. If the p-value is greater than 0.05 ($p>0.05$), the study would fail to reject the null and conclude that the residuals are normally distributed.

3.7.3 Multicolinearity

Multi collinearity emerges when there is a relationship among the independent variables (Hair, 2010). Multicollinearity was tested to find out whether free factors are connected. For this situation the investigation used the variance inflation factor to build up whether multicollinearity existed. VIF showed the relationship with the other autonomous variable that may prompt avoidance of the variable from the model to be fitted. When the VIF is less than 1 multicolinearity is not a problem. VIF values between 1 and 2 are acceptable but a value above 2 show high multicollinearity issues.

3.6.4 Autocorrelation

Autocorrelation exists when the error term in a regression model are highly correlated over time. Autocorrelation for performance was conducted. Durbin Watson statistic was used to test autocorrelation. The durbin Watson test resulted determined whether correction is necessary. The higher order test assumed absence of lower order autocorrelation. If the Durbin-Watson statistic is more than 0.05, the study fails to reject the null hypothesis and conclude that the errors in different observations are not correlated with each other.

3.7.5 Hausman Test for random effects

The researcher carried out this test to determine the most appropriate model to use between random effects and fixed effects models. If the p-value is less than 0.05, we reject the null hypothesis and settle for fixed effects model and discard random effects model whereas if the p-value is greater than 0.05 i.e. ($p>0.05$), the researcher would accept the null hypothesis and adopt the random effects model.

3.8 Data Processing and Analysis

Data analysis is the process of making sense from the data. The researcher will use STATA 13 to analyze the data. The researcher adopted descriptive statistics and panel linear regression analysis as the methods of analyzing the collected data to enable him assess effects of capital structure on liquidity of commercial and service firms listed in Nairobi Stock Exchange. Descriptive analysis involved the use of mean, standard deviation, minimum, and maximum.

3.8.1 Pannel Regression Model

Panel data is also kown as pooled time series and cross-sectional data. It is a result of pooling together observations in both time series and cross-sectional data. These models combine both time series and cross section data, it considers different data sets for different periods of time. The researcher will pool data for eight listed commercial and service firms from 2009-2018 thus resulting to 80 observations from the eleven firms. There are basically three main models used in pannel data analysis i.e. Pooled OLS which is actually the basic regression model. The second one is the random effects model which states that individual specific effect is a random variable that is not correlated with the explanatory variable at any time in reference that individual variable. Lastly we have fixed effects model which is a sampling model in which the same units are sampled repeatedly for a certain period of time when the effects are held constant.

The first step before doing anything else is to declare the data as cross sectional and time series variables. I then did the analysis of exploratory data. At this stage the researcher ought to draw a plot for explanatory variables under investigation only. This is a process that involves an analysis of dependent variables data under study, trend plots for each firm is drawn to evaluate whether there exists fixed effects that are time related between the firms: here we use spaghetti plots to determine whether the intercepts of the firms are similar or they vary, if the intercepts vary , we used fixed effects model whereas if the effects are similar we use random effects model but there are other diagnostic tests to be performed to confirm the above. In view of the fact that this is a multiple linear regression model, no two variables are not allowed to have high correlation, in this step the I sought to disqualify the multicollinearity problems in the model. If it is found that any two variables in the model are highly correlated, one of the variables were dropped from the model.

Lastly I fitted the model. At this stage the researcher can now fit the pools model which is a basic regression model, secondly he can fit fixed effects model if the panel response variables are correlated with predictor variables. This helped the researcher to do away with the bias of omitted variables in his model. On the other hand random effects model is used when the data set has no correlations between the response and predictor variables. The error term confines the random effects due to panels and random errors. Lastly the researcher has to

perform diagnostic tests to establish the best model that gave the correct and appropriate outcome of the study.

Given that the data had both time series and cross-sectional dimensions, the study estimated a linear panel regression as proposed by Greene (2008). Panel data analysis is more advantageous than either cross-section or time series alone because it allowed the researcher to account for unobservable heterogeneity. Panel data yields much larger data set with more variability and less collinearity among the variables than is characteristic of cross-section or time series data. In this study the multiple regression model has one dependent variable (Y) which is a proxy for liquidity measure (QR and CR) four explanatory variables.

The general empirical model is given by the following equations:

$Y_{it} = \alpha + X'_{it}\,\beta + \varepsilon_{it}$ …… (i)

Where Y_{it} is the dependent variable denoting liquidity of firm *i* at time *t*, *i* denotes the observations (firm), i =1,……..,8 while *t* is the period, t=2009,……..,2018

X'_{it} denotes a vector of explanatory variables, α is a constant term, β are coefficients to be determined, while ε_{it} is a composite error term.

The study expanded panel equation i to obtain:

$CR_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + B_4 X_{4it} + \varepsilon_{it}$…….. (ii)

$QR_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + B_4 X_{4it} + \varepsilon_{it}$…… (iIi)

QR_{it} = Liquidity as measured by quick ratio of firm i at time t

CR_{it} = Liquidity as measured by current ratio of firm i at time t

X_{1it} = debt as measured by average annual debt ratio of firm i at time t

X_{2it} = Shareholder capital as measured by average annual internal shareholder capital ratio of firm i at time t

X_{3it} = retained earnings as measured by average annual retained earnings to total assets ratio of firm i at time t

X_{4it} =firm size as measured by log of assets of firm i at time t

ε_{it} = error term representing other variables not considered in the study

β_0 is value when all the independent variables are held constant

β_1-β_4 are coefficients of the variables

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

Data analysis was done in the chapter. The findings are also presented in this chapter. Discussions on the findings are also included.

4.2 Descriptive Statistics

From the descriptive statistics, commercial and service firms listed in NSE showed an average quick ratio of 0.0694 and a standard deviation of 0.0475 between 2009 and 2018. The minimum quick ratio for the period was 0.012 with a maximum of 0.266. Current ratio showed a mean of 1.434 and a standard deviation of 0.604 between 2009 and 2018. In the period, the commercial and service firms listed in Kenya showed a minimum current ratio of 0.43 and a maximum of 2.756. The firms had a mean debt ratio of 0.416 and a standard deviation of 0.233. The minimum debt ratio was 0.1092 with a maximum of 0.9842.

Further, shareholders capital ratio across the commercial and service firms listed in Kenya showed a mean of 0.201 and a standard deviation of 0.168 for the period between 2009 and 2018. In the period, the firms showed a minimum shareholder capital ratio of 0.0133 with a maximum ratio of 0.9483.

Between 2009 and 2018, the retained earnings ratio averaged at 0.339 with a standard deviation of 0.2883. In the period, the firms showed a minimum retained earnings ratio of zero and a maximum of 0.849 within the same period. Between 2009 and 2018, firm size (log of assets) in commercial and service firms listed in Kenya showed a mean of 9.673 with a standard deviation of 1.858. Firm size showed a maximum log of assets of 12.908 and a minimum 6.169.

Table 4.3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
QR	80	.0694232	.0474932	.0120185	.266
CR	80	1.434244	.6043332	.43	2.7557
X1	80	.4160088	.2330074	.1092	.9842
X2	80	.20124	.1675365	.0133	.9483
X3	80	.3386575	.288395	0	.8490238
X4	80	9.67313	1.858066	6.169448	12.90837

4.3 Diagnostic Tests

The researcher used panel data for analysis of the data that was collected form all commercial and service firms listed in NSE for a period of ten years ranging from 2009 to 2018. This compelled the researcher to perform a number of panel data diagnostic tests to find out which model to settle for that gave the correct and appropriate outcomes for this particular study. The tests included heteroscedasticity, normality, multicollinearity, test for autocorrelation, and Hausman test for fixed and random effects. The study performed these tests to avoid spurious regression results.

4.3.1 Multicollinearity Test

This study also tested multicollinearity of the data used in the research. Variance inflation factor (VIF) was used to carry this test and it quantifies the extent to which variance is inflated. From table 4.2, VIF values were close to 1 which is an indication that variance of the study variables had been inflated at a very low extent. From table 4.4, the VIF values were close to 1 which is an indication that variance of the study variables had been inflated at a very low extent. The mean VIF is 1.34 shows that the variance was inflated to a very low extent in the model data. Hence, multicollinearity is not a problem for the study.

Table 4.4: Multicollinearity Test

Variable	VIF	1/VIF
X1	1.03	0.970873
X3	1.80	0.555555
X2	1.45	0.689655
X4	1.08	0.925925
Mean VIF	1.34	

4.3.2 Tests of Normality

The study sought to test for normality of the data used in the research. This was done using Shapiro-Wilk test. The null-hypothesis of this test was that the data is normally distributed. If the p-value is less than the chosen alpha level, then the null hypothesis is rejected and there is evidence that the data tested are not from a normally distributed population. From table 4.5, the variables displayed a p-value which was less than 0.05, hence we do reject the null hypothesis that the data is normally distributed. Hence, we conclude that the data for the variables used in this study is not normally distributed.

Table 4.5: Tests of Normality

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
QR	80	0.72718	18.726	6.420	0.00000
CR	80	0.95842	2.854	2.298	0.01078
X1	80	0.80616	13.305	5.671	0.00000
X2	80	0.78418	14.814	5.906	0.00000
X3	80	0.89109	7.475	4.408	0.00001
X4	80	0.95845	2.852	2.296	0.01083

4.3.3 Heteroskedasticity Test

From the findings show that the p-value is more than 0.05. Hence, we cannot reject the null hypothesis that there is constant variance in our data. Hence the data is free from heteroscedasticity.

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

         chi2(1)      =     1.54
         Prob > chi2  =   0.2405
```

Figure 4.2: Heteroscedasticity

4.3.4 Autocorrelation

Figure 4.2 shows the findings on the autocorrelation test based on Durbin Watson statistics. From the Durbin Watson table the Watson value should lie between 1.390 and 1.595. Figure 4.2 shows a Durbin Watson value of 1.451, which is within the stipulated range showing that the data is not autocorrelated. Thus, it can be determined that variables under the study were independent due to the fact that residuals were autonomous and there was no autocorrelation.

```
Durbin Watson d-statistic (     4,      76)   =   1.451
```

Figure 4.3: Autocorrelation

4.3.5 Hausman test for fixed and random effects

To decide between fixed or random effects a Hausman test was conducted where the null hypothesis was that the preferred model is random effects, that is if the Prob>chi2 value was greater than 0.05. The alternative the fixed effects if the Prob>chi2 value was less than 0.05. It basically tested whether the unique errors (ui) are correlated with the regressors. From table 4.6, the p-value of Hausman test is smaller than 0.05 significant level. Therefore, the null hypothesis is rejected which suggest that fixed effect model was preferred.

Table 4.6: Hausmann Test for Fixed or Random Effects

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	random	fixed	Difference	S.E.
X1	.2702778	-.0161878	.2864656	.1479921
X2	-.1394316	.059501	-.1989326	.4876369
X3	.8122007	.0469584	.7652422	.3991901
X4	6.42208	.5451882	5.876892	3.631244

b = consistent under Ho and Ha; obtained from regress
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 35.97
Prob>chi2 = 0.0000

4.4 Regression Analysis

4.4.1 Current ratio regression analysis

From figure 4.3, the model showed an F-statistic of 5.42 which is higher than critical f value (2.492). This shows that the fixed model fitted the data and was the best model to use in the regression. The model showed a significant value of 0.001 which was less than 0.05. This shows that debt ratio, shareholders capital ratio, retained earnings ratio and firm size have a significant relationship with liquidity as measured by current ratio.

The fixed model is a within regressor model hence the interpretation is based on the R squared within the variables. The data showed an R squared value (within) of 0.5248 for current ratio. This shows that 52.48% of the variation in current ratio of commercial and service firms due to changes in debt ratio, shareholders capital ratio, retained earnings ratio and firm size at 95% confidence interval between 2009 and 2018. 47.52% change in current ratio of the firms is accounted by other factors other than the ones considered in the study.

```
Fixed-effects (within) regression               Number of obs      =        80
Group variable: N                               Number of groups   =         8

R-sq:                                           Obs per group:
     within  = 0.5248                                         min =        10
     between = 0.5219                                         avg =      10.0
     overall = 0.4251                                         max =        10

                                                F(4,68)            =      5.42
corr(u_i, Xb)  = -0.9056                        Prob > F           =    0.0007
```

Figure 4.4: ANOVA and Model Summary for Current Ratio

From table 4.7, it was revealed that holding debt ratio, shareholders capital ratio, retained earnings ratio and firm size of listed commercial and service firms constant zero between 2009 and 2018, the current ratio would stand at -62.5114 (constant term). Unit rise in the debt ratio would decrease the current ratio by 0.5066. A unit rise in shareholders capital ratio would increase current ratio by 0.3947 within the period. On the other hand, a unit increase in retained earnings ratio would lead to increase in current ratio by 0.2483. The table shows that a unit increase in firm size would increase the current ratio of the firms by 0.2530. The effect of all the independent variables on current ratio was found to be significant as $p<0.05$.

Table 4.7: Regression coefficients For Current Ratio

CR	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
X1	-.5066786	.1262395	-4.01	0.000	-.7579656	-.2555043
X2	.3947333	.1221184	3.23	0.018	.1514702	.8776462
X3	.2482655	.0590751	4.20	0.014	.1305909	.3659341
X4	.252988	.1180132	2.14	0.035	.0178921	.4880727
_cons	-62.51138	26.83837	-2.33	0.023	-115.9756	-9.046364

4.4.2 Quick Ratio Regression Analysis

From figure 4.4, the model showed an F-statistic of 13.08 which is less than critical f value (2.492). This shows that the fixed model fitted the data. The model showed a significant value of

0.000 which was less than 0.05. This shows that debt ratio, shareholders capital ratio, retained earnings ratio and firm size have a significant effect on liquidity as measured by quick ratio.

Figure 4.4, shows an R squared value (within) of 0.4955. This shows that 49.55% of the variation in quick ratio of commercial and service firms was due to changes in debt ratio, shareholders capital ratio, retained earnings ratio and firm size at 95% confidence interval between 2009 and 2018. 50.45% change in quick ratio of the firms is accounted by other factors other than the ones considered in the study.

```
Fixed-effects (within) regression               Number of obs      =        80
Group variable: N                               Number of groups   =         8

R-sq:                                           Obs per group:
     within  = 0.4955                                         min =        10
     between = 0.3847                                         avg =      10.0
     overall = 0.3002                                         max =        10

                                                F(4,68)            =     13.80
corr(u_i, Xb)  = -0.7015                        Prob > F           =    0.0001
```

Figure 4.5: ANOVA and Model Summary for Quick Ratio

From table 4.8, it was revealed that holding debt ratio, shareholders capital ratio, retained earnings ratio and firm size of listed commercial and service firms constant zero between 2009 and 2018, the quick ratio would stand at -2.077 (constant term). Unit rise in the debt ratio would increase the quick ratio by 0.4215. A unit rise in shareholders capital ratio would increase quick ratio by 0.2611 within the period. On the other hand, a unit increase in retained earnings ratio would lead to increase in quick ratio by 0.1367. The table shows that a unit increase in firm size would increase the quick ratio of the firms by 0.5155. The effect of all the independent variables on the quick ratio was found to be significant as $p<0.05$.

Table 4.8: Regression coefficients on quick ratio

QR	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
X1	.4215457	.1224214	3.44	0.001	.1776714	.6654128
X2	.2611689	.0518832	5.03	0.000	.1578143	.3645194
X3	.1366763	.0460144	2.97	0.004	.0450169	.2283315
X4	.5154955	.2330157	2.24	0.028	.1570134	1.073971
_cons	-2.076641	.7667721	-2.71	0.008	-3.604087	-.5491216

4.6 Model fitting

The panel regression models were;

$CR_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + B_4 X_{4it} + \varepsilon_{it}$ ..... (iii)

$QR_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + B_4 X_{4it} + \varepsilon_{it}$ ..... (ii)

The derived models were:

$CR_{it} = -62.5114 - 0.5067X_{1it} + 0.3947X_{2it} + 0.2483X_{3it} + 0.2530X_{4it}$ ..... (i)

$QR_{it} = -2.0766 + 0.4215X_{1it} + 0.2612X_{2it} + 0.1366X_{3it} + 0.5155X_{4it}$ ..... (ii)

From the regression equation, we can deduce that when the debt ratio, shareholders capital ratio, retained earnings ratio and firm size are held constant the current ratio of commercial and service firms would stand at -62.5114 for current ratio and -2.0766 for quick ratio. This shows that combined debt ratio, shareholders capital ratio, retained earnings ratio and firm size have a positive effect on liquidity of commercial and service firms as measured by current and quick ratio.

From the first equation, debt ratio showed a strong negative effect on liquidity as measured by current ratio. However, from equation ii, debt ratio showed a positive effect on liquidity as measured by quick ratio. The findings concur with those of Anderson (2012) who found a positive relationship between debt and liquidity. The findings concur with those of Ghasemi and Ab Razak (2016) who found that quick ratio related positively with debt while current ratio

negatively related with debt. However, the findings differed with those of Fola (2015) who found that liquidity (current ratio) positively related with debt ratio.

From the equations, shareholders capital ratio showed a positive effect on both current and quick ratios of liquidity. The findings concur with those of Seligová (2017) who found that liquidity of companies was positively influenced by shareholder equity ratio. Akinlo (2011) also found that shareholder equity was positively related to liquidity. However, the findings differed with those of Trippner (2013); Xuezhi Qin and Dickson (2012) who found that shareholder capital had a negative effect on liquidity ratios.

From the fitted models, retained earnings ratio showed a positive effect on both the current and quick ratios as measures of liquidity of commercial and service firms between 2009 and 2018. The findings concurred with those of Shah (2012) who found a positive relationship between retained earnings ratio and liquidity. The findings however differed with those of Karlsson and Svensson (2015); Aryal (2017); and Sarlija and Harc (2012) who found that the two related negatively.

From the fitted models, log of assets as a measure of firm size showed a positive effect on both the current and quick ratios as measures of liquidity of commercial and service firms between 2009 and 2018. The findings concur with the findings of Halil and Hasan (2012) who found a positive effect. However, the findings differed with the findings of Mocnik and Sirec (2015) who found a negative effect.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents and discusses the key data findings from the study, draws conclusion from the findings, and makes appropriate recommendations. The conclusions and recommendations drawn were focused on addressing the objectives of the study.

5.2 Summary of the Study

From the descriptive statistics, commercial and service firms listed in NSE showed an average quick ratio of 0.0694 between 2009 and 2018. This shows that the firms have a low quick ratio which shows the existence of liquidity issues in the firms. The minimum quick ratio for the period was 0.012 with a maximum of 0.266. The current ratio showed a mean of 1.434 between 2009 and 2018. This indicates that generally, commercial and service firms listed in NSE have a high liquidity ratio. This enables the firms to meet short term obligations using their current assets. In the period, the commercial and service firms listed in Kenya showed a standard deviation of 0.604. This based on the mean, shows that there is a high variation in the current ratio within the period.

From the F statistics, the models showed an F-statistic which was higher than critical f value. This showed that the fixed model fitted the data and was the best model to use in the regression. The model showed a significant value less than 0.05. This shows that debt ratio, shareholders capital ratio, retained earnings ratio and firm size had a significant effect on liquidity of commercial and service firms as measured by both current and quick ratio.

From the regression coefficients, it was revealed that debt ratio, shareholders capital ratio, retained earnings ratio and firm size of listed commercial and service firms constant zero between 2009 and 2018, the liquidity of listed commercial and service firms in Kenya would be negative. Current ratio shows a higher absolute value than quick ratio indicating that that debt ratio, shareholders capital ratio, retained earnings ratio and firm size affect the liquidity of listed commercial and service firms mainly through the current ratio.

5.2.1 Debt

From the descriptive statistics, the listed commercial and service firms showed a mean debt ratio of 0.416. This shows that the mean debt ratio for the firms is moderate. This may be based on the optimal selection of capital structure. The maximum debt ratio was almost one. This shows that some firms have a very high level of debt which may influence the liquidity of the firms. A low standard deviation was displayed, an indication that the debt did not differ much across the firms. From the regression analysis, a unit rise in the debt ratio was found to decrease the current ratio as shown by the negative regression coefficient. The effect was found to be strong as shown by a regression coefficient above 0.5. This shows that debt has a strong positive effect on the liquidity of listed commercial and service firms based on the current ratio. However, a unit rise in the debt ratio was found to increase the quick ratio. However, debt showed a lower absolute coefficient with quick ratio. This shows that the quick ratio of listed commercial and service firms in Kenya increases with debt.

5.2.2 Shareholders Capital

From the descriptive analysis, the study found that the shareholders capital ratio across the commercial and service firms listed in Kenya showed a mean of 0.201 for the period between 2009 and 2018. This shows that commercial and service firms listed in Kenya have a low level of

shareholder capital compared to its asset base. In the period, the firms showed a minimum shareholders capital ratio of 0.0133 with a maximum ratio of 0.9483. This shows that some firms had a very high amount of shareholder capital. Shareholders capital ratio had a low standard deviation showing that the ratio did not vary much across firms within the period.

From the regression analysis, the study found that a unit rise in shareholders capital ratio would increase current ratio within the period. This shows that increased capital ratio would increase the liquidity of the listed commercial and service firms in Kenya though increased ability to meet short term obligations through their assets. On the other hand, a unit rise in shareholders capital ratio would increase quick ratio by a lower proportion compared to the current ratio. This indicates that increased shareholder capital would increase the quick ratio of listed commercial and service firms in Kenya. The effect of shareholders capital was found to be significant for both current and quick ratio. This indicates that shareholders capital has a positive significant effect on liquidity of listed commercial and service firms in Kenya.

5.2.3 Retained earnings

From the descriptive analysis, the study found that, between 2009 and 2018, the retained earnings ratio averaged at 0.339. This shows that the level of retained earnings by listed commercial and service firms in Kenya averaged to 33.9% between 2009 and 2014. The firms retained low amounts of profits across the period of study. The standard deviation was close to the mean which shows that the retained earnings differed to a great extent across the period and the listed commercial and service firms. Between 2009 and 2018, the firms showed a maximum retained earnings ratio of 0.849. This shows that certain listed commercial and service firms in Kenya retain their earnings close to 100%.

From the regression analysis, retained earnings ratio showed a positive regression coefficient below 0.5 against current ratio. This shows that a unit increase in retained earnings ratio would lead to increase in current ratio. This also indicates that retained earnings has a positive weak effect on the current ratio of listed commercial and service firms in Kenya. Increase in retained earnings ratio was also found to lead to increase in quick ratio by a small proportion. This shows that the quick ratio of listed commercial and service firms in Kenya, increase with the increase in retained earnings. In summary, retained earnings showed a positive effect on the liquidity of commercial and service firms in Kenya listed between 2009 and 2018.

Between 2009 and 2018, firm size (log of assets) in commercial and service firms listed in Kenya averaged at 9.673. Firm size showed a high standard deviation showing that the firm size differed greatly across the selected commercial and service firms in Kenya. The findings showed that increase in firm size would increase the current ratio and quick ratio of the firms.

5.3 Conclusions

From the strong R squared value, the study concludes that debt, shareholders capital, retained earnings and firm size are the main determinants of the liquidity of listed commercial and service firms in Kenya. From the model summary, the study concludes that capital structure affects liquidity of listed commercial and service firms in Kenya. Debt is the main factor of capital structure that affects the liquidity of listed commercial and service firms in Kenya. The study further concludes that debt significantly affects liquidity of listed commercial and service firms in Kenya.

From the regression analysis, debt showed a strong significant negative effect on current ratio of the listed commercial and service firms in Kenya. This shows that increased debt improves the current ratio of listed commercial and service firms in Kenya. The study also found that debt had

a weak significant positive effect on the quick ratio of listed commercial and service firms in Kenya. This leads to the conclusion that debt has a significant negative net effect on liquidity of listed commercial and service firms in Kenya.

The study concludes that shareholders capital has a significant effect on liquidity of listed commercial and service firms in Kenya. From the findings in the regression analysis, the study concludes that shareholders capital has a positive effect on liquidity of listed commercial and service firms in Kenya. Thus, increased shareholders capital increases the liquidity of listed listed commercial and service firms in Kenya.

The study concludes that retained earnings has a significant effect on liquidity of listed commercial and service firms in Kenya. From the findings in the regression analysis, the study concludes that retained earnings has a positive effect on the liquidity of listed commercial and service firms in Kenya. Thus, increased retained earnings improves the liquidity of commercial and service firms listed in Kenya.

The study concludes that firm size has a significant effect on liquidity of listed commercial and service firms in Kenya. From the findings in the regression analysis, the study concludes that firm size has a positive effect on the liquidity of listed commercial and service firms in Kenya. Thus, increased assets base improves the liquidity of commercial and service firms listed in Kenya.

5.4 Recommendations

5.4.1 Policy recommendations

Debt shows a negative effect on current ratio and a positive effect on quick ratio. Thkis creates confusion as to the effect of debt on liquidity of commercial and service firms listed in NSE.

Accordingly, commercial and service firms should maintain an optimal level of debt in order to avoid liquidity issues in their firms.

The study found that shareholders capital had a positive effect on the liquidity ratios of the commercial and service firms. This creates the need for increased share capital in commercial and service firms in order to enhance the firms' liquidity. The listed commercial and service firms, in order to improve their liquidity ratios, should bring in more shareholders into the firms which would increase the level of shareholders capital in the firm. The NSE should also raise the minimum capital base for the listed firms in order to enhance the liquidity of such firms.

The study found that retained earnings positively affect the liquidity of commercial and service firm. This study recommends that listed commercial and service firms in Kenya retain more profits in order to improve their liquidity ratios. The firms should also purchase more assets that would improve their liquidity standing.

5.4.2 Recommendations for Future studies

Based on the findings the study recommends a study on other factors determining liquidity of listed commercial and service firms other than capital structure. The study also recommends that a similar study to be done using a different period. A similar study is recommended on non-listed firms in order to compare results.

5.5 Limitations of the study

The main limitation with this study is the size of the study population. In Kenya, commercial and service firms listed in NSE were very few making the size of study population small. The study adopted panel data to increase the quality and quantity of the data available for analysis. Secondary data are also general and tends to be historical. The study used the most current information to minimize the problem of information being out dated.

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APPENDICES

Appendix I: List of Commercial and Services Firms Listed at NSE (2009-2018)

1. Express Kenya Limited
2. Kenya Airways Limited
3. Longhorn Publishers Limited
4. Nation Media Group Limited
5. Scangroup Limited
6. Standard Group Limited
7. TPS Eastern Africa Limited (Serena Hotels)
8. Uchumi Supermarket Limited

Appendix II: Data Collection Sheet

Year	Long Term loans	Share capital	Retained Earnings	Total Assets	Net Income
	Shs.	Shs.	Shs.	Shs.	Shs.
2009					
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018					

Appendix III: Data

Firm	year	Quick ratio	Current ratio	Debt ratio	shareholder capital ratio	retained earnings	log of assets
Express Kenya Limited	2009	0.0742	1.1290	0.1996	0.1558	0.2530	5.1761
Express Kenya Limited	2010	0.0754	0.9770	0.2205	0.2034	0.1980	18.8299
Express Kenya Limited	2011	0.0843	1.5080	0.2056	0.0766	0.0000	20.3584
Express Kenya Limited	2012	0.0785	0.9780	0.2287	0.1157	0.0000	16.4611
Express Kenya Limited	2013	0.0871	1.1020	0.2416	0.0628	0.0957	16.3035
Express Kenya Limited	2014	0.0190	0.6400	0.2655	0.0552	0.0000	15.0978
Express Kenya Limited	2015	0.0236	0.5900	0.2217	0.1500	0.0000	14.4947
Express Kenya Limited	2016	0.0207	1.1300	0.2421	0.1197	0.0000	16.1460
Express Kenya Limited	2017	0.0378	0.8500	0.1595	0.1374	0.0000	14.8612
Express Kenya Limited	2018	0.0236	0.6000	0.1332	0.0759	0.0000	12.7672
Kenya Airways Limited	2009	0.0746	1.3940	0.0639	0.0631	0.0000	15.1714
Kenya Airways Limited	2010	0.0248	1.3590	0.1557	0.1424	0.0531	18.1262
Kenya Airways Limited	2011	0.0379	1.1070	0.2351	0.0797	0.0952	14.3499
Kenya Airways Limited	2012	0.0224	0.8700	0.1596	0.1513	0.1138	15.4378
Kenya Airways Limited	2013	0.0474	1.3090	0.1703	0.1788	0.0000	16.2244
Kenya Airways Limited	2014	0.0940	0.5600	0.1863	0.0773	0.0000	17.4641
Kenya Airways Limited	2015	0.0537	0.4600	0.1520	0.1389	0.0000	16.7243
Kenya Airways Limited	2016	0.2268	0.5000	0.1312	0.1902	0.0000	13.9943
Kenya Airways Limited	2017	0.0890	0.4500	0.1130	0.0413	0.0000	10.4135
Kenya Airways Limited	2018	0.0867	0.4300	1.1642	0.3581	0.0000	9.6916
Longhorn Publishers Limited	2009	0.0863	1.3640	2.5582	0.2380	0.6039	18.8945
Longhorn Publishers Limited	2010	0.0538	1.4970	2.5718	0.1049	0.6187	20.4249
Longhorn Publishers Limited	2011	0.0271	1.5810	2.5358	0.1896	0.7941	16.5701
Longhorn Publishers Limited	2012	0.0387	1.7522	1.6713	0.1404	0.4324	16.4205

Longhorn Publishers Limited	2013	0.0352	1.6190	1.8548	0.1578	0.6053	15.2021
Longhorn Publishers Limited	2014	0.0311	1.1182	1.5531	0.1527	0.5678	14.6109
Longhorn Publishers Limited	2015	0.0249	1.3292	1.5767	0.3624	0.7974	16.3668
Longhorn Publishers Limited	2016	0.0364	1.0122	1.8116	0.2635	0.6998	14.9550
Longhorn Publishers Limited	2017	0.0832	1.6352	1.8265	0.2209	0.6492	12.8424
Longhorn Publishers Limited	2018	0.0648	1.2582	1.8437	0.3474	0.6596	15.5315
Nation Media Group Limited	2009	0.0760	2.1891	1.9842	0.9483	0.7688	18.0693
Nation Media Group Limited	2010	0.0771	2.2091	1.8632	0.5650	0.3213	14.3694
Nation Media Group Limited	2011	0.0795	2.2813	2.0466	0.7791	0.7415	15.5575
Nation Media Group Limited	2012	0.0790	2.2533	1.6668	0.3518	0.7148	16.4366
Nation Media Group Limited	2013	0.0812	2.4279	1.2932	0.5010	0.6273	17.7218
Nation Media Group Limited	2014	0.0775	2.3651	1.5500	0.1716	0.8487	16.9587
Nation Media Group Limited	2015	0.0801	2.0954	1.2020	0.3079	0.4874	13.8263
Nation Media Group Limited	2016	0.0767	2.0727	1.7978	0.2042	0.5289	10.4194
Nation Media Group Limited	2017	0.0718	2.0700	2.1161	0.2712	0.2897	18.8918
Nation Media Group Limited	2018	0.0190	2.3200	1.3463	0.1651	0.5581	18.9087
Scangroup Limited	2009	0.0328	1.5801	2.0318	0.0692	0.8490	20.5571
Scangroup Limited	2010	0.0412	1.9416	2.0078	0.1480	0.5626	17.1096
Scangroup Limited	2011	0.0419	1.6819	1.7545	0.1630	0.5468	16.4529
Scangroup Limited	2012	0.0383	2.2537	1.5195	0.1985	0.6860	15.6638
Scangroup Limited	2013	0.0339	2.4555	1.8619	0.1436	0.6272	14.6301
Scangroup Limited	2014	0.0321	2.4602	1.7480	0.0577	0.6752	16.3772
Scangroup Limited	2015	0.0725	2.7557	1.8410	0.1328	0.4627	15.0392
Scangroup Limited	2016	0.0714	2.3779	1.7212	0.1876	0.4023	12.7444
Scangroup Limited	2017	0.0751	2.7130	1.5103	0.3947	0.6050	15.5569
Scangroup Limited	2018	0.0615	2.4723	1.5527	0.4983	0.7072	18.0487
Standard Group Limited	2009	0.0629	0.1195	1.4295	0.3267	0.5412	14.5150

Standard Group Limited	2010	0.0812	0.1059	1.4791	0.3576	0.4037	15.6734
Standard Group Limited	2011	0.0792	0.0945	1.4071	0.5651	0.4932	16.5353
Standard Group Limited	2012	0.0790	0.1889	1.3652	0.3552	0.5737	17.8153
Standard Group Limited	2013	0.0803	0.2242	1.3769	0.4567	0.5159	17.1261
Standard Group Limited	2014	0.0216	0.2204	1.0534	0.2594	0.4913	13.9504
Standard Group Limited	2015	0.0176	0.1461	1.0761	0.0982	0.4818	10.6698
Standard Group Limited	2016	0.0187	0.1401	0.1682	0.1140	0.0000	16.5526
Standard Group Limited	2017	0.0178	0.2123	0.1497	0.0654	0.0000	19.0555
Standard Group Limited	2018	0.0179	0.1901	0.1186	0.1137	0.0587	20.5907
TPS Eastern Africa Limited	2009	0.0120	0.8844	0.1682	0.0446	0.4239	17.2068
TPS Eastern Africa Limited	2010	0.0546	0.7619	0.1497	0.1318	0.2382	16.5964
TPS Eastern Africa Limited	2011	0.0853	0.9180	0.1186	0.0709	0.4987	15.7383
TPS Eastern Africa Limited	2012	0.0860	0.8943	0.1571	0.0133	0.1274	14.8958
TPS Eastern Africa Limited	2013	0.0859	0.8674	0.1092	0.0848	0.5744	16.3250
TPS Eastern Africa Limited	2014	0.0854	0.8038	0.1247	0.0819	0.5836	15.1153
TPS Eastern Africa Limited	2015	0.0697	1.0404	0.1629	0.1207	0.0000	12.6727
TPS Eastern Africa Limited	2016	0.0601	1.6400	0.2181	0.0843	0.4221	15.7472
TPS Eastern Africa Limited	2017	0.0577	1.4739	0.1751	0.0613	0.4406	18.0725
TPS Eastern Africa Limited	2018	0.0632	1.5390	0.1746	0.0172	0.5896	14.6060
Uchumi Supermarket	2009	0.2656	1.5080	0.1628	0.1200	0.0563	15.9084
Uchumi Supermarket	2010	0.2092	1.1520	0.1647	0.0740	0.0550	16.6479
Uchumi Supermarket	2011	0.1101	1.0440	0.1712	0.1086	0.0467	17.8855
Uchumi Supermarket	2012	0.1256	1.7120	0.1459	0.0637	0.0205	17.1168
Uchumi Supermarket	2013	0.1842	1.0781	0.1559	0.0795	0.1036	13.7469
Uchumi Supermarket	2014	0.0947	0.9019	0.1596	0.0563	0.0724	10.6693
Uchumi Supermarket	2015	0.0572	0.8735	0.1439	0.0283	0.0000	12.8147
Uchumi Supermarket	2016	0.0756	0.5892	0.1649	0.0377	0.0000	19.3378

Uchumi Supermarket	2017	0.0412	0.4718	0.1400	0.0440	0.0000	20.7328
Uchumi Supermarket	2018	0.0724	0.8589	0.3619	0.0267	0.0000	17.4256