EFFECT OF CASH FLOW RISK MANAGEMENT ON FINANCIAL STABILITY OF COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE IN KENYA

BY

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DECLARATION

Declaration by Candidate

This research project is my original work and has not been presented for a degree in any other University.

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DEDICATION

I dedicate this research thesis to my beloved parents and siblings for their love, understanding, encouragement and support while conducting this study and throughout course.

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ABSTRACT

Financial stability is a problem that a number of firms in Kenya have faced. This can be attributed mainly to cash flow problems whereby companies struggle to pay their debts as and when they become due. These cash flow problems affect the going concern assumption of these firms, with some ending up in insolvency. The main objective of this study therefore was to ascertain the effect of cash flow risk management on financial stability of companies listed at the Nairobi Securities Exchange. The specific objectives of the study were to determine; the effect of operating, investing and financing activities cash flow risk on financial stability. The study was guided by Baumol theory, free cash flow theory, Miller-Orr theory, cash conversion cycle theory and Keynesian theory of money. This study employed an explanatory research design to determine cause and effect relationship between the dependent and independent variables. The target population constituted all the 65 companies listed at the Nairobi Securities Exchange as at 31st December 2017. Inclusion/exclusion criteria was used whereby 40 firms met the inclusion criteria. The study used secondary data obtained from Nairobi Securities Exchange, Capital Markets Authority and the respective websites of the companies from the published financial statements for a period of 9 years, 2009 to 2017. Panel data regression was carried out on the data to determine the effects between components of cash flow risk management and financial stability. The study found out that operating activities cash flow risk (β=-12.2138, $p<0.05$) had a statistically significant effect on financial stability. This means that low or negative operating activities cash flows in highly geared companies reduces their financial stability. This implies that firms that have more operating activities cash flows are in a position to generate higher profits since they can effectively pay their short term obligations on demand or over a short notice, and hence have a strong financial stability. Investing activities cash flow risk (β=0.58351, p=0.361) and financing activities cash flow risk (β=0.62706, p=0.540) were found not to have a statistically significant effect on financial stability. Companies will greatly gain from this study since cash flow risk management is a key determinant of the success or failure of any business entity. The study will also be useful to both academicians and researchers as they will use this research as a guide for carrying out research studies in this area. The researcher recommends that a similar study be carried out for companies which are not listed in Nairobi Securities Exchange most of which are privately owned. The rationale for this is to find out whether similar findings as established in the above study will hold for privately owned entities. The conclusion of this study is that cash flow risk management affects the financial stability of companies.

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OPERATIONAL DEFINITION OF TERMS

Cash flow - It is the amount of money that the business is able to retrieve to from customers and debtors (cash inflow) and the same amount of money that the business is able spend (cash outflow) in a period (Avika, 2014).

Cash Flow Risk - Is the potential danger of falling short of cash created by cash flow management practices (Padachi & Howorth, 2014).

Cash flow risk management- Tactical deployment of funds, after analysis of risk factors, into the company's operations that would result into profitability to enable the company meet its obligations as and when they fall due (Avika, 2014).

Financial stability - Refers to its ability to generate healthy profits, avoid heavily increasing expenses and have a better chance of long term success (Novazz, 2011).

Risk Management - Is the identification, evaluation, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability or impact of unfortunate events or to maximize the realization of opportunities (Padachi & Howorth, 2014).

ABBREVIATIONS

CBK   -   Central Bank of Kenya

CIMA -   Chartered Institute of Management Accountants

CMA -   Capital Markets Authority

FCFR -   Financing Activities Cash Flow Risk

ICFR -   Investing Activities Cash Flow Risk

KNBS -   Kenya National Bureau of Statistics

NSE   -   Nairobi Securities Exchange

OCFR -   Operating Activities Cash Flow Risk

ROE   -   Return on Equity

<center>**CHAPTER ONE**</center>

<center>**INTRODUCTION**</center>

1.0 Introduction

This chapter presents the background of the study, statement of the problem, objectives, hypotheses, significance and scope of the study.

1.1 Background of the Study

The main goal of any business is to maintain the financial stability not only on the short term but also on medium and long term. In other words to maintain a harmony between financial sources and financial needs, respectively the equality between the assets and liabilities from the balance sheet. On short term, maintaining the financial stability involves correlating the temporary resources with the temporary uses by using the necessary working capital, and on the long-term, the financial stability involves comparing the permanent resources with the permanent uses by working capital indicator.

Financial stability of a company refers to its ability to generate healthy profits, avoid heavily increasing expenses and have a better chance of long term success (Novazz, 2011). Financial stability is measured using the Altman's Z Score model.

In modern conditions, the actual problem and task of companies is to ensure financial stability, taking into account environmental factors. Financial stability is the stability of the financial position of the company, the ability to successfully operate and develop, maintaining a constant balance between own and borrowed funds. A stable financial position is the result of effective work of the company under the skillful management of the whole set of production and economic factors. The company is considered financially stable if it is characterized by such features as: high solvency and

creditworthiness; high profitability, profitability, which allows the company to develop normally and steadily.

In market conditions, financial stability is the key to survival and the basis of a strong position in the market. After all, by assessing the financial condition, determining the level of stability, investors, suppliers, partners can determine the financial capabilities of the company for the future and further development. The higher the firm's stability, the more it is independent of changes in market conditions, hence the risk of bankruptcy is reduced.

A company's financial stability is determined by its ability to perform at any time (in the present or in the future) their obligations, especially under the contracts. It is the ability to fulfill its obligations to all parties timely and fully using its own and borrowed funds. According to Yousef (2016), the financial stability of a company is formed by two components-solvency and financial capacity, which enables coping with possible changes in the external environment.

Cash flow is the amount of money that the business is able to retrieve from customers and debtors (cash inflow) and the same amount of money that the business is able to spend (cash outflow) in a period (Avika, 2014). Cash is used to pay business obligations and it is a vital component of working capital as it keeps the business running (Yousef, 2016). Without cash or the liquid assets (working capital) that are necessary to operate on a daily basis, the company risks becoming insolvent.

Managing cash flow and cash conversion cycle is a critical component of the overall management for all firms especially those which are capital rationed and more reliant on short-term sources of finance (Padachi & Howorth, 2014).

The real success of a business depends on the ability to keep close control over cash flow, avoid holding excessive stocks and collecting debts on time (Danjuma, Sangiru, & Dahiru, 2015). A large number of businesses fail due to absence of cash rather than absence of profits. Cash flow management is vitally important for the business" profitability, future planning and sustainability (Avika, 2014).

Effective cash flow risk management ensures sound liquidity for assurance of long-term economic growth and attainment of profit generating process (Avika, 2014).

A company's motive for managing cash flow risks is to reduce the instability of earnings or cash flow due to financial risk exposure (Dhanini, 2007). The reduction enables the firm to perform better forecasts (Drogt & Goldberg, 2008). This will help to guarantee that sufficient funds are available to the company for investment and dividends (Greuning and Bratanovic, 2009).

Depending on which of the arguments is in the focus of the company, cash flow risk management can be structured. The focus is either on minimizing volatility or avoiding large losses (Greuning and Bratanovic, 2009). Reduced instability in cash flows or earnings and prevention of losses allow better planning of liquidity needs. This can avoid shortfalls of available funds and consumption of equity (Eichhorn, 2004). This ensures that the firm can continue to operate in the foreseeable future, hence strengthening the going concern assumption of a firm. This also provides a solid background for the continual growth of the firm, year in year out.

Dropkin and Hayden (2011) state that efficient cash management is crucial for any company, as lack of liquidity may result in inability to pay liabilities, increased costs, and worst case scenario, the company may end up in insolvency.

The management of cash flows involves the management of working capital. The term working capital refers to a firm's short-term assets or currents assets. Managing the firm's working capital is a day-to-day activity which ensures that the firm has sufficient resources to continue its operations. This involves a number of activities related to the firm's receipt and disbursement of cash (Deloof, 2003). Most companies require certain levels of working capital to deal with variable and somewhat unpredictable financial inflows and outflows. Challenges such as disconnected supply chains processes, excessive stocks caused by non-bridged interfaces, inadequate trade credit terms, and suboptimal loan decisions require higher working capital than necessary. While the latter two originate from the financial area, connecting supply chain activities and reducing stock and inventory belong to the operating area. Companies tend to try to have less capital tied up in non-productive stocks, shorten the collection period for account receivables, and stretch cash payments for accounts payable as far as possible (Henry, 2008).

Working capital is a vital element in any organizational setting that requires cogent attention, proper planning and management. As resources available to organizations are scarce, it is believed that the management of an organization's working capital has a pivotal role to play in the achievement of profitability and overall performance of an entity. This implies that a firm's liquidity does to a large extent determine its profitability. However, liquidity and profitability are not the same but, are the core objectives of a firm (Darshana, 2017).

The traditional belief about working capital and profitability holds that reducing working capital investment would positively affect the profitability of firm (aggressive policy) by reducing proportion of current assets in total assets. Deloof (2003) analyzed a sample of Belgian firms, and Wen (2014) analyzed a sample of Japanese and

Taiwanese firms, emphasized that the way the working capital is managed has a significant impact on the profitability of firms and increase in profitability by reducing number of day's accounts receivable and reducing inventories. A shorter Cash Conversion Cycle and net trade cycle is related to better performance of the firms. Furthermore, efficient working capital management is very important to create value for the shareholders.

Soenen (1998) analysed a sample of US firms also reported similar findings but he used Net Trading Cycle as comprehensive measure of working capital management and found significant negative relationship between Net Trading Cycle and profitability. However, divergent to traditional belief, more investment in working capital (conservative policy) might also increase profitability. When high inventory is maintained, it reduces the cost of interruptions in the production process, decrease in supply cost, protection against price fluctuation and loss of business due to scarcity of products (Blinder, 1991). Increase in company profitability by reducing the liquidity can bring some serious problems as goals cannot be ignored at any cost; if goal of maximizing the profit is ignored survival is not possible for a longer time and if liquidity objective is ignored, insolvency or bankruptcy could be faced (Eljelly, 2004).

Working capital management involves managing inventories, accounts receivable and payable, and cash. Implementing an effective working capital management system is an excellent way for many companies to improve their earnings (Gitman, 1974). The two main aspects of working capital management are ratio analysis and management of individual components of working capital. A few key performance ratios of a working capital management system are the working capital ratio, inventory turnover and the collection ratio. Ratio analysis will lead management to identify areas of focus such as

inventory management, cash management, accounts receivable and payable management (Lewellen, 2016).

The growth of operational costs and accounts receivable, insufficient cash flow from investment activities are the main challenges to ensuring financial stability. Increasing operational costs is the main factor that lowers profits of a company. Companies should strive for optimization of personnel expenses and commissions since growing operational costs lead to lower current solvency of the companies (Drury, 2002).

Lower receivables turnover results from companies prolonging the credit period for the counterparties. Receivables should be improved in terms of management-the period of commercial loan allocation to counterparties should be reduced, the same refers to accounts receivable collection period. The growth of receivables necessitates calling for additional sources of funding and increasing accounts payable (Drury, 2002).

Many businesses developed strategies in response to the financial crisis that have become the new norms. The focus has been on strategically and efficiently managing a company's assets to contribute to its overall financial health. From a financial perspective, WCM studies have suggested effective working capital management could be achieved by improving the cash conversion cycle to incorporate performance. As previously mentioned, the notion of shortening the cash conversion cycle (similar to 'squeezing' working capital management components) leads to positive liquidity (Richards, 1980) and improved profitability (Shin, 1998). The first study was conducted by Shin and Soenan (1998), who found a significant relationship between shortened cash cycles and an improvement in profitability among American companies.

1.2 Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is a market for securities. The NSE was constituted as a voluntary association of stock brokers registered under the Societies Act in 1954 and in 1991, the NSE was incorporated under the Companies Act of Kenya as a company limited by guarantee and without a share capital. Subsequent development of the market has seen an increase in the number of stockbrokers, introduction of investment banks, establishment of custodial institutions and credit rating agencies and the number of listed companies have increased over time. The number of listings currently stands at 65. The classification of listed companies is on segment basis. The NSE is governed by an eleven-person board of directors. Securities traded include equities, bonds and preference shares.

In 2001, NSE was restructured to give rise to three market segments namely; the Main Investments Market Segment (MIMS), the Alternative Investment Market Segment (AIMS) and the Fixed Income Securities Market Segment (FISMS). The MIMS is the main quotation market, the AIMS provides an alternative method of raising capital to small, medium-sized and young companies that find it difficult to meet the more stringent listing requirements of the MIMS while the FISMS provides an independent market for fixed income securities such as treasury bonds, corporate bonds, preference shares and debenture stocks as well as short term financial instruments such as treasury bills and commercial papers.

1.3 Statement of the Problem

One of the main objectives of all firms is to create long term stakeholder value by existing and continuing with its operations into the future. This objective is met if the firms are managed well in all aspects to ensure liquidity and profitability, year in year out. This enables the firms to achieve financial stability and to continue operating as

going concerns. According to Allen and Cote (2013), investors, who are the residual owners of a firm, place their primary focus on profitability to signal whether their return expectations will be met and that the firm will be able to continue with its operations as a going concern. Creditors, who are also stakeholders of a firm, place emphasis on liquidity and cash flows as signals indicating financial stability. Evidently, all stakeholders of a firm look forward to the firm achieving financial stability and continuing with its operations into the future in order to satisfy their expectations.

However, this has not always been the case due to cash flow problems. Some firms have not been able to continue with their normal operations due to cash flow problems. A cash flow problem has been the major issue faced by listed firms in Kenya where by companies struggle to pay their debts as they become due. This can be worsened by low profits or extreme losses, excessive debts, negative operating cash flows, dwindling sales and diminishing gross profit margins. In a research done by Peavler (2009), it was noted that most failed businesses (up to 60%) were of the opinion that all or most of their failures were due to cash flow problems. According to KNBS (2007), three out of five firms fail within the first three years of operation due to cash flow problems. Athi River Mining Ltd (ARM) had a tight cash flow position and failed to maintain supplier relations and consistent supplies. This worsened the cash flow position which resulted in the company failing to meet its financial obligations. This resulted in the mining company being placed under administration and its stock was suspended from trading at the Nairobi Securities Exchange. The company had to embark on an assets disposal spree to offset its debts and was later acquired by National Cement in order for it to carry on with its operations. Mumias Sugar Company and Webuye Pan Paper Mills also had a similar encounter. They all had cash flow problems that brought them to the brink of being wound up. The Kenyan government had to bail them out, and still funds them

from time to time to this very date, in order for them to carry on with their normal operations. Webuye Pan Paper Mills (now Rai Paper Mills after privatization) however, has not recovered fully to the extent of becoming fully operational. Recently, Nakumatt Holdings also faced cash flow problems and as a consequence had to close down a number of its branches.

An investigation done by Torfason (2014) revealed that Lehman Brothers exhibited a steady increase in profit growth from 2002 and a significant increase in revenue from 2001. For most of the years, operating cash flows were negative with a significant decline recorded in 2003. This raised no alarm unlike the case of non-financial firms where this could be a sign of impending bankruptcy. However, Lehman Brothers succumbed to ill financial health caused by the negative operating cash flows recorded in the previous years in 2009 during the global financial crisis and went under. This validated the view of Talebi (1996), that a firm can survive in an economy for a long time whereas it's making little or no profit but the chances of survival minus liquidity are slim.

The above incidences clearly show that a cash flow problem is an issue that needs to be addressed to ensure that companies enjoy financial stability so that they don't end up in receivership and being wound up. This study therefore seeks to examine the effect of cash flow risk management on the financial stability of firms listed in the NSE.

1.4 Objectives of the Study

1.4.1 General objective

To investigate the effect of cash flow risk management on financial stability of companies listed at the Nairobi Securities Exchange.

1.4.2 Specific objectives

The specific objectives are to:

1. Investigate the effect of operating activities cash flow risk on the financial stability of a firm.

2. Establish the effect of investing activities cash flow risk on the financial stability of a firm.

3. Determine the effect of financing activities cash flow risk on the financial stability of a firm.

1.5 Hypotheses

H_{01}: Operating activities cash flow risk does not have a significant effect on financial stability of a firm.

H_{02}: Investing activities cash flow risk does not have a significant effect on financial stability of a firm.

H_{03}: Financing activities cash flow risk does not have a significant effect on financial stability of a firm.

1.6 Significance of the Study

Companies will greatly gain from the study since cash flow risk management is a key determinant of the success or failure of any business entity. Therefore, the management is able to determine the best cash management strategies. An example is from cash conversion cycle theory which proposes that the shorter the cash conversion cycle, the fewer the resources that an organization needs to operate. This will help the management to secure financial stability of a firm.

It will also help investors in making investment decisions. Investors will always want to invest in companies with efficient cash flow risk management practices in order to

get the value for their money. They also would like their investment to be secure since cash flow risk management practices will enable the firm to continue operating into the foreseeable future.

Regulators such as Capital Markets Authority, Insurance Regulatory Authority and Central Bank of Kenya will also greatly gain since they will use this research to assess the financial stability of any business entity. This will inform their policy making.

Finally this research would be useful to both academicians and researchers in the field of finance as they will use this research as a guide for carrying out further studies in the area or as empirical evidence.

1.7 Scope of the Study

The study focused on companies listed at Nairobi Securities Exchange (NSE). The study was further concentrated on the objectives which involved determining the effect of operating activities, investing activities and financing activities cash flow risk on financial stability of companies listed at the NSE. The study adopted explanatory research design. The study utilized secondary data which is available at the NSE and at the websites of the respective companies.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This particular chapter presents the concept of financial stability, concept of cash flow risk management, theoretical review, review of empirical studies and conceptual framework. The objective of theoretical review is on theories that explain the existence of the relationship between cash flow risk management variables and financial stability which are of key value to the current research study. An assessment of the empirical studies is about previous and current studies which have already been done on the current area of research study. In addition this chapter also outlines the conceptual framework used in this study.

2.1 Concept of Financial Stability

Financial stability of a company refers to its ability to generate healthy profits, avoid heavily increasing expenses and have a better chance of long term success (Novazz, 2011). In modern conditions, the actual problem and task of companies is to ensure financial stability, taking into account environmental factors. Financial stability is the stability of the financial position of the company, the ability to successfully operate and develop, maintaining a constant balance between own and borrowed funds. A stable financial position is the result of effective work of the company under the skillful management of the whole set of production and economic factors. The company is considered financially stable if it is characterized by such features as: high solvency and creditworthiness; high profitability, profitability, which allows the company to develop normally and steadily (Yousef, 2016).

In market conditions, financial stability is the key to survival and the basis of a strong position in the market. After all, by assessing the financial condition, determining the

level of stability, investors, suppliers, partners can determine the financial capabilities of the company for the future and further development. The higher the firm's stability, the more it is independent of changes in market conditions, hence the risk of bankruptcy is reduced (Yousef, 2016).

A company's financial stability is determined by its ability to perform at any time (in the present or in the future) their obligations, especially under the contracts. It is the ability to fulfill its obligations to all parties timely and fully using its own and borrowed funds. According to Yousef (2016), the financial stability of a company is formed by two components-solvency and financial capacity, which enables coping with possible changes in the external environment.

Altman's Z-Score model is a numerical measurement that is used to predict the chances of a business going bankrupt in the next two years. The model was developed by American finance professor Edward Altman in 1968 as a measure of the financial stability of companies. Altman's Z-score model is considered an effective method of predicting the state of financial distress of any organization by using multiple balance sheet values and corporate income (Yousef, 2016).

The Z-score model was introduced as a way of predicting the probability that a company would collapse in the next two years. The model proved to be an accurate method for predicting bankruptcy on several occasions. According to studies, the model showed an accuracy of 72% in predicting bankruptcy two years before it occurred, and it returned a false positive of 6%. The false-positive level was lower compared to the 15% to 20% false-positive returned when the model was used to predict bankruptcy one year before it occurred (Yousef, 2016).

When creating the Z-score model, Altman used a weighting system alongside other ratios that predicted the chances of a company going bankrupt (Yousef, 2016).

2.2 Concept of Cash Flow Risk Management

Cash flow is the amount of money that the business is able to retrieve from customers and debtors (cash inflow) and the same amount of money that the business is able to spend (cash outflow) in a period (Avika, 2014). Cash is used to pay business obligations and it is a vital component of working capital as it keeps the business running (Yousef, 2016). Without cash or the liquid assets (working capital) that are necessary to operate on a daily basis, the company risks becoming insolvent.

Cash flow risk management is the prudent deployment of funds (borrowed and retained earnings) into the company's operations that would result into profitability to enable the company meet its obligations as and when they fall due (Avika, 2014). It is the process of monitoring, analyzing and adjusting cash flows (Dropkin and Hayden, 2011). Managing cash flow and cash conversion cycle is a critical component of the overall management for all firms especially those which are capital rationed and more reliant on short-term sources of finance (Padachi & Howorth, 2014).

The goals of cash management are to maximize liquidity and cash flows, and maximize the value of funds while minimizing the cost of funds (Ondiek, Ochieng, & Busaka, 2013). Poor financial management exacerbates the cash flow problems of many businesses and in particular, the lack of planning cash requirements. According to Harford (2000), if cash flows and liquid funds are not effectively and successfully planned and managed, a company may not be able to pay its suppliers and employees in a timely manner. It may be profitable according to its financial statements, but in fact, the company will not be able to pay its obligations when they come due. Moreover,

lack of liquidity will incur increased costs in the form of interest charges on loans, late payment penalties and losing supplier discounts for paying obligations on time. Proper cash management can avoid the costs of additional funding and can provide the opportunity for more favorable terms of payment (Dropkin and Hayden, 2011).

To gain control of a firm's cash flow, the finance manager should develop some strategies for cash management in the order of cash planning, managing cash flow, optimum cash level and investing idle cash.

However, if a company reaches a position where it is difficult to meet its operating expenses, the company should put control over expenditures, sell marketable securities, accelerate collection from debtors, negotiate for short-term loans from banks or sell redundant assets (Miller & Parry, 2014).

Some of the additional techniques employed by finance managers to manage cash flow risks include financial hedging by use of financial derivatives such as futures and options, liquidity risk management practices such as holding cash to meet a financial obligation, automation of cash management process, regular review and monitoring of cash management system, developing accurate cash projection modules and establishing emergency backup plans (Manjula et al., 2017). Observing the money coming in and going out of the business is one of the most time consuming responsibilities of management for any business. International Financial Reporting Standards (IFRS) classifies cash flows among activities. The key cash flow activities include cash flows from operating activities, cash flows from investing activities, and cash flows from financing activities (Jess & Juhaszova, 2012).

Effective risk management can bring far reaching benefits to all organizations, whether large or small, public or private sector (Ranong & Phuenngam, 2009). These benefits

include, superior financial performance, better basis for strategy setting, improved service delivery, greater competitive advantage, less time spent firefighting and fewer unwelcome surprises, increased likelihood of change initiative being achieved, closer internal focus on doing the right things properly, more efficient use of resources, reduced waste and fraud, and better value for money, improved innovation and better management of contingent and maintenance activities (Wenk, 2005).

Effective cash flow risk management ensures sound liquidity for assurance of long-term economic growth and attainment of profit generating process (Avika, 2014).

A company's motive for managing cash flow risks is to reduce the instability of earnings or cash flow due to financial risk exposure (Dhanini, 2007). The reduction enables the firm to perform better forecasts (Drogt & Goldberg, 2008). This will help to guarantee that sufficient funds are available for the company for investment and dividends (Greuning and Bratanovic, 2009).

Another reason for management of cash flow risks is to avoid financial distress and the costs connected with it (Triantis, 2000; Drogt & Goldberg, 2008). Lastly also management's own-interest of keeping a constant tax level can be motives for cash flow risk management (Dhanini, 2007). Depending on which of the arguments is in the focus of the company, cash flow risk management can be structured. The focus is either on minimizing volatility or avoiding large losses (Greuning and Bratanovic, 2009).

Reduced instability in cash flows or earnings and prevention of losses allows better planning of liquidity needs. This can avoid shortfalls of available funds and consumption of equity (Eichhorn, 2014). This ensures that the firm can continue to operate into the foreseeable future, hence strengthening the going concern assumption of a firm. This in effect secures the sustainable financial performance of a firm.

In the context of accounting information, cash flows provide information that supports monitoring and control. The real success of a business depends on the ability to keep close control over cash flow, avoid holding excessive stocks and collecting debts on time (Danjuma, Sangiru, & Dahiru, 2015). A large number of businesses fail due to absence of cash rather than absence of profits. Cash flow management is vitally important for the business" profitability, future planning and sustainability (Avika, 2014).

2.3 Theoretical Framework

There are a number of theories that explain the impact of cash flow risk management specifically on firms" performance. Some of these theories are outlined below;

2.3.1 Keynesian Theory of Money

Keynes (1936), outlined the three motives for the need of money, the transaction motive, the speculative motive and the precautions motive. The speculative motive is the necessity to hold cash to exploit profitable opportunities when they arise in financial markets. The precautionary motive is the need to hold cash to cater for unexpected or unanticipated events. The transaction motive is the necessity of having cash on hand to pay day to day expenses of an organization.

Keynes recognized that 'money held for each of these three purposes forms, nevertheless, a single pool, which the holder is under no necessity to segregate into three watertight compartments'; however, he did suggest that these three categories formed an exhaustive set and that all other reasons for holding money (e.g. the income motive or the business motive) are merely subcategories of these three major divisions. According to Keynes, the quantity of money demanded for transactions and precautionary purposes 'is not very sensitive to changes in the rate of interest'; rather it

'is mainly a resultant of the general activity of the economic system and of the level of money-income'; the quantity of money demanded for speculative purposes, on the other hand, responds to 'changes in the rate of interest as given by changes in the prices of bonds and debts of various maturities'.

People and firms do not need money for its own sake, but because it can fetch them the necessary goods and services. In other words, money is demanded because it is a good medium of exchange (Keynes, 1936).

There is a gap between the receipt of wages, salaries or incomes and their expenditure. Not only individuals and households need money to meet daily transactions, but business firms also need it to meet daily requirements like payment of wages, purchase of raw materials and to pay for transport etc. The demand for money for transaction purposes depends upon income and the general level of business activity and the manner of the receipt of income.

If everyone received income in cash and simultaneously paid it in cash, there would be no need for holding cash balances, but that is not the case in actual practice. Individuals do not receive money income as frequently as they make payments; lot of time, therefore, elapses between the receipt of income and its expenditure.

However, it may not always be true to say that transactions demand for money is not very responsive to changes in the rate of interest. It may be so at a relatively low rate of interest, but becomes increasingly responsive at relatively high rates of interest. In fact, it may be understood that the need to bridge the gap between income and expenditures and to finance day-to-day transaction, is not the only reason that gives rise to transactions motive for holding cash balances (Keynes, 1936).

Individuals, households and business firms find it a good practice to hold money than what is needed for transactions purposes. They hold more money because they want to take proper precautions against unforeseen future contingencies like sickness, unemployment, accidents, fire, old age etc. (Keynes, 1936).

An individual who goes shopping will keep more money than what he thinks proper for planned purchases. How much cash a person will hold on account of such unforeseen events will depend upon his psychology and his views about the future and the extent to which he wants protection or insurance against such events. Like individuals, business firms also hold cash to safeguard against future uncertainties.

The cash balances held on account of precautionary motive will differ with individuals and business firms, according to their degree of confidence, wave of optimism or pessimism, access to credit and finance and the facilities for the quick conversion of illiquid assets like bond and securities into cash. As long as individuals and business firms have an easy access to ready cash, the precautionary motive to hold money will be relatively weak. The precautionary demand for money is influenced by factors like the size of assets, availability of insurance, expectations of future income, availability of credit and the efficiency and safety of financial institutions in making interest-earning assets available. Precautionary balances and their size are determined by the size of the assets owned by firms and individuals.

Keynes emphasized speculative demand for money as he felt that people kept cash to take advantage of the rise and fall of prices of bonds and securities. It is this demand for money which plays a vital role in the functioning of the economic system, for it is through such a demand for money that prices of fixed income-yielding assets (bonds and securities)- are affected and the rate of interest changes. The speculative demand

for money arises on account of the uncertainty regarding the future rate of interest. The individual investors are not sure of the terms and conditions on which debts owned can be converted into cash (Keynes, 1936).

Suppose one expects a fall in the prices of bonds, one will like to hold more cash with a view to spending it in future, when prices actually fall. In this way, individuals protect themselves from possible losses. Similarly, people purchase bonds in anticipation of a rise in their prices. This is called speculative demand for money.

Speculative motive is different from other motives as the sole object of holding money under it is to earn profits by "knowing better than the market what the future will bring." These speculative holdings are especially sensitive to changes in the rate of interest. It is the uncertainty regarding future market rates of interest on different bonds and securities of varying lengths that enable people to do speculation and if their guesses regarding future turn out to be true, stand to gain (Keynes, 1936).

The speculative demand for money is determined by highly psychological factors, as it depends on speculators' expectations regarding the future rate of interest. But no one knows with certainty what the future rate of interest will be. It is this "uncertainty as to the future course of the rate of interest which is the sole intelligible explanation of this type of liquidity preference". On account of uncertainty everybody forms his own estimate about the future rate of interest based on expectations (Keynes, 1936).

Thus, a firm needs to maintain an optimal level of liquidity to achieve superior financial performance and stability.

2.3.2 Free Cash Flow Theory

The theory asserts that management has the responsibility of holding cash to gain control over it in making investment decisions (Huseyin, 1997). When cash is readily

available, investment is made easier by the managers. The management must always ensure that it invests in the activities which maximize the shareholders" returns. By holding sufficient amount of cash, the management is guaranteed in the investment in growth projects due to the availability of funds hence improved financial performance. Scarcity of funds means that the management will not be able to invest in any investment aimed at improving the welfare of the shareholders. Eljelly (2004) criticized the free cash flow theory by arguing that by managers holding too much cash, they can easily make poor investment decisions. This will consequently lead to poor financial performance.

The concept of free cash flow forces the stock analyst or a banker not only to consider how much cash is generated from operation activities but also to subtract the necessary capital expenditures on plant and equipment to maintain normal activities; similarly, dividend payments to shareholders must be subtracted as these dividends must generally be paid to keep shareholders satisfied. The balance of free cash flow is available for special financing activities which have often been an equivalent to leverage buyouts, in which a firm borrows money to buy its stock with the hope of restructuring its balance sheet and perhaps going public again in a few years at higher price than it had paid [Block, Hirt, 1994]. An analyst or banker normally looks at free cash flow to determine whether there are sufficient excess funds to pay back the loan associated with the leveraged payout.

The free cash flow hypothesis advanced by Jensen (1988) states that managers attached to free cash flow will invest in negative net present value (NPV) projects rather than pay it out to shareholders. Jensen defines free cash flow as cash flow left after the firm has invested in all available positive NPV projects (Lang, Stulz and Walkiling, 1991).

The free cash flow and the firm's investment opportunities can be important when assessing the stock market response to the firm's announcements of corporate investment decisions. Many authors show that corporate investments by firms with good investment opportunities are generally worthwhile while those firms with poor investment opportunities may be wasteful. In contrast, Jensen's (1986) free cash flow theory, which predicts differential market response to corporate investment announcements depending on the firm's level of free cash flow, has mixed support (Chen, Chung, 2001).

Minton and Schrand (1999) show that higher cash flow volatility is associated with lower average levels of investment in capital expenditures(research & development and advertising), this association suggests that the firms have not used external capital markets to fully cover cash flow shortfalls but rather permanently forgo investment. Gui and Tsui (1998) also examine the association between free cash flow and market identified by Jensen (1986) as sources of agency problems for low growth firms; free cash flow is defined as the cash flow in excess of that required to fund positive-net-present-value project that is not paid out in dividends. According to Jensen (1986, 1989), managers of low growth/high free cash flow firms are involved in non-value-maximizing activities. More importantly, the interaction between free cash flow and debt is significant in the redirected direction. Jensen (1986, 1989) also debated that some low growth/high free cash flow firms issue debt to restrict the free cash flow firm problem.

Jean Paul Decamps and others (2008) studied the issuance and payout policies that maximize the value of a firm facing both agency costs of free cash flow and the external financing costs. They found that firms optimally issue equity. Equity distributes no dividends until a target cash level is reached while new equity is issued when the firm

runs out of cash. The main insight of this paper is that the introduction of exogenous issuance costs is enough to generate heteroscedasticty of stock market prices, even when earning are independently distributed. Gentry and others (2002) tried to discover whether the accounting earning approach or the finance free cash flow to equity approach provides a better explanation for estimating the capital gain rates of return on American and Japanese equities. They found strong support for using the net earnings approach to explain the capital gain rates of return for both American and Japan's companies during the period 1981-1999 and 1986-1999, respectively. Additionally, they found strong support for the relationship between capital gain returns and net cash flow associated with operations, interest and debt financing. And they found that the accrual accounting information is more useful in explaining capital gain rates of return than free cash flow components because accrual information tend to be more stable than cash flow data.

2.3.3 Cash Conversion Cycle Theory

Gitman (1974) developed cash conversion cycle as part of operating cycle which is calculated by adding inventory period to accounts receivables period and then subtracting accounts payable from it. The cash conversion cycle, which represents the interaction between the components of working capital and the flow of cash within a company, can be used to determine the amount of cash needed for any sales level. Its focus is on the length of time between the acquisition of raw materials and other inputs and the inflow of cash from the sale of finished goods, and represents the number of days of operation for which financing is needed (Danjuma, Sangiru, & Dahiru, 2015).

The cash conversion cycle theory is a dynamic measure of ongoing liquidity management, since it combines both balance sheet and income statement data to create a measure with a time dimension Peavler (2009). While the analysis of an individual

firm's cash conversion cycle is helpful; industry benchmarks are crucial for a company to evaluate its cash conversion cycle performance and assess opportunities for improvements because the length of cash conversion cycle may differ from industry to industry. Therefore the correct way is to compare a specific firm to the industry in which it operates (Hahn & Figge, 2011).

Cash conversion cycle is key in any business organization since the business organizations are able to know the amount of cash needed (Gitman, 1974). Cash conversion cycle theory focuses majorly on the period of time the company takes to acquire raw materials and the cash inflows as a result of the sale of the goods. Every individual business entity needs to analyze its cash conversion cycle. This will enable them to make any improvements, since it will affect its financial performance.

When the cash conversion cycle is short, it implies that business organizations need few resources to operate. When the cash conversion cycle is longer, it implies that the sales growth is high which translates to higher profits hence improved financial performance. Akinsulire (2003) criticized the cash conversion cycle theory by arguing that the cash conversion cycle should be as short as possible as this will create more value for the shareholders.

Richards and Laughlin (1980) suggest that a cash conversion cycle analysis should be used to supplement the traditional but static liquidity ratio analysis because it provides dynamic insights. Nordgren (1981) introduces a cash cycle analysis, based on the asset conversion cycle and the liability cycle. Gentry, Vaidyanathan and Lee (1990) developed a weighted cash conversion cycle. They define the weighted cash conversion cycle as the measure of the weighted number of days funds are tied up in receivables, inventory and payables, less the weighted number of days cash payments are deferred

to suppliers. They concluded that the weighted cash conversion cycle can be considered as a more refined liquidity measure.

Miller (1979) argues that the traditional definition of working capital can be improved by using the working capital leverage ratio, the ratio of current liabilities to working capital; the ratio of current liabilities to current assets; and the ratio of working capital to current assets. Shulman and Cox (1985) point out that current and quick ratios provide good information from a liquidation perspective, but not from a dynamic perspective of the firm's liquidity position. They present a new liquidity indicator, the net liquid balance (NLB), liquid financial assets minus all liquid financial obligations. Their work indicated that the relationship between the NLB to total assets ratio and the current and quick ratio is positive and generally all the ratios give consistent information about the liquidity position of the company. Emery (1984) describes the characteristics that are required of a good liquidity measure and reviews and evaluates the traditional ratios with respect to those characteristics. He suggests a new liquidity measure, lambda, the ratio of cash flow resources to potential cash flow requirements. The larger the value of lambda, the higher the liquidity of the firm.

Kamath (1989) has tested empirically the hypothesis of conflicting signals between current and quick ratio analysis and cash conversion cycle analysis. He has also examined whether the net trade cycle is a good approximation of the cash conversion cycle and the relationships between the three above liquidity measures and a measure of firm's profitability. Concluding, Kamath says that each measure can provide both useful information and misleading clues regarding the firm's liquidity position. Therefore, it is suggested to use all three measures and get better insight and efficiency of working capital management. Besley and Meyer (1987) have evaluated empirically the interrelationships among the working capital accounts and the cash conversion

cycle, the firm's industry classification and the rate of inflation. They found that the cash conversion cycle was most correlated with the average age of inventory and least correlated with the age of spontaneous credit. The cash conversion cycle and its components for the examination period differed from industry to industry, but did not vary from year to year. Finally, the authors found that there was no significant correlation between the value of cash conversion cycle and the rate of inflation.

Belt (1985) has examined the trends of cash conversion cycle and its components during the period 1950-1983, for those lines of businesses for which Quarterly Financial Report for Manufacturing, Mining and Trade Corporations data exists. He found that retailing and wholesaling firms both had cash conversion cycles shorter than those of manufacturing firms. Mining firms had the shortest cash conversion cycle because this type of industry has the longest payment deferral period of all the major business types. Finally, Belt (1985) found that cyclical phenomena are apparent.

The cash conversion cycle increases during periods of recession. The nondurable goods cash conversion cycle has declined persistently, while the durable goods cash conversion cycle has been unstable but declining for the examined time period (Belt, 1985).

Lazaridis and Tryfonidis (2006) and Shin and Soenen (1998) found a negative relationship between cash conversion cycle and profits, Sharma and Kumar (2011) and Padachi (2006) found a positive relationship between cash conversion cycle and profits. A survey of the empirical literature found that accounts receivable and inventory control are generally associated with higher profitability (Knauer and Wöhrmann, 2013). Accounts payable management has been found to be negatively associated with profitability, perhaps due to the direction of causality. Bougheas, Mateut and Mizen

(2008) studied manufacturing firms over the period 1993–2003 and found that profitability (as an independent variable) was positively associated with days accounts payable (as a dependent variable). The suggestion is that trade credit may be offered on more favorable terms to profitable firms, with the result having little to do with management of the component of the cash conversion cycle. Finally, Deloof (2003) and Raheman and Nasr (2007) both found significant negative correlations between profits and number of days in inventories.

2.3.4 Baumol Theory

Baumol (1952) developed the model to help one ascertain the cash amount a firm should hold. The Baumol model is based on the assumptions of certainty in the variables. The Baumol model approach is based on the argument that choosing optimal cash balances is like deciding the economic order quantity for inventory. The Baumol model approach assumes two major costs which are opportunity cost and transaction costs.

Transaction costs are incurred when the business entity is in cash shortage and is forced to dispose of the marketable securities which are in the short term. This implies that the securities are converted from earning form to non-earning form. The transaction costs arise as a result of holding cash in hand which brings about the opportunity cost which is equal to forgone interest income. The Baumol model makes some assumptions which include: The annual cash requirement is known and is constant, the firm has a steady cash inflow requirement and the opportunity cost is based on the interest rate on short term marketable securities, which is known and constant.

According to the model, the optimal cash balance held has a direct significant impact on the financial performance.

The limitation of the Baumol model are as follows; assumes a constant disbursement rate; in reality cash outflows occur at different times, different due dates; assumes no cash is coming in and out on a frequent basis; no safety stock is allowed for reason being it only takes a short amount of time to sell marketable securities (Baumol, 1952).

The Baumol model assumes the cash manager invests excess funds in interest bearing securities and liquidates them to meet the firm's demand for cash. As investment returns increase, the opportunity cost of holding cash increases and the cash manager decreases cash balances (Baumol, 1952). As transaction costs (cost of liquidating short-term investments) increase, the cash manager decreases the number of times he/she liquidates securities, leading to higher cash balances. Managing the cash - short-term investments mix involves determining the optimal frequency for replenishing cash and the amount of securities to liquidate.

2.3.5 The Miller-Orr Theory

According to Miller and Orr (1961), business entities can determine an upper limit and return point of cash balances which influences the financial performance. The Miller-Orr Model approach majorly provides for cost efficient transactional balances and makes an assumption that the cash flows are uncertain, the cash between normally faces random fluctuations between upper bound and lower bound. The cash balances can hit the upper bound, which implies that a business entity has excess cash which it can utilize to buy the marketable securities so that the cash balance is brought back to the optimal bound.

The cash balances can also hit the lower bound, which will force the management to return it to the optimal bound. The management can accomplish this by selling and converting the marketable securities into cash. The Miller-Orr Model is based on the

basic assumptions which include, there is no specific underlying trend in the balances of cash over time and the optimal values of cash balances depends on the opportunity costs and the degree of fluctuations in the market.

According to this model, if the cash balances are at the optimal bound, then better financial performance will be realized.

2.4 Empirical Review

Elena et. al. (2016) conducted a study to assess the effect of cash flow management on the financial stability of an insurance company in Russia. The researchers found out that poor cash flow management practices led to a decline in financial stability of the company from 23% in 2012 to 18% in 2015. This was mainly attributed to imprudent deployment of funds and taking up too much debt. To remedy the situation, the researchers recommended that the insurance company should either increase its equity or reduce its obligations. They also recommended that management of accounts receivable should focus on renegotiation of the installment payment plan, reduction of commercial credit period provided to counterparties and the implementation of measures for debt collection. And that it was necessary to recognize and analyze the current receivables, estimating past due rate, overdue period and causes of the delay in payments. Also that management of cash flow from investment operations should involve revision of investment pattern in order to choose more profitable ones, as well as a reduction in negative cash flow. These measures were to allow replenishing of the current capital, reducing the need for additional credit resources, increasing the total net cash flow and improving its liquidity, which will ultimately form the basis for the insurer's earnings growth. The profit growth will have a positive impact on financial solvency, return on equity and increase the financial stability of the company.

Manjula et al. (2017) examined the effect of cash flow risk management practices on sustainable financial performance of companies listed in Colombo Stock Exchange (CSE) in Sri Lanka. The target population of their study contained 295 listed companies representing 20 business sectors. The researchers analyzed a sample of 65 listed companies as a percentage representing each business sector. They collected sustainable financial performance data for selected listed companies between the years 2011 to 2015. They concluded that risk management practices in financial cash flow have positive and significant relationship with sustainable financial performances.

Andy and McGrath (2012) conducted a study to assess the effect of cash flow risk management on the financial performance of firms in the United States of America. The firms were selected from different sectors in the economy which included agriculture, insurance and construction sectors. The population of the study was 946 firms but a sample of 412 firms was selected for the study. They used operating activities, investing activities and financing activities cash flow risks as measures of cash flow risk management and return on assets as a measure of financial performance. They concluded that cash flow risk management had insignificant effect on the financial performance of the firms in United States of America.

Allen and Cote (2013) in their study on creditors" use of operating cash flows have found that investors and creditors differing goals and decision-making behavior offer initial clues to the effect of cash flow risk management on the financial stability of a firm. Investors are the residual owners and thus they place primary focus on profitability to signal whether their return expectations will be met and that the firm will be able to continue with its operations as a going concern. Operating cash flow and solvency are secondary concerns to investors. Creditors, on the other hand, have a fixed return and hence place emphasis on liquidity and cash flows as signals indicating

financial health and sustainable financial performance of a firm. The researchers found that a large number of businesses fail due to absence of cash rather than absence of profits. Hence they concluded that creditors" concerns were superior to the investors" concerns and that liquidity and cash flow management affects the financial stability of a firm.

To determine the effect of working capital management on the financial stability, Raheman selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years. Average collection period, inventory turnover in days, average payment period, CCC, current ratio, debt ratio, size of the firm, and financial assets to total assets ratio are the selected independent variables and financial stability is the dependent variable used in their analysis. They found that there is a strong negative relationship between variables of working capital management and financial stability of the firms. Their study also demonstrates a considerable negative relationship between liquidity and financial stability, and that a positive relationship exists between size of the firm and its financial stability. Furthermore, there is a significant negative relationship between debt used by the firm and its financial stability (Raheman, 2007).

Ogbonnaya, Ekwe, Uzoma (2016) assessed the relationship between cash flow management and financial performance of listed banks in emerging economies using Nigeria as case study. Data was obtained from the annual reports and accounts of the selected banks and subjected to statistical analysis using correlation technique. The study outcome revealed that operating cash flow has a significant and strong positive relation with financial performance in the Nigerian banking sector. Further results also showed that investing cash flow and financing cash flow had negative and weak relationship. The authors therefore recommended that the Nigerian financial regulatory authorities to scrutinize financial reports of quoted banks in Nigeria and make external

auditors use cash flow ratios to evaluate performance for the purposes of helping investors make the right decision.

Bosra (2013) conducted a survey to study the relationship between cash flow management and financial performance of insurance companies in India from 2005 to 2010. The researcher used various working capital indicators which include average collection period and cash conversion cycle. Return on assets was used as a measure of financial performance. He concluded that cash flow management had no significant relationship with the financial performance of insurance companies in India.

Novazz (2011) conducted a study to find out the relationship between working capital management and profitability in Brazilian-listed companies. The objectives of their study were to investigate if there was any difference between corporate profitability and working capital management in two separate groups of companies: working capital intensive and fixed capital intensive; and to identify the variables that most affect profitability. They have measured profitability in three different ways: Return on Sales (ROS), Return on Assets (ROA) and ROE. The independent variables used are cash conversion efficiency, debt ratio, days of working capital, days" receivable and days of inventory. Multiple linear regression used in their study identified that, there exists negative relationship between CCC (equal to days of working capital), debt ratio and profitability.

Deloof (2003) investigated the relationship between working capital management and profitability for a sample of 1009 Belgian Companies for the period of 1960-1992. In this study have been used cash conversion cycle inventories and number of day's accounts receivable as indicators of trade credit and cash conversion cycle as comprehensive indicator of working capital management. The results show that

manager can increase profitability of trade by reducing the number of accounts receivable, inventories and also by reducing cash conversion cycle.

Most of the Kenyan firms have large amounts of cash invested in working capital. It can therefore be expected that the way in which working capital is managed will have a significant impact on profitability of those firms and hence their financial stability.

As is evident from above discussions, previous studies have come up with conflicting results on the subject matter. By reviewing literature on cash flow risk management, the researcher found out that both equity and debt were used in the measurement of risk. The gap identified by the researcher is the measurement of risk focusing exclusively on debt financing, as suggested by other researchers (Allen et al., 2013; Darshana, 2017). The researcher also seeks to know what the relation is between cash flow risk management and financial stability for the Kenyan context.

2.4.1 Operating activities Cash Flow Risk and Financial Stability

In a cash flow statement, items reported on the income statement are converted from the accrual basis of accounting to cash basis of accounting. The cash from operating activities is compared to the company's net income. If the cash from operating activities is consistently greater than the net income, the company's net income or earnings are said to be of a high quality; and hence there is superior financial performance and hence financial stability (Avika, 2014). If the cash from operating activities is less than net income, a red flag is raised as to why the reported net income is not turning into cash. To ensure sustained superior financial performance, cash from operating activities should be consistently greater than the net income.

An investigation done by Torfason (2014) revealed that Lehman Brothers exhibited a steady increase in profit growth from 2002 and a significant increase in revenue from

2001. For most of the years, operating cash flows were negative with a significant decline recorded in 2003. This raised no alarm unlike the case of non-financial firms where this could be a sign of impending bankruptcy. However, Lehman Brothers succumbed to ill financial health caused by the negative operating cash flows recorded in the previous years in 2009 during the global financial crisis and went under. This validated the view of Talebi (1996), that a firm can survive in an economy for a long time whereas it's making little or no profit but the chances of survival minus liquidity are slim.

Cash flows from operating activities show whether a company's daily operations generated or depleted cash. Negative net cash flow from operating activities indicates that a firm's expenditure is more than its revenue. The reverse is true with positive net operating cash flows (Omag, 2016).

Negative net cash flow position will compel a firm to seek extra funds from external sources such as debt or stock issue. Debt financing increases a firm's expenditure on interest payment, hinders growth and exposes the firm to the risk of bankruptcy. Issue of stock on the other hand dilutes firm ownership (Frank & James, 2014).

Even though a growing firm may experience negative operating cash flows at its initial stages of growth due to expansion of inventory and payment of short-term maturing obligations, cash flows from operating activities must turn positive sooner or later for it to survive. Equally, a firm may display positive cash flows for a given period of time due to decline in spending while sales increase or remain constant. However, if sales plummet, the firm is faced with liquidation or bankruptcy (Lan, 2012).

2.4.2 Investing activities Cash Flow Risk and Financial Stability

Reports the purchase and sale of long term investments; plant, property and equipment. This is where analysts look to find changes in capital expenditure (CAPEX). A positive cash flow from investing activities is good for a firm (Avika, 2014). It shows that there is a positive return from capital expenditure and indicates good financial stability of the company.

Cash flow from investing activities is an item on the cash flow statement that reports the aggregate change in a company's cash position resulting from any gains (or losses) from investments in the stock markets and operating subsidiaries and changes resulting from amounts spent on investments in capital assets such as plant and equipment. When analyzing a company's cash flow statement, it is important to consider each of the various sections which contribute to the overall change in cash position. In many cases, a firm may have negative overall cash flow for a given quarter, but if the company can generate positive cash flow from business operations, the negative overall cash flow may be a result of heavy investment expenditures, which is not necessarily a bad thing (Ambreen & Aftab, 2016).

Cash flow from investing activities is an important aspect of growth and capital. Changes to property, plant and equipment, a large line item on the balance sheet, fall here. When analysts want to know how much a company is spending on PPE, they can look for the sources and uses of funds in the investing section of the cash flow statement. Capital expenditure found in this section of the cash flow statement, is a popular measure of capital investment used in the valuation of stocks. An increase in capital expenditures means the company is investing in future operations, however, it also points to a reduction in cash flow. Companies with high capital expenditures are generally in a state of growth. Examples of negative cash flow from investing activities

includes the purchase of fixed assets, the purchase of investment instruments such as stocks, and lending money. Examples of positive cash flow from investing includes the sale of fixed assets, the sale of investment instruments, and the collection of loans and insurance proceeds (Lewellen & Lewellen, 2016).

Cash flow related to investing reflect how an organization's cash is used to provide securities. Example include making capital expenditures, acquire property and equipment and to expand. Cash flows from investing activities measure a firm's investment. This is where investment in other companies and capital expenditures are recorded. Capital expenditure relate to purchase of fixed assets such as plant and machinery. The figure is usually negative when the firm buys more of its assets than it is selling and vice versa (Frank & James, 2014).

Capital expenditure is long term in nature and are usually very large. In order to match revenue with expenses in the Profit and Loss account, firms usually expense capital expenditure over the useful life of the affected asset. It is however important to note that capital expenditure effect on a firm's cash flows works differently (Beatty & Riffe, 1997).

During the initial year of an asset's purchase, a substantial amount of cash is spent as initial outlay resulting in huge negative cash out-flow. This is good for the firm because it means that the company is spending money to build capacity aimed at expanding its business. However, caution must be taken to ensure that the firm is only investing in worthwhile projects with future growth prospects (Arshad, 2012).

Since revenue is used to finance the purchase of fixed assets in a firm, it is important to ensure that growth in capital expenditure to boost a firm's capacity matches with revenue growth. Otherwise, the firm may be faced with serious cash flow problems that

may spell doom to its survival. Capital expenditure vary from industry to industry. Firms that require large machines for production such as manufacturing firms have higher capital expenditure than firms with a large amount of intellectual property or intangible assets for instance investment firms (Qandhari, Khan & Rizvi, 2016).

Other sources of cash flow from investing activities include; acquisitions and divestitures of subsidiaries, commodity hedges, currency hedges and investment in marketable securities. For financially sound firms, the figure for net cash flow from investing activities should be negative. This means that cash from operations is being driven back into the business for expansion to generate more profits (Omag, 2016).

Purchase and sale of fixed assets constitute cash flows from investing activities. Sale and purchase of fixed assets such as buildings yield cash inflows and cash outflows respectively. Generally, cash flows from investing activities could take the form of cash outflow or cash inflow. However, sometimes, cash inflows may equal cash outflows (Lan, 2012).

A firm's future investments can be used to gauge its growth and survival prospects. Thus, cash is invested in productive assets such as property, plant and equipment. However, there is also need to invest in intangible assets and long-term securities of other firms. Consequently, long-term financial planning becomes crucial towards this end (Omag, 2016).

Fixed assets may be sold to top up cash from operating activities or a better opportunity has arisen to dispose those assets. Alternatively, assets useful economic life may be over and urgent replacement is needed. Nonetheless, a firm may sell its assets to raise funds for expansion instead of going for debt or equity (Frank & James, 2014).

2.4.3 Financing activities Cash Flow Risk and Financial Stability

Reports the issuance and repurchase of company's own bonds, stock and the payment of dividends. Analysts use cash flows from financing sector to find the amount paid out as dividends and share buybacks. Cash obtained or paid back from capital fundraising efforts such as equity or debt is also listed. If the firm is not growing rapidly yet there is borrowing of huge debts, then this indicates that there is poor financial performance leading to weak financial stability (Avika, 2014). However, if the firm is rapidly expanding and borrows funds with returns commensurate to the debt, then this indicates good financial performance and hence strong financial stability.

Financing cash flows is the third section of the statement of cash flows. Financing activities relate to activities attributed to acquisition of capital to finance start-ups, expansion or financing of any other activity that the business organization needs extra funds for. Financing could take the form of internal or external source of financing. Retained earnings form the basis of internal financing while equity and debt financing form the basis of external financing. Cash may be obtained by selling company shares to investors. Sale of bonds on the other hand constitute debt financing by the firm. Thus, such funds are raised through financial markets (Omag, 2016).

Cash flows from financing activities may be defined as cash flows from those activities that are neither operating nor investing. To be specific, they include, loan repayments, investment by firm owners, dividends received by firm owners and supply of bonds or stocks. Cash investments by firm owners entail repurchase of shares due to sale by some shareholders. Share repurchase may occur due to the following reasons; firstly, scramble for shares by investors due to decrease in price. Secondly, as part of the wider strategy by the company to protect itself from possible hostile takeover. Thirdly, they could be used as additional compensation to a firm's key executives (Sayari & Simga-

Mugan, 2013). Loan repayment involves servicing of debt to satisfy creditor interests hence influencing financing activities adversely. It is worth noting that payment of cash dividends has the same effect as payment of cash as a financing activity.

Cash flows from financing activities are normally affected by a firm's financial strategies. For instance, during expansion period, attention must be paid to cash inflows to avoid possibilities of experiencing insufficient cash flows from operating activities for the sustenance of firm operations. However, during periods of maturity, operations require comparatively lower amount of financing. Debt and equity are essential cash resources for any firm. In as far as financing of firms are concerned, cash flow patterns are dictated by business cycles. According to Omag (2016), the study found out that there are cash outflows associated with financing activities. Consequently, exchange of cash between a firm and its shareholders or creditors for that matter, could be observed by probing this portion of the cash flow statement. Studies in recent years have shown that, most firms use short-term loans and retained earnings to finance their activities because long-term resources are not sufficient in the capital markets. Governments take this advantage to issue government bonds to address the issue of budget deficits in their budgets. Thus, firms which are accessible to long-term resources, could be regarded as financially stable. The exact amount of these resources may be observed in the financial statements of the relevant firms (Caprio & Demirgu-Kunt, 1998).

According to Tariverdi and Teimoory (2013), cash flows from financing activities is made up of three major transactions: share transactions, debt transactions and dividend transactions.

Although cash is received when a firm issues stock, ownership is diluted. Raising capital through issue of additional stock is not a bad thing per se so long as the firm is

not expanding at unacceptable rate. It is also important to note that when additional shares are sold in a firm, less income is attributable to stock holders. Stock repurchase increases shareholders" ownership in a firm but decreases cash. When debt is issued, a business enterprise receives cash that is repayable later. The period between debt issuance date and debt repayment date, interest is being paid. Repayment of debt issued is considered a cash outflow. Interest payment is not a financing activity but an operating activity which is considered as a normal business operation. Interest expense however is not further broken out in the operating activities section of the cash flow statement because it is already computed into net income.

Dividend payments are outflows because it entails cash payment to a firm's shareholders. Stockholders view firms that pay out dividends positively than those firms which do not pay out dividends. A decrease in dividend payment is often viewed as a signal that a firm is faced with a myriad of problems, particularly if the downward trend is not directly proportional with the reduction in the number of outstanding shares. It is however not uncommon for a firm not to pay dividends. Firms experiencing significant growth may opt not to pay dividends to their shareholders but invest the extra income that would otherwise be distributed and paid as dividend in projects aimed at expanding their business. The figure for the net cash from financing activities may be used to gauge its effect on a firm's overall cash flow position. However, a study of how a firm raising cash or repaying cash for the individual line items is more important (Budagaga, 2017).

Andani and Al-hassan (2007) describe financing as the process of acquiring capital to fund a start-up, an expansion, basic operations or whatever else the company needs the extra funds for. Financing could take the form of either internal or external. Retained earnings is the major source of internal financing. Debt and Equity are the major sources

of external financing. Cash is obtained from sale of firm shares to investors. Sale of long-term securities and loans constitute debt financing. Thus, security markets are good avenues to be used to raise external funds from the public (Dagar, 2014).

According to Omag (2016), cash flows from financing activities is defined as "…the remaining of activities that cannot be classified either as operating or investing". Specifically, it is composed of shareholders" cash investments, cash used to service debt, cash dividends paid to shareholders and the supply of shares or long-term securities (Lan, 2012). Shareholders" cash investments refer to stock repurchases due to their sale by some stockholders (Liu & Wang, 2015). Sale of shares may arise due to the following reasons namely; decrease in share price which encourages share purchase, purchase of shares as a strategy to protect a firm from possible hostile takeover and shares could be given to firm executives as compensation (Schwert, 2000). Servicing of loans through interest payment is due to long-term loans advanced to companies. Thus, cash becomes necessary to satisfy creditors" expectations. Consequently, a firm's financing activities are adversely affected. Cash dividends on the other hand can be used as a means of utilizing money in a firm. Their effect is similar to the influence cash repayments have on financing activities cash flows (Attah-Botchwey, 2014).

Financing activities may result in cash outflows or inflows which are affected by a firm's financial strategies. For example, during firm expansion, lack of adequate cash inflows may compel a firm to sale securities or bonds for the maintenance of firm operations. However, during maturity stage, firm operations require comparatively lower amount of financing. Supply of securities in financial markets is an essential source of cash for firms (Gambacorta, Yang & Tsatsaronis, 2014). Cash flow patterns may be described by considering business cycles (Nyamache, Nyambura & Mishra, 2013).

2.5 Conceptual Framework

A conceptual framework is an analytical tool used to showcase the independent and dependent variables in a format, showing the relationship between the independent and dependent variables. The independent variables in this research are; operating activities cash flow risk, investing activities cash flow risk and financing activities cash flow risk. The dependent variable is financial stability. Financial stability as measured by the Altman's Z Score is used. Figure 2.1 below is used to schematically present the hypothesized relationship between the independent and dependent variables.

Independent variables   **Dependent variable**
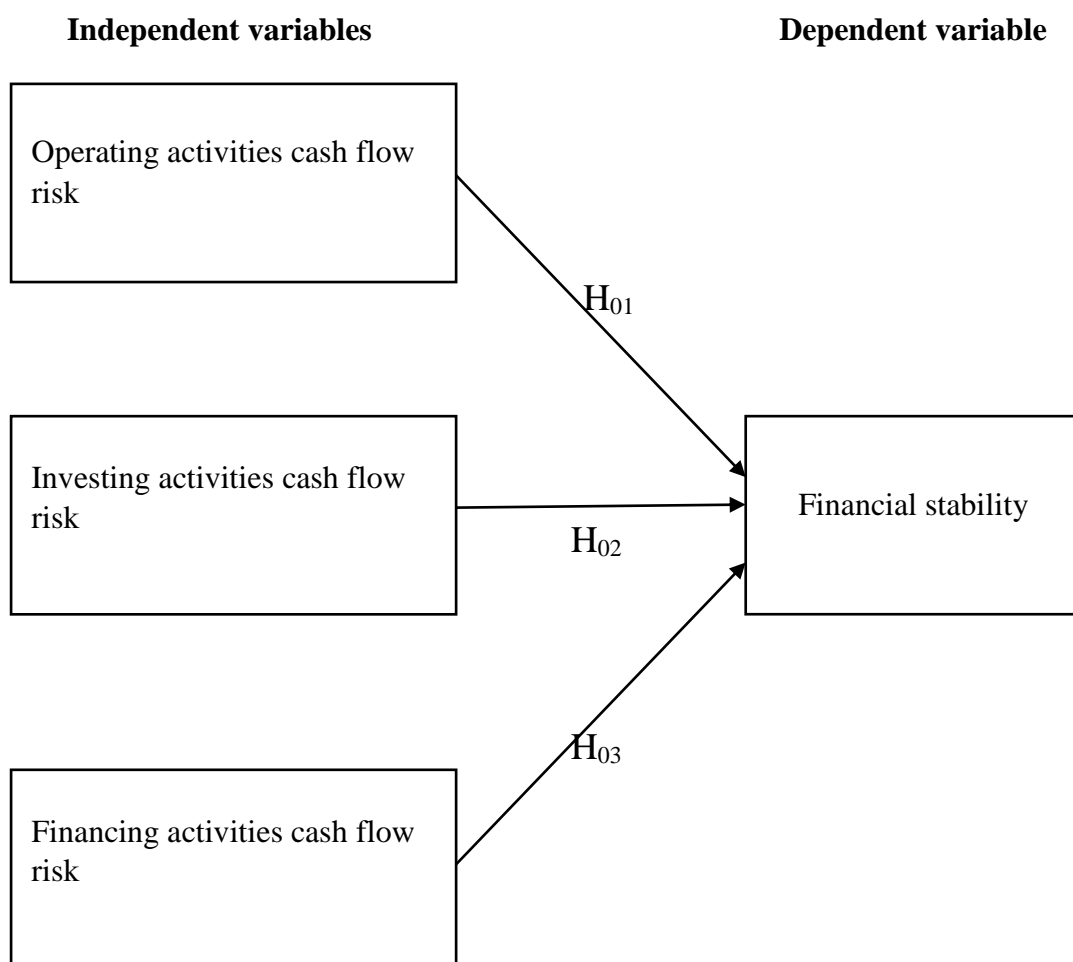
Figure 2.1: Conceptual Framework
Source: Author (2020)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The chapter presents the research design, target population, measurement of variables, data collection, data analysis and diagnostic tests.

3.1 Research Design

According to Fraenkel and Wallen (1993), research design is a basic plan which guides the data collection and analysis phases of the research project. It is the framework which specifies the type of information to be collected, the sources of data and data collection procedure. The study adopted an explanatory design to assess the effect of cash flow risk management on the financial stability of firms listed in the NSE.

According to Kothari (2004), this approach is concerned with determining cause and effect relationship between the dependent and independent variables. It suggests causal linkages between variables by observing existing phenomena and then searching back through available data in order to try to identify plausible causal relationships. This design is best in explaining if two variables are related and if they vary together, with the help of enough data for testing cause and effect relationship. In order to understand how each variable was used in the study, each variable is properly defined.

3.2 Target Population

A population is the aggregate of all that conforms to a given specification. It is an entire group of individuals, events or objects having a common observable characteristic (Mugenda and Mugenda, 2003).

The target population of this study comprised of firms listed at the Nairobi Securities Exchange (NSE). Firms listed at the NSE are required by regulations to disclose their

yearly financial reports, hence data can be easily acquired. There are a total of 65 firms listed at the NSE as at 31st December 2017, which formed the target population for this study. This study undertook a survey of all firms which have consistently traded over the study period of 9 years, from 2009 to 2017.

3.3 Inclusion/Exclusion Criteria

Inclusion criteria are characteristics that the prospective subjects must have if they are to be included in the study, while exclusion criteria are those characteristics that disqualify prospective subjects from inclusion in the study (Campbell 2004). This study undertook a survey of all firms which have consistently traded over the study period of 2009 to 2017 which constituted 40 firms. Those companies that did not meet this condition were disqualified from the study. Inclusion and exclusion criteria are meant to provide data (justification) of subject appropriateness for the study, to minimize withdrawal (also costs) and to ensure that primary end-points of the study are reached (Koul, 1992).

3.4 Measurement of Variables

3.4.1 Dependent Variable

Financial stability is measured using the Altman's Z Score. Altman's Z-score Model is a numerical measurement that is used to predict the chances of bankruptcy. The Z-score model is based on five key financial ratios, and is written as follows:

$\zeta = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E$

Where:

- Zeta (ζ) is the Altman's Z-score
- A is the Working Capital/Total Assets ratio
- B is the Retained Earnings/Total Assets ratio

- C is the Earnings Before Interest and Tax/Total Assets ratio

- D is the Market Value of Equity/Total Liabilities ratio

- E is the Total Sales/Total Assets ratio

Usually, the lower the Z-score, the higher the odds that a company is heading for bankruptcy. A Z-score that is lower than 1.8 means that the company is in financial distress and with a high probability of going bankrupt. On the other hand, a score of 3 and above means that the company is in a safe zone and is unlikely to file for bankruptcy. A score of between 1.8 and 3 means that the company is in a grey area and with a moderate chance of filing for bankruptcy.

Investors use the Altman's Z-score to make a decision on whether to buy or sell a company's stock, depending on the assessed financial strength. If a company shows a Z-score closer to 3, investors may consider purchasing the company's stock since there is minimal risk of the business going bankrupt in the next two years (Omag, 2016).

However, if a company shows a Z-score closer to 1.8, the investors may consider selling the company's stock to avoid losing their investments since the score implies a high probability of going bankrupt (Omag, 2016).

i. **Working Capital/Total Assets**. Working capital is the difference between the current assets of a company and its current liabilities. The value of a company's working capital determines its short-term financial health. A positive working capital means that a company can meet its short-term financial obligations, and still make funds available to invest and grow.

In contrast, negative working capital means that a company will struggle to meet its short-term financial obligations because there are inadequate current assets (Omag, 2016).

ii. **Retained Earnings/Total Assets.** The retained earnings/total assets ratio shows the amount of retained earnings or losses in a company. If a company reports low retained earnings to total assets ratio, it means that the company is financing its expenditure using borrowed funds rather than funds from its retained earnings. It increases the probability of a company going bankrupt. On the other hand, a high retained earnings to total assets ratio shows than a company uses its retained earnings to fund capital expenditure. It shows that the company achieved profitability over the years, and it does not need to rely on borrowings (Omag, 2016).

iii. **Earnings Before Interest and Tax/Total Assets**. EBIT, a measure of a company's profitability, refers to the ability of a company to generate profits solely from its operations. The EBIT/Total Assets ratio demonstrates a company's ability to generate enough revenues to stay profitable and fund ongoing operations and make debt payments (Omag, 2016).

iv. **Market Value of Equity/Total Liabilities.** The market value, also known as market capitalization, is the value of a company's equity. It is obtained by multiplying the number of outstanding shares by the current price of stocks, the value of assets in the balance sheet. A high market value of equity to total liabilities ratio can be interpreted to mean high investor confidence in the company's financial strength (Omag, 2016).

v. **Total Sales/Total Assets.** The sales to total assets ratio shows how efficiently the management uses assets to generate revenues vis-à-vis the competition. A high sales to total assets ratio is translated to mean that the management requires a small investment to generate sales, which increases the overall profitability of the company (Omag, 2016).

In contrast, a low or falling sales to total assets ratio means that the management will need to use more resources to generate enough sales, which will reduce the company's profitability.

3.4.2 Independent Variables

Operating activities cash flow risk is calculated as a ratio of operating activities (OA) to total liabilities (TL). It indicates company's ability to cover its total debt with cash. This Measurement was used in prior studies by Manjula et al. (2017) and Andy and McGrath (2012).

Investing activities cash flow risk is calculated as a ratio of investing activities (IA) to total liabilities (TL). Measures the cash generated from investing activities to meet its obligation in the long run. This measurement was also used in prior studies by Manjula et al. (2017) and Andy and McGrath (2012).

Financing activities cash flow risk is calculated as a ratio of financing activities (FA) to total liabilities (TL). Measures the cash generated from financing activities to meet its obligation in the long run. This measurement was also used in prior studies by Manjula et al. (2017), Mose (2016) and Andy and McGrath (2012).

The independent variables are summarized in the table below:

Table 3.1: Summary of independent variables

Descriptions	Ratio	Measurement
X1: Operating activities cash flow risk	Operating activities (OA)/Total liabilities (TL)	Indicates company's ability to cover its total debt with cash.
X2: Investing activities cash flow risk	Investing activities (IA)/ Total liabilities (TL)	Measures the cash generated from investing activities to meet its obligation in the long run
X3: Financing activities cash flow risk	Financing activities (FA)/ Total liabilities (TL)	Measures the cash generated from financing activities to meet its obligation in the long run.

Source: Manjula et al. (2017)

3.5 Data Collection

The data was collected using secondary data techniques only. Firms that were listed at the NSE for the entire nine years period and the annual financial reports available for the purposes of data collection and extraction during the study.

3.5.1 Data Collection Procedure

Document analysis techniques was used to obtain secondary data from the listed firms' audited annual reports for the period of 2009 to 2017. The firms" annual reports are documents produced regularly as a regulatory requirement as per the CBK and CMA prudential guidelines. Data collected for financial stability is as discussed above; for cash flow risk management, total liabilities, operating activities, investing activities and financing activities cash flows. Data was collected for a nine year period in order to allow for in-depth analysis of the subject matter over an extended period of time. This information was sourced from the individual firm's website, published newspapers, NSE and CMA databases. The study adopted the document analysis techniques indicated in appendix I.

3.6 Data Analysis

To test the relationship between cash flow risk management and financial stability of firms listed at the NSE, data analysis was done whereby panel data regression was employed.

Based on the conceptual framework, the empirical model used in the study to test the relationship between cash flow risk management and financial stability of firms listed at the NSE in Kenya is presented as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it} \quad (1)$$

Where:

Y_{it}: Financial stability

X_{1it}: Operating activities cash flow risk.

X_{2it}: Investing activities cash flow risk.

X_{3it}: Financing activities cash flow risk.

β_0: The intercept.

ε_{it}:   Represents the error term.

i: Denotes a company

t: Indicates time

β_1, β_2, β_3 and β_4: Regression co-efficients.

3.7 Diagnostic Tests

Before applying panel data regression in order to check the relationship between the variables, it was necessary to ensure model assumptions are valid. Therefore, it was crucial to perform appropriate model diagnostics.

3.7.1 Panel Unit Root Test

Panel unit root test was applied on all variables used in the analysis in order to determine whether or not the panel data was stationary. The necessity of this procedure was to avoid a situation where the obtained regression results were spurious; hence jeopardizing testing of hypothesis (Granger & Newbold, 1974). The study applied Fisher-type test (with trend).

3.7.2 Panel-Level Heterescedasticity Test

To test for panel level heteroscedasticity, the study adopted Breusch-Pagan/Cook Weisberg test for heteroscedasticity. This involved first estimating the specified empirical model by OLS and then running the test against the null hypothesis of homoscedastic (constant) error variance. If the test statistic has a p-value below the appropriate threshold ($p < 0.05$) then the null hypothesis of homoskedasticity is rejected and heteroskedasticity assumed (Torres-Reyna, 2007).

3.7.3 Serial Correlation Test

To detect autocorrelation in panel data, the study used Wooldridge test for autocorrelation against the null hypothesis that there was no first order autocorrelation. If the test statistic has a p-value below the appropriate threshold ($p < 0.05$) then the null hypothesis that there is no first order autocorrelation is rejected (Torres-Reyna, 2007).

3.7.4 Test for Multicollinearity

Multicollinearity is a phenomenon in which one predictor variable in a regression model can be linearly predicted from the others with a substantial degree of accuracy. In this situation, the coefficient estimates of regression may change erratically in response to small changes in the model or data. Pair-wise correlation was used to examine the level of collinearity present between explanatory variables used in the study. In general, an absolute correlation coefficient of >0.7 among two or more predictors indicates the presence of multicollinearity (Manjula *et al.,* 2017).

3.8 Fixed Effects vs Random Effects

To decide between fixed or random effects, the researcher did a Hausman test where the null hypothesis was that the preferred model was random effects vs. the alternative the fixed effects.

3.9 Ethical Consideration

The researcher obtained approval from Moi University to carry out the research. All data obtained was used for the purpose of study only.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the descriptive statistics, diagnostic tests and regression results.

4.1 Descriptive Statistics

Table 4.1 shows that on average, firms had a financial stability index of 7.642; which indicates a relatively financially sound crop of firms. The standard deviation of 3.005 indicates a high variability on the degree of financial distress among firms. This is confirmed by the wide range between the maximum and minimum Financial stability of 19.451 and - 1.556 respectively.

Table 4.1. Summary statistics

Variables	Mean	Std.Dev.	Median	Max	Min	Skewness	Kurtosis	Count
Financial stability	7.642	3.005	7.445	19.451	-1.556	0.836	4.746	360
OCFR	0.457	0.173	0.441	0.882	0.067	0.098	2.242	360
ICFR	0.393	0.274	0.362	0.965	0.000	0.203	1.653	360
FCFR	0.606	0.274	0.638	1.000	0.036	0.207	1.694	360

Both the Skewness and Kurtosis shows that the data on all variables was nearly normally distributed (at 0 and 3) respectively and hence suitable for further statistical analysis.

4.2 Panel data Diagnostic Tests

To determine the suitability of the panel data for statistical analysis, various tests were carried out on the data collected. The tests that aimed at establishing if the panel data fulfilled the cardinal requirements of classical linear regression analysis included: panel unit root test, test for multicollinearity among independent variables panel-level

heteroscedasticity test and serial correlation test. Where violation to these assumptions was detected, appropriate remedies were employed.

4.2.1 Panel Unit Root Test

Panel unit root test was applied on all variables used in the analysis in order to determine whether or not the panel data was stationary. This involved solving for the value of ρ in the general equation:

$$Y_{it} = \alpha + \rho Y_{it-1} \pm \mu_{it}$$

Where: t = 1….9 years and i = 40 firms

If $\rho = 1$, it implied that the observation Y_{it} was dependent on its lag value Y_{it-1} and hence the data was non-stationary. The converse would be true if $\rho <1$. The necessity of this procedure was to avoid a situation where the obtained regression results were spurious; hence jeopardizing testing of hypothesis (Granger & Newbold, 1974). The study applied Fisher-type test (with trend). The Fisher-type unit root test requires specification of Dickey-Fuller to test whether a variable has unit root.

Table 4.2: Fisher-type (with time trend) unit root test results

Variable	Statistic	P-value
OCFR	184.7382	0.0000
ICFR	175.2634	0.0000
FCFR	157.4579	0.0000
Financial stability	228.3896	0.0000

H_0: All panels contain unit roots; Significance level: 5%

Based on the results displayed in Table 4.2, the study rejected the Null hypothesis that the panel data contained unit roots at 5% significance level. Effectively, the study concluded that all the variables used by the study did not have unit root and were therefore were used in levels instead of their first difference.

4.2.2 Panel-Level Heterescedasticity Test

To test for panel level heteroscedasticity, the study adopted Breusch-Pagan/Cook-Weisberg test for heteroscedasticity. This involved first estimating the specified empirical model by OLS and then running the test against the null hypothesis of homoscedastic (constant) error variance (Torres-Reyna, 2007). If the test statistic has a p-value below the appropriate threshold ($p < 0.05$) then the null hypothesis of homoskedasticity is rejected and heteroskedasticity assumed.

Table 4.3: Breusch-Pagan/Cook-Weisberg test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of cash flows
chi2(3) = 26.55
Prob > chi2 = 0.0000

The tests results provided a chi-square distribution value of 26.55 with a corresponding p-value of 0.0000. The results signifies that the chi-square statistic was significant at 5 percent level and hence the null hypothesis of constant variance was rejected. This indicated presence of panel-level heteroscedasticity in the study data as recommended by (Wiggins & Poi, 2001). To correct this violation of classical linear regression assumptions, the study employed the feasible generalized least squares (FGLS) estimation technique instead of the ordinary least squares method.

4.2.3 Serial Correlation Test

Wooldridge test for autocorrelation against the null hypothesis that there was no first order autocorrelation was used. If the test statistic has a p-value below the appropriate threshold ($p < 0.05$) then the null hypothesis that there is no first order autocorrelation is rejected (Torres-Reyna, 2007).

Table 4.4: Wooldridge test for autocorrelation in panel data

Wooldridge test for autocorrelation in panel data
Ho: no first- order correlation
$F(1, 38) = 20.174$
Prob> F=0.0001

The test results provided F-statistic value of 20.174 at 1 and 38 degrees of freedom. The F-statistic value had a corresponding p-value of 0.0001 indicating that the null hypothesis of no first order autocorrelation was strongly rejected at 5% significance level. The result therefore concluded that the panel data suffered from the problem of first-order autocorrelation. The study remedied this violation of classical linear regression model assumption by employing FGLS estimation technique (Mwangi et al., 2014).

4.2.4 Test for Multicollinearity

Pair-wise correlation was used to examine the level of collinearity present between explanatory variables used in the study.

Table 4.5: Pairwise Correlation Matrix Results.

	OCFR	ICFR	FCFR	Financial stability
OCFR	1			
ICFR	-0.1647*	1		
FCFR	-0.1529*	0.1980*	1	
Financial stability	-0.07528*	0.0340	0.0365	1

The asterisk * signify significance at 5% level

Table 4.5 shows that the correlation coefficients between all independent variables were less than 0.8 implying that the variables did not exhibit severe multicollinearity. In general, an absolute correlation coefficient of >0.7 among two or more predictors indicates the presence of multicollinearity (Manjula et al., 2017).

4.3 Panel Model Regression Results

In order to establish which panel effects (between fixed and random) provided better estimation results for the study, Hausman test was carried out for the specified panel regression model. The test was conducted against the null hypothesis that random effect model was the preferred model.

The Hausman test results provided a chi-square value of 260.40 and a corresponding p-value of 0.0000. The result indicated that the chi-square statistic was significant at 5% level. Effectively, the study rejected the null hypothesis that random effects model was appropriate and estimated the panel regression model for fixed effects as recommended by Torres-Reyna (2007).

Table 4.6: FGLS Fixed effects Panel Regression Results

Dependent variable: Financial stability		
Variable	**Coefficient**	**P>|t|**
OCFR	-12.2138*	0.000
ICFR	0.58351	0.361
FCFR	0.62706	0.540
Statistics		
Adjusted R^2	0.6305	
Rho	0.6738	
Wald chi^2 (3)	104.01	
Prob. (Wald)	0.0000	
Observations	360	

Table 4.6 shows the results of panel regression model for fixed effects with financial stability being the dependent variable and operating activities cash flow risk, investing activities cash flow risk and financing activities cash flow risk as the independent variables. The model sought to derive the primary effect of cash flow risk management on financial stability of firms. The results show the model had a coefficient of

determination (R-squared) equivalent to 0.6305 and signifying that the fitted explanatory variables explained up to 63.05% of the variations in dependent variable. The Wald Chi-square statistic of 104.01 together with the corresponding p-values of 0.0000 indicated that the explanatory variables were jointly statistically significant at 5% significant level.

The results displayed on Table 4.6 shows that operating activities cash flow risk has a coefficient of -12.2138. The coefficient of operating activities cash flow risk was negative and significant at 5% level. The finding signified that firms with small or negative operating activities cash flow generally have low financial stability. Hence, we reject the null hypothesis H_{01}

The results further showed that the coefficient of investing activities cash flow risk was positive with a value of 0.58351 but not significant at 5% level; meaning that it has no significant effect on financial stability. Hence, we accept the null hypothesis H_{02}

The results also showed that the coefficient of financing activities cash flow risk was positive with a value of 0.62706 but not significant at 5% level; meaning that it also has no significant effect on financial stability. Hence, we accept the null hypothesis H_{03}

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the findings, conclusion of the study, recommendations for policy and practice, limitations of the study and areas for further research.

5.1 Summary of Findings

The aim of the study was to establish the effect of cash flow risk management on the financial stability of firms listed at the Nairobi Securities Exchange. Cash flow risk management was measured by three variables which included; operating activities cash flow risk, investing activities cash flow risk and financing activities cash flow risk. The study employed secondary data which was obtained from the financial statements of the companies. Data was analyzed using panel data regression and conclusions were made. The findings are that operating activities cash flow risk significantly affects financial stability at 5% significant level. Investing and financing activities cash flow risks do not significantly affect financial stability of firms at 5% significant level.

5.2 Conclusion

The first objective of the study was to investigate the effect of operating activities cash flow risk on the financial stability of a firm. From the results, the coefficient of operating activities cash flow risk was negative and significant at 5% level. The study therefore found out that low or negative operating activities cash flows in highly geared companies reduces their financial stability. This implies that firms that have more operating activities cash flows are in a position to generate higher profits since they can effectively pay their short term obligations on demand or over a short notice, and hence have a strong financial stability. Hence the first hypothesis was rejected. The second

objective of the study was to establish the effect of investing activities cash flow risk on the financial stability of a firm. The results showed that the coefficient of investing activities cash flow risk was not significant at 5% level; meaning that it has no significant effect on financial stability of companies. Hence the second hypothesis was accepted.

The third objective of the study was to determine the effect of financing activities cash flow risk on the financial stability of a firm. The results showed that the coefficient of financing activities cash flow risk was not significant at 5% level; meaning that it has no significant effect on financial stability of companies. Hence the third hypothesis was accepted.

5.3 Recommendations

The following were the recommendations drawn from the study conducted:

Listed companies should at all times maintain sufficient levels of operating cash flows in order to offset their daily obligations as and when they arise. This in effect will go a long way in ensuring confidence in the minds of the clients and other potential investors served by these companies. The long term impact of maintaining sufficient levels of operating cash flows is that most clients and investors will in the long run be attracted to the company.

Investing activities and financing activities cash flow risk had no significant effect on financial stability of companies. Therefore companies" expenditure on items such as short term marketable securities and payment of dividends does not affect their financial stability. Hence profitable companies should endeavor to pay dividends as this will boost investor confidence. The companies however, should also ensure they invest in potentially viable projects which can generate substantial amounts of cash.

Acquisition and retention of highly valued assets with long-term capacity to convert raw materials into finished goods is a necessity if listed firms have to operate at minimal cost.

Management of firms and other organizations must exercise great caution on the nature of financing source to be adopted in order to minimize cost of obtaining and maintaining funds in the firm. Viable investment opportunities should be sought at all times by the firm and exploited to make optimal use of the obtained funds.

5.4 Limitations of the Study

The main limitations of this research were the types of practices, methods or strategies used to mitigate the cash flow risk that cannot be directly identified from annual reports. Also to be noted is the fact that business sector to sector size, capital structure, nature of the business, risk management controls, methods and strategies were different.

5.5 Suggestions for Further Study

The researcher recommends a similar study for companies which are not listed in Nairobi Securities Exchange most of which are privately owned. The rationale for this is to find out whether similar findings as established in the above study will hold for privately owned entities.

The study recommends that future researchers should conduct a similar study over a longer period of time. This is because the researcher did the study on a shorter time frame of nine years and thus recommends a similar study to prove whether the same relationship established will hold in the long run due to the impact of fluctuations in the macroeconomic front like political, legal, technological and economic factors such as the Covid-19 pandemic.

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APPENDICES

Appendix I: Documentary Analysis Schedule

COMPANY…………………………

| Year	Operating activities	Investing activities	Financing activities	Total Liabilities	Total Assets	EBIT	Retained Earnings	Equity Value	Current Assets	Current Liabilities	Total Sales
2009											
2010											
2011											
2012											
2013											
2014											
2015											
2016											
2017											

Source: Author (2020)

Appendix II: Listed Companies Analyzed in the Study

SECURITIES	ISIN CODE	TRADING SYMBOL	TOTAL NUMBER OF ISSUED SHARES
AGRICULTURAL			
Eaagads Ltd Ord 1.25 AIM	KE0000000208	EGAD	32,157,000
Kakuzi Plc Ord.5.00	KE0000000281	KUKZ	19,599,999
Kapchorua Tea Co. Ltd Ord Ord 5.00 AIM	KE4000001760	KAPC	7,824,000
The Limuru Tea Co. Plc Ord 20.00AIMS	KE0000000356	LIMT	2,400,000
Sasini Plc Ord 1.00	KE0000000430	SASN	228,055,500
Williamson Tea Kenya Ltd Ord 5.00 AIM	KE0000000505	WTK	17,512,640
AUTOMOBILES & ACCESSORIES			
Car & General (K) Ltd Ord 5.00	KE0000000109	CGEN	40,103,308
BANKING			
ABSA Bank Kenya Plc Ord 0.50	KE0000000067	ABSA	5,431,536,000
Equity Group Holdings Plc Ord 0.50	KE0000000554	EQTY	3,773,674,802
KCB Group Plc Ord 1.00	KE0000000315	KCB	3,213,462,815
National Bank of Kenya Ltd Ord 5.00	KE0000000398	NBK	1,041,669,967
Standard Chartered Bank Kenya Ltd Ord 5.00	KE0000000448	SCBK	377,861,629
The Co-operative Bank of Kenya Ltd Ord 1.00	KE1000001568	COOP	5,867,174,695
COMMERCIAL AND SERVICES			
Deacons (East Africa) Plc Ord 2.50AIMS	KE5000005438	DCON	123,558,228
Eveready East Africa Ltd Ord.1.00	KE0000000588	EVRD	210,000,000
Express Kenya Plc Ord 5.00AIMS	KE0000000224	XPRS	47,711,481
Kenya Airways Ltd Ord 1.00	KE0000000307	KQ	5,681,738,063
Longhorn Publishers Plc Ord 1.00AIMS	KE2000002275	LKL	272,440,473
Nation Media Group Plc Ord. 2.50	KE0000000380	NMG	188,542,286
Standard Group Plc Ord 5.00	KE0000000455	SGL	81,731,808
TPS Eastern Africa Ltd Ord 1.00	KE0000000539	TPSE	182,174,108
WPP Scangroup Plc Ord 1.00	KE0000000562	SCAN	432,155,985
CONSTRUCTION & ALLIED			
ARM Cement Plc Ord 1.00	KE0000000034	ARM	959,940,200
Bamburi Cement Ltd Ord 5.00	KE0000000059	BAMB	362,959,275
E.A.Cables Ltd Ord 0.50	KE0000000174	CABL	253,125,000
ENERGY & PETROLEUM			
KenGen Co. Plc Ord. 2.50	KE0000000547	KEGN	6,594,522,339
Kenya Power & Lighting Co Plc Ord 2.50	KE0000000349	KPLC	1,951,467,045
Kenya Power & Lighting Plc 4% Pref 20.00	KE4000001877	KPLC.P0004	

Kenya Power & Lighting Plc 7% Pref 20.00	KE4000002982	KPLC.P0007	
Total Kenya Ltd Ord 5.00	KE0000000463	TOTL	175,065,000
INSURANCE			
Britam Holdings Plc Ord 0.10	KE2000002192	BRIT	2,523,486,816
CIC Insurance Group Ltd ord.1.00	KE2000002317	CIC	2,615,538,528
Kenya Re Insurance Corporation Ltd Ord 2.50	KE0000000604	KNRE	2,799,796,272
INVESTMENT			
Centum Investment Co Plc Ord 0.50	KE0000000265	CTUM	665,441,714
Kurwitu Ventures Ltd Ord 100.00	KE4000001216	KURV	102,272
Trans-Century Plc Ord 0.50AIMS	KE2000002184	TCL	375,202,766
MANUFACTURING & ALLIED			
B.O.C Kenya Plc Ord 5.00	KE0000000042	BOC	19,525,446
British American Tobacco Kenya Plc Ord 10.00	KE0000000075	BAT	100,000,000
Carbacid Investments Ltd Ord 1.00	KE0000000117	CARB	254,851,985
East African Breweries Ltd Ord 2.00	KE0000000216	EABL	790,774,356
Unga Group Ltd Ord 5.00	KE0000000497	UNGA	75,708,873
TELECOMMUNICATION			
Safaricom Plc Ord 0.05	KE1000001402	SCOM	40,065,428,000

Appendix III: Authorization Letter
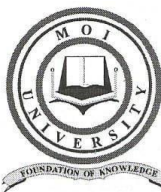
MOI UNIVERSITY
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RE: SBE/PGR/REC/09   **DATE:** 10th March, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE:EMMANUEL KIBII-SBE/PB/03/17

The above named is a bonafide student of Moi University School of Business and Economics, undertaking a Master of Business Administration, specializing in **finance.** He has completed coursework and defended proposal at School level. Currently he is proceeding to the field to collect data for his research topic titled: **"Effect of Cash Flow Risk Management on Financial Stability of Companies Listed at Nairobi Securities Excahnge."**

Any assistance accorded to him will be highly appreciated.

Yours faithfully,

DEAN
School Of Business and Economics
MOI UNIVERSITY

DR. JOSEPHAT CHEBOI
AG.DEAN, SCHOOL OF BUSINESS AND ECONOMICS

JC/ms

(ISO 9001:2015 Certified Institution)