

**EFFECT OF LIQUIDITY RISK ON STOCK RETURNS OF
MANUFACTURING AND ALLIED FIRMS LISTED AT THE
NAIROBI SECURITIES EXCHANGE**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

OCTOBER, 2019

DECLARATION

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

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

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ACKNOWLEDGEMENTS

I wish to thank God for his never-ending mercies and gift of life. Special gratitude to my supervisor Mr. Nganga for being very patient kind and professional during this research period. The advice, constructive criticism, contributions, corrections in refining this work is commendable. My wonderful family for their support, love, sacrifice, encouragement, prayers, and faith in me. Special appreciation to those who contributed to the completion of this work. Lastly, I wish to thank my employer for being understanding and providing a conducive environment to better myself. Thank you and God bless you all.

DEDICATION

I dedicate this work to my family the Ayaya's for the sacrifice they have made and for providing a good environment to complete this study successfully.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CCC	Cash Conversion Cycle
CMA	Capital Market Authority
FDI	Foreign Direct Investments
GDP	Gross Domestic Product
KAM	Kenya Association of Manufacturers
MDG	Millennium Development Goals
NASI	Nairobi All Share Index
NSE	Nairobi Security Exchange
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factors

ABSTRACT

Tradeoffs exist between liquidity and returns and firms need to recognize and understand these tradeoffs and implement strategies that take them into account. Aggressive investment in current assets negatively impacts a firm's returns and positive impact on the liquidity. On the other hand, conservatism investment in current assets results in low liquidity and higher returns although it could result in unmet customer demands. Liquidity risk management should therefore involve management of these tradeoffs to ensure optimization of firm returns and liquidity. The focus of this study was to ascertain the effect of liquidity risk on stock returns of manufacturing and allied firms at the NSE. The population for the study was all the 9 companies in that category quoted at the NSE. Predictor variables were liquidity risk, capital structure, firm size and profitability. Stock return was the dependent variable and was represented by change in share price plus any dividend issued during the period. Secondary data was collected over a five-year time frame (January 2014 to December 2018) annually. Research design for this study was descriptive cross-sectional design while multiple linear regression was applied in determining the how the variables relate. SPSS software was employed in the analysis of data. From the analysis an R-square value of 0.868 was produced which in other words mean that 86.8% of the changes in the stock returns of the listed firms at the NSE can be described by the predictor variables studied while the other 13.2% in the changes in stock returns is affiliated to other variables that outside the scope of this study. It was further found out that independent variables of this study strongly correlated with the stock returns ($R=0.932$). ANOVA outcomes revealed that the F statistic was significant at 5% level with a $p=0.000$. Therefore, the model was appropriate in explaining variables' relationships. The findings also showed that capital structure and profitability showed positive and statistically substantial values for this study while liquidity risk produced negative and statistically substantial values for this study. Firm size was a statistically insignificant causal factor of stock returns. This study suggests that the firms should enhance their profitability and reduce liquidity risk as this will significantly improve their stock returns.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A firm's primary purpose is to maximize the wealth of its shareholders. This can be translated to mean that every corporate event initiated by the firm should be aimed at the achievement of this goal. Liquidity risk has been a significant indicator of stock returns over the past (Attari, 2012). Based on liquidity risk implications on both financial performance and value of a firm, finance managers appreciate that liquidity risk demands a careful inquiry since its role in the overall corporate strategy is a fundamental part of creating value to shareholders (Howarth & Westhead, 2003). Efficient liquidity risk management demands maintenance of sufficient level of current assets and liabilities to facilitate achievement of optimal efficiency levels and ultimately achievement of the main goal which is shareholder wealth maximization as indicated by an appreciation in share price and dividend payments (Pereira & Zhang, 2010).

This research was guided by three theories namely the liquidity preference theory, Baumol cash management theory and the operating cycle theory. Keynesian liquidity preference theory advocates for the necessity of liquidity to facilitate daily activities of a firm (Keynes, 1936). Baumol's model of cash management assumes that cash flows are certain and cash balances are held at specified levels. The theory is mostly applicable in cash management to help cash managers meet cash needs (Deloof, 2003). The operating cycle theory by Weston and Eugene (1979) gives a different view of managing cash flows aside from the traditional views of current ratio and quick ratio.

They propose that a company can control its liquidity by taking into account the time it takes to convert its input resources to cash, notably, payables, receivables and inventory.

Different manufacturing companies at the NSE have been performing differently. While firms like East Africa Breweries Ltd and British American Ltd have posted good results and able to increase their stock returns to shareholders, others like Mumias sugar, Unga group and Eveready East Africa Ltd have performed dismally as indicated by a declining share price and reduced or failure to pay dividends at all (CMA, 2018). While the reason for some manufacturing firm's inability to increase stock returns may be due the nature of the environment they are working in and that is not under the control of the management or board, studies have shown a significant link between liquidity risk and stock returns and therefore the need to investigate whether stock returns of the firms quoted at the NSE have been affected by the liquidity risk.

1.1.1 Liquidity Risk

This is the probability that a firm will not be financially capable to settle down its current obligation on due date. Felice and Hall (2013) noted that liquidity risk is the result when a manufacturing firm fails to undertake payment of its liabilities with no incurrance of additional penalties or charges. The risk significantly affects the asset base and performance of a firm thus is an important factor that should be considered when coming up with investment plans. The credit score to the fund providers and suppliers of a company reduces when the company is unable to minimize its spending. This happens since there will be no settlement of current liabilities once due leading to additional charges being made on the obligation (Mathuva, 2010).

Liquidity risk can be either funding liquidity or market liquidity risk. The inability to fulfill the obligations once they fall due is referred to as funding liquidity. Mathias and Kleopatra (2009) posit that funding liquidity takes place over a wider time frame whereas funding liquidity risk is forecasting concept. Market liquidity risk however refers to a firm's inability to sell assets in a quick manner to obtain an adequate amount of money to finance its debt obligations. The market liquidity risk refers to the likelihood that an asset will be sold at its market value (Kesimli & Gunay, 2011).

Liquidity risk in manufacturing companies is measured by use of liquidity ratios for example quick ratio, current ratio and cash conversion cycle. Current ratio is given by the quotient of current assets and current liabilities. The quick ratio however is computed by subtracting inventories from current assets divided by current liabilities. It can also be computed by adding marketable securities and accounts receivable to cash and cash equivalents and dividing by current liabilities (Eljelly, 2004). The current study will measure liquidity risk using an inverted current ratio that is the quotient of current liabilities and current assets. A high ratio would imply high liquidity risk and vice versa.

1.1.2 Stock Returns

Stock return refers to the loss or gain of the cost of a share during a precise time frequently cited as a percentage. It contains of capital advances and any revenue acknowledged by the financier from the stock (Mugambi & Okech, 2016). Stock returns can be used to predict output and investment since they are forward-looking variable which outlines future discount rates and cash flow expectations. Stock returns aid as a directory to financiers in making their stock choices.

Financiers of different monetary ability are able to put stocks as long as they are capable to obtain profit that is advanced than their rate of investment (Wang, 2012).

According to Taofik and Omosola (2013) the availability of adequate market information and how effective and efficient stock is in the allocation of shares and equities is determined by stock returns. Changes in stock prices create some form of uncertainty for the investors which influence the stocks' supply and demand. Shares and stock markets react to any prize-shaping evidence, applicable for upcoming market place expansion (Širucek, 2013). Firms with higher stock returns are more profitable and thus they generally contribute to economic growth (Aliyu, 2011). Therefore, stock markets returns' uncertainties are a fundamental facet of the aggregate economy since unstable economic growth trends makes consumption and investment difficult (Erdugan, 2012).

Stock returns are mostly measured using the stock market indexing. How a stock performs is measured by variations in its price. Just like an increased stock price shows positive performance while a decrease shows declining performance, a higher stock index represents better performing market or sector, in comparison to lower stock index (Daferighe & Sunday, 2012). In Kenya, several indices are used in the calculation of stock returns and they include NSE All Share Index (NASI), FTSE NSE Kenya 25 Indices, FTSE NSE Kenya 15 and NSE 20 share index. The oldest (since 1964) is NSE 20 which is occasionally reviewed to reflect the accurate picture of stock market performance.

1.1.3 Liquidity Risk and Stock Returns

Tradeoffs exist between liquidity and returns and firms need to recognize and understand these tradeoffs and implement strategies that take them into account. Aggressive investment in current assets negatively impacts a firm's returns and positive impact on the liquidity. On the other hand, conservatism investment in current assets results in low liquidity and higher returns although it could result in unmet customer demands. Liquidity risk management should therefore involve management of these tradeoffs to ensure optimization of firm returns and liquidity. The prime objective of liquidity risk management is to ensure smooth operations simultaneously reducing costs and increasing revenues by improving operational responsiveness (Afza & Nazir, 2009).

Although a company's primary purpose is to achieve profits, there is the need to maintain optimal levels of liquidity in daily operations to guarantee business continuity, growth and survival (Eljelly, 2004). Ricci and Vito (2000), confirm that the prime objective of liquidity risk management is regulation of current assets of a company so that equilibrium is achieved between returns and the liquidity associated to that return. The degree of investment in current assets and the current liabilities determines strongly the returns of a company. Liquidity management decisions influence a firm's primary revenue streams and financing costs for short term capital requirements. It is therefore imperative for financial managers to make efficient and effective liquidity risk management decisions to realize optimal firm returns (Howorth & Westhead, 2003).

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

1.1.4 Manufacturing and Allied Firms Listed at the Nairobi Securities Exchange

The NSE which was established in 1954 and registered under the Companies Act in 1991, is an organized financial market where various securities of listed firms are issued, bought and sold by individual and institutions both local and foreign through the services of stockbrokers or dealers. The Exchange is fourth in terms of size and volume in sub-Saharan Africa. It focuses in the exchange of securities issued by the Government and listed firms. It's mandated to provide a trading platform for listed securities while at the same time overseeing its member. The NSE provides the main hub for trading in the secondary market. It provides a trading floor which though available is not commonly in use after being replaced by the automated trading system. Through a wide area network, members trade at the comfort of their offices. The system is efficient, transparent and can handle large volumes of transactions at

the same time (NSE, 2019). There are currently 9 firms in the manufacturing and allied sector at the NSE (NSE, 2019).

NSE (2019) reveals that, several companies listed in the security market have been under statutory management due to liquidity issues like Uchumi supermarkets, Imperial Bank and Chase Bank. Manufacturing companies like Mumias Sugar have experienced financial crisis due to the lack of liquidity despite the government's involvement to support the company. The company is not able to settle its debtors leading to a loss of raw materials hence the significant drop in sugar production.

Other manufacturing firms listed at the NSE such as Eveready East Africa Ltd and Unga group have also had financial crises that have led to their poor performance of their stocks on the NSE. Therefore, the need to investigate whether liquidity risk has a significant influence on stock returns of these firms listed at the NSE, is more urgent now than it was 5 years ago. In regards to stock returns, different manufacturing companies have been performing differently. While firms like EABL and British American Ltd have posted good results and able to increase their stock returns to shareholders, others like Mumias sugar, Unga group and Eveready East Africa Ltd have performed dismally as indicated by a declining share price and reduced or failure to pay dividends at all (CMA, 2018). While the reason for some manufacturing firm's inability to increase stock returns may be due the nature of the environment they are working in and that is not under the control of the management or board, studies have shown a significant link between liquidity risk and stock returns and therefore the need to investigate whether stock returns of firms quoted at the NSE have been affected by the liquidity risk.

1.2 Research Problem

Effective management of the firm's liquidity position is considered as a fundamental business function for all sizes of business whether small, medium or large. This is because when a firm does not manage its liquidity well, it will have challenges in meeting its financial obligations when they fall due to inadequate of cash (Jenkinson, 2008). According to Rafuse (2006), most businesses worldwide, whether developing or developed have failed mainly due to liquidity starvation.

The importance of managing liquidity requirements of a firm has in addition been advocated due to its perceived effect on the firm performance and market value and as a result it forms part of the company's strategic and operational thinking. Liquidity risk is caused by uncertainty regarding the holding period or investment horizon, short-run restrictions on market-making capital and the correlation in cash flow demands among market participants (Bringham, 2002).

Manufacturing companies are key pillars of the distribution of resources hence liquidity risks are a strategic aspect of the financial performance (Attari, 2012). Manufacturing company's liquidity need to be managed properly in order for them to maintain a competitive edge and remain sustainable. According to Muriithi (2016), companies affected by the liquidity, delay payments of current liabilities like the supplier's debts which affect the company's credit terms and might in effect influence the firm's overall return. The struggles experienced by some of the listed manufacturing and allied companies motivates this study to establish whether indeed liquidity risk has a significant impact on stock returns of manufacturing and allied firms in the NSE listing.

Empirical are widely inconsistent and rather varied on how liquidity risk impacts stock returns. Amaadi and Amadi (2014) studied liquidity risk and stock market returns in USA and concluded that liquidity risk has a negative and substantial effect on stock returns. These findings are supported by Fazeli and Rasouli (2011) who concluded that indeed liquidity risk lowers the share price of listed firms. Courteau et al., (2011) however established that liquidity risk impact is positive on stock market returns. Onodje (2014) did a research on the outcome of proper working capital management on sample of manufacturing businesses in Nigeria and established that efficient working capital and debt management are critical in improved manufacturing company's performance. The findings of these previous studies are inconsistent and therefore need for more studies in the area.

Locally, Majakusi (2016) investigated the how liquidity management influences the commercial banks' performance and found a significant positive association between the study variables. Nyongesa (2016) executed a survey to assess the association between liquidity risk and financial performance of Kenyan commercial banks and found that liquidity risk has a notable effect on commercial banks' financial performance. Abwao (2018) investigated how liquidity risk and stock returns of commercial banks at the NSE relate and found that liquidity risk has no substantial influence on banks' stock returns. The contradictory results from previous studies on how liquidity risk and stock returns relate is reason enough to conduct further studies. In addition, majority of the local studies on liquidity risk have focused on commercial banks leaving a gap on its effect on returns of manufacturing and allied firms. This study intended to leverage on this research gap by answering the research question;

what is the effect of liquidity risk on stock returns of manufacturing and allied firms listed at the NSE?

1.3 Objective of the Study

The study's intent was to establish how liquidity risk affects stock returns of companies in manufacturing and allied sector at the NSE.

The specified objectives were:

- i. To establish the effect of liquidity risk on stock returns of firms in the manufacturing and allied sector at the NSE
- ii. To assess how profitability risk affects stock returns of firms in the manufacturing and allied sector at the NSE
- iii. To assess how capital structure risk affects stock returns of firms in the manufacturing and allied sector at the NSE
- iv. To determine how firm size affects stock returns of firms in the manufacturing and allied sector at the NSE

1.4 Value of the Study

Future researchers, students and scholars who seek to undertake correlated or similar studies will find this study useful. The study will also benefit researchers and scholars in the identification of other fields of research by citing related topics that require further studies and empirical studies to determine study gaps.

The findings are hoped to be of benefit to the various managers who manage firms in this sector as this study gives important information to guide them in making more knowledgeable choices leading to shareholders' wealth maximization. The study adds

to the information accessible to support both existing and future firms to improve their returns and ensure sustainability.

To government and organizations such as the CMA, in instituting policies and regulations governing liquidity risk to ensure a stable manufacturing sector that will facilitate economic growth and reduce its spiraling effects. This will assist in the advancement of the manufacturing sector and in effect growth of the entire economy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter shall include theories that form the foundation of this study. In addition, previous empirical studies covered before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of stock returns, conceptual framework indicating the correlation between the research variables and a literature review summary.

2.2 Theoretical Framework

This indicates review of the related theories that explains liquidity risk and its relationship with stock returns. The theoretical reviews covered are; Keynesian liquidity preference theory, Baumol cash management model as well as cash conversion cycle theory.

2.2.1 Keynesian Liquidity Preference Theory

The Keynesian liquidity preference theory was formulated by John Keynes in 1936 and it laid a foundation for cash holding. In this theory, Keynes argues that holding all other factors constant, investors will have a preference for liquid investments as opposed to those investments that are attributed to having the ability to be sold in return for cash i.e. illiquid investments and shall seek a premium in investments that will take longer to mature. Liquidity is the expediency of holding cash. An individual or firm will hold money for various reasons at a given time (Bitrus, 2011). Based on the theory, firms hold cash to meet their business deals, financial risk, precaution, and compensation motives.

The transaction motive involves the firm's need to hold cash or money for purposes of meeting current transactions for business exchanges. Organizations require holding cash for enhancement in paying current needs such as transport, raw materials, wages among others. Precautionary motive is whereby firms have to keep cash as security for unanticipated emergencies. Any given firm will set aside some money to manage hardships or to benefit from unforeseen deals. Speculative motive is whereby firms maintain assets in liquid form to benefit from prospective adjustments in the interest rates or bond prices (Pandey, 1997).

Keynesian liquidity preference theory is applicable for this study since the necessity of liquidity to facilitate daily activities of a firm cannot be ignored. However, Gakure et al. (2012) noted a significant negative correlation between organization's liquidity and the way it performs financially. Firms have to ensure they minimize the costs of liquidity and illiquidity to maximize stock returns.

2.2.2 Baumol Cash Management Model

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

The opportunity costs show the interest forgone for funds which are held in cash instead of being invested. The trading costs are the costs incurred by a firm which are due to sale or purchase of marketable securities (Pandey, 2010). If an organization chooses to keep up a low cash level it should carry out many transactions prompting high trading costs leading to low opportunity cost since there are little reserves. Conversely, if a company prefers to retain high money reserves, its opportunity cost will be high due to high amount of un-invested cash while its transaction cost will be low due to few transaction costs (Pandey, 2010).

Baumol cash management model has various weaknesses such as; the assumption of the model that the company has a consistent cash flow rate which is unrealistic since payment rates vary. The model also assumes that the firm will not receive any cash within the specified period. Since most firms would like more cash inflows than outflows, and normally have money inflows constantly, this presumption is clearly unrealistic. Finally, the model does not give room for cash savings to cushion urgent cash demand (Cornett et al., 2009).

2.2.3 Operational Cycle Theory

Operational cycle theory was developed from works of Weston and Eugene (1979). This theory is based on the firm's operational cycles. It recommends that the liquidity flow concept is produced by expanding the stability of potential liquidation esteem extent to include remuneration justification measures of a firm's operating activities. The incorporation of records receivables and stock turnover measure in operating cycle gives a clearer liquidity outlook management than reliance on the current as well as analysis of dissolvability's proportion markers (Weston & Eugene, 1979). Records receivable turnover is a points out the quantity of times in which the normal

receivables venture of a firm is converted into money. Alterations of credit as well as accumulation strategy openly impact the normal exceptional debtors adjust put up regarding a company's annual deals.

Operating cycle is given by adding day's stock exceptional period to sales outstanding days. Average outstanding accounts receivable balance to the company's yearly sales is directly affected by any change in credit and collection policy. Increase in credit sales leads to rise in receivables which results to lower receivables turnover and an extended receivable collection period which implies reduced level of liquidity. Higher present and basic analysis proportion is brought out in an unavoidable manner by the choice that outcomes in a company putting up bigger normal receivable speculation over a more drawn out day and age (Richards & Laughlin 1980).

The operating cycle hypothesis is criticized by Richard and Laughlin (1980) on the premise of neglecting liquidity necessities enforced on a company when measuring present liabilities commitments. However, this theory has relevance to this study for its idea that effective liquidity management will ensure smooth operating cycles which in turn enhance firm profitability hence stock returns.

2.3 Determinants of Stock Returns

There are several determinants of stock returns in companies. These factors usually cut across almost all the sectors in the economy. They include company's liquidity risk, profitability, capital structure and firm size.

2.3.1 Liquidity Risk

Tradeoffs exist between liquidity and returns and firms need to recognize and understand these tradeoffs and implement strategies that take them into account.

Aggressive investment in current assets negatively affects a company's returns and positively impacts the liquidity. On the other hand, conservatism investment in current assets results in low liquidity and higher returns although it could result in unmet customer demands. Liquidity risk management should therefore involve management of these tradeoffs to ensure optimization of firm returns and liquidity. The prime objective of liquidity risk management is to ensure smooth operations simultaneously reducing costs and increasing revenues by improving operational responsiveness (Afza & Nazir, 2009).

Although a company's primary purpose is to achieve profits, there is the need to maintain optimal levels of liquidity in daily operations to guarantee business continuity, growth and survival (Eljelly, 2004). Ricci and Vito (2000), confirm that the prime objective of liquidity risk management is regulation of current assets of a company so that equilibrium is achieved between returns and the liquidity associated to that return. The degree of investment in current assets as well as current liabilities determines strongly the returns of a company.

2.3.2 Profitability

Profitability is defined as the net profit which is retained from the activities related to business and its decisions. Profitability is a reflection of the efficiency and effectiveness of the operations conducted and also it reveals the impact of asset management liquidity and the company results liability. Suwanna (2012) defined profitability as a major factor for survival in the highly competitive market share. Investment in the capital items is among the critical ingredients which facilitate the profits gained by an organization (Lian et al., 2017).

Most investors will invest in the organizations that have good profitability to their investment only (Tapa & Hussin, 2016). Major hints like the ROA, ROE and asset turnover have been in the past used as comparative to the organizations profitability in relation to the corporate governance levels, concentration of ownership or even can be used to forecast future prices of shares and various other necessary applications (Maiyo, 2013). The rate of profitability is measured in regards to the performance measures such as, margins of sales and profit, asset returns, net worth returns among other variables (Suwanna, 2012).

2.3.3 Financial Leverage

Leverage refers to a firm's proportion of debt to business assets. The proportion of the two impacts the amount of capital as well as the firm's value (Pandey, 2010). The debt amount a firm has sets out the financial performance of a firm. As stated by Jensen (1986), debt financing reduces unethical way of behaving by minimizing cash flow at the managers' disposal. This increases their pressure to perform hence improving firm's financial performance. Hence firms with high leverage are better placed to financially perform better. Several researchers have done studies on the association between the firm performance and leverage and found out that leverage that is high decreases the conflict between management and shareholders leading to improved performance hence a positive relationship exists.

Baker (1973) researched the relationship between industry gainfulness and influence furthermore consolidated the impact that hazard may have on industry's productivity. Utilizing the information for ten-year time span influence was measured as the proportion of value to aggregate resources. Low estimation of leverage would suggest higher utilization of obligation capital rather than obligation to value or obligation to

aggregate resources. Benefit was measured utilizing net income. The study inferred that industry conditions impact the company's decision of influence.

The concentrate likewise reasoned that organizations with higher obligation capital had more productivity that is prominent.

2.3.4 Firm Size

The level of economies of scale enjoyed by is determined by its firm size. A larger firm size is associated with lower average production scales and more efficiency in operational activities as a result of economies of scale. Thus means that higher return on asset is generated by large firms. Larger firms could however lead to the deprivation of their jurisdiction over operations and master plan actions by the management which leads to a decline in the firm's efficiency (Mule et al., 2015).

Large firms have greater market power and more diversified and are likely to undergo more organizational slack when business is at boom. The firm size or enterprise also determines the investments of cash flow to investment. In measuring the magnitude of an organization, the sum of the organization's employees, amount of property as well as volume of sales are the main elements that are usually measured (Salman & Yazdanfar, 2012).

2.4 Empirical Review

The section reviews previous literature conducted on the empirical relationship between liquidity risk and stock returns. Most of the studies available focused on related concepts and contexts to the current study but not the exact study variables.

2.4.1 Global Studies

Ben-Caleb (2013) conducted a study on liquidity management and profitability of Nigerian manufacturing firms. Representative of 30 manufacturing firms in the Nigeria Stock Exchange listing were employed. Study covered a 5-year period (2006-2010). Quantitative study was applied. Correlation analysis showed that liquidity ratios are linked in a positive manner to profitability, whereas cash conversion cycle had a negative association. The finding was liquidity has a small effect on profitability of Nigerian manufacturing firms.

Priya (2013) researched on relationship between liquidity management and profitability of manufacturing firms in Sri Lanka for 5 years (2008-2012). Explanatory studies were used. Correlation and regression model showed a significant association existed amongst the two variables. It was concluded that a negative association was between liquidity and manufacturing companies' profitability.

Ferrouhi (2014) did a research on liquidity risk and financial performance with Key interest in the Moroccan banking industry. The research aimed at examining the association between liquidity risk and performance of Moroccan banks. The research used panel data regression of 4 Moroccan banks between the time frame 2001 and 2012. The study findings indicated that Moroccan banks' performance is primarily determined by 7 elements, among them was the liquidity ratio.

Alzorqan (2014) did a research on liquidity risk and performance on the banking system in Jordan. The purpose was to investigate difficulty of ascertaining optimal liquidity risk that would guarantee stable and profitable financial operations. The study population consisted of all the 23 banks in Jordan with the sample of two banks.

Regression estimated the association amongst the variables under assessment over a period from 2008- 2012. The study findings showed that banks' liquidity considerably impact their performance.

Alshatti (2015) studied the effect of liquidity management on profitability among commercial banks in Jordan. The study's objective was to determine the influence of liquidity supervision on banks' performance for the study period under consideration (2005–2012). The correlation between the variables under investigation was shown using correlation analysis. Findings showed that as liquid assets ratio and capital ratio increase, it leads to a decrease in the prosperity of commercial banks.

2.4.2 Local Studies

Kibuchi (2015) aimed at establishing the association between the liquidity risk and financial performance of Kenyan banks. A descriptive design was employed in the study. In addition, the study was cross-sectional where data was collected only once between the time frame 2010 and 2014 and a causal study executed in a non-contrived setup without interference of any researcher. The interrelation between the study variables was established using the multiple regression analysis. It was established that a positive correlation coefficient existed between return on assets and firm size, cash balance and customer deposits though a weak positive correlation amongst ROA and liquidity gap existed. It was concluded from the study that liquidity risk impacts the bank's performance and its reputation which could lead to depositors losing confidence if finances are not timely advanced.

Nyongesa (2016) explored the association amongst liquidity risk and Kenyan commercial banks' financial performance. The descriptive research design was

employed in the research. The target population constituted all banks that were in operation between the time frame January 2011 and 31st December, 2015. Data analysis was made by descriptive statistics, correlation and regression as these are conventionally approved tools for descriptive research designs. The findings revealed that roughly 24.5% of the differences in return on assets of banks over the duration of the study were accounted for by variation in their capital adequacy, profitability, and liquidity risk and asset quality. The study concludes that liquidity risk significantly affects Kenyan commercial banks' financial performance.

Otieno, Nyagol, and Onditi (2016) conducted an empirical study with an aim of analyzing the link between liquidity risk management and financial performance of Kenyan 17 microfinance banks (MFBs). Longitudinal research design using panel data between the time frame 2011 and 2015 was utilized. Target population comprised 12 licensed MFBs. The desired sample size of 6 MFBs for the study was derived using purposive sampling. Secondary data was retrieved from MFBs financial reports using document analysis guide. The study affirmed that a significant association existed between liquidity risk management and performance and that liquidity risk management positively influences MFBs' performance. The study was well executed as comprehensive data was incorporated in the study.

Abwao (2017) assessed the impact of liquidity risk on stock returns of quoted commercial banks at the NSE. All the 11 banks quoted at the NSE were used in the study. Collection of secondary data was done annually for a 5-year time frame (January 2013 to December 2017). A descriptive cross-sectional design was adopted and for analyzing the association amongst the variables, multiple linear regression model was used. Findings showed that the size of bank gave positive and statistically

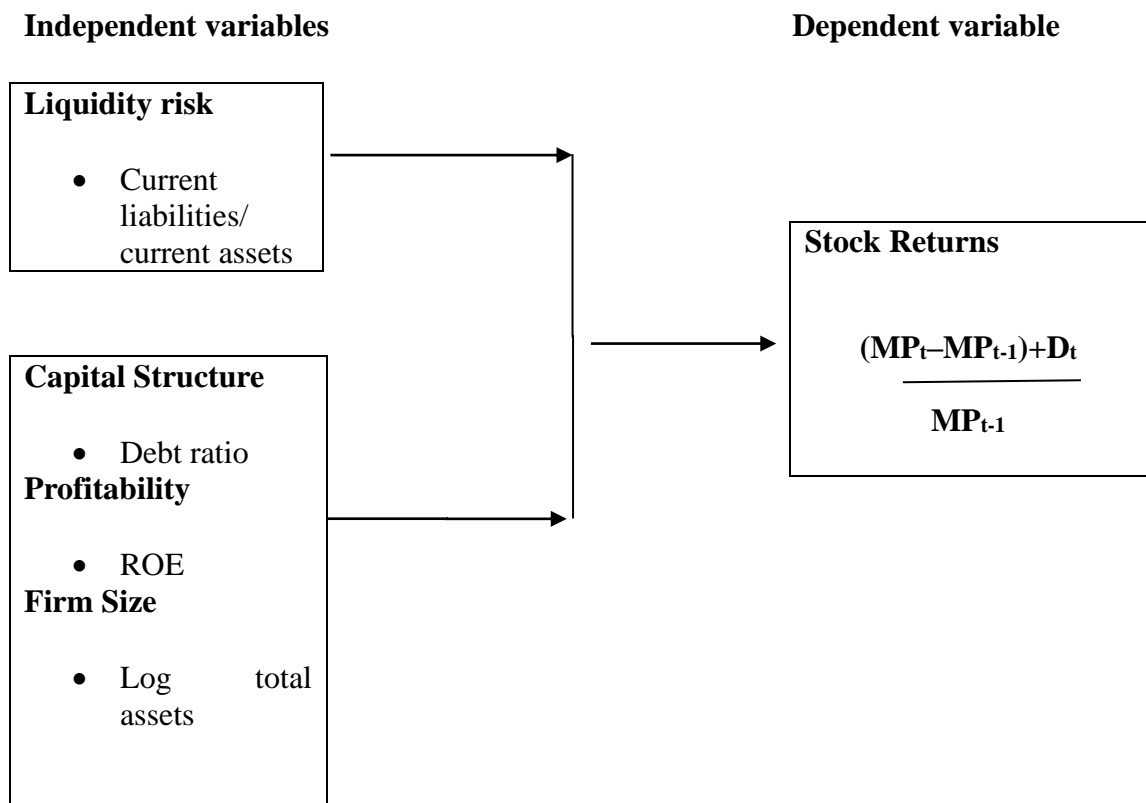
substantial values for the research while liquidity risk and capital adequacy were established to be insignificant determinants of stock returns of listed commercial banks.

Oyiro (2017) explored the determinants of liquidity risk in the manufacturing companies. The researcher used a descriptive research in the study. For this research, the study population was the entire collection of listed manufacturing firms at the NSE from 2011 to 2015. The study used census-sampling method. Data collected was secondary in nature obtained from company's financial statements of manufacturing firms at the NSE. For analysis, the SPSS program was employed for generation of both inferential and descriptive statistics. The study found that liquidity risk has relative strong positive correlation with inventory turnover and a relatively weak positive correlation with inflation. Furthermore, the study found that liquidity risk has relative strong negative correlation with debtor turnover and company size.

2.5 Conceptual Framework

This diagrammatically represents how the factors identified are related to each other. The elements given consideration here are stock returns and liquidity risk. The predictor variable was liquidity risk given by the ratio of current liabilities to current assets. The control variables are profitability given by return on equity, capital structure given by debt ratio and firm size given by natural log of total assets. Stock return was given by annual change in stock price plus dividend issued if any.

Figure 2.1: The Conceptual Model



Control Variables

Source: Researcher (2019)

2.6 Summary of the Literature Review

A number of theoretical frameworks have explained the theoretically expected correlation between liquidity risk and stock returns. The theories covered in this review are; Keynesian liquidity preference theory, Baumol cash management model and operational cycle theory. Some of the key influencers of stock returns have also been explored in this section. A number of empirical reviews have been executed both at the international and local level on liquidity risk and stock returns. The findings of these studies have also been explored in this chapter. From the empirical review, majority of the local studies on liquidity risk have focused on commercial banks

leaving a gap on its effect on returns of manufacturing and allied companies. This study's intent was to leverage on this gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In order to establish the impact of liquidity risk on stock returns, a research methodology was necessary to outline how the research was carried out. This chapter has four sections namely; research design, data collection, and diagnostic tests and data analysis.

3.2 Research Design

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

3.3 Population

Burns and Burns (2008) posits that population is the characters of interest upon which the study seeks to draw deductions. The population consisted of all the 9 manufacturing and allied firms listed at the NSE as at 31 December 2018.

3.4 Data Collection

Secondary data was relied upon in this study which was obtained from the manufacturing and allied listed firms' financial reports and from the Capital Markets Authority as it is a requirement for the listed firms to submit their reports to the

regulator. The data to be obtained covered 5 years on an annual basis from January 2014 to December 2018. The specific data collected was; current liabilities, long term liabilities, current assets, total assets, equity, share prices and dividends distributed.

3.5 Data Analysis

The data composed from the different sources was organized in a manner that can help address the research objective. SPSS version 23 was utilized for analyzing the data. Both descriptive and regression analyses were carried out. In inferential statistics, both regression and correlation analysis were carried out. Correlation analysis involved determining the extent of relationship between the study variables while regression analysis involved establishing explanatory power of the predictor variables on the response variable. A multivariate regression analysis was employed to determine the association between the response variable (stock returns) and predictor variables: liquidity risk, profitability, capital structure and firm size.

3.5.1 Diagnostic Tests

To determine the viability of the study model, the researcher carried out several diagnostic tests, such as normality, Multicollinearity, homogeneity of variances and the autocorrelation test. The normality assumption assumes that data has a normal distribution and the assumption was determined using the Shapiro Wilk test. In the case where one of the variables is not normally distributed it was transformed and standardized using the logarithmic transformation method. The homogeneity of variance assumption was assessed using the Breusch Pagan test. In cases where the data failed the assumption of homogeneity of variances the study used robust standard errors in the model.

Multicollinearity on the other hand refers to the correlation among the variables and was assessed using the correlation matrix and the Variance Inflation Factors (VIF) where a VIF of more than 10 will be an indication of multicollinearity. Any multicollinear variable would be dropped from the study and a new measure selected and substituted with the variable which exhibits co-linearity. Finally, serial correlation (autocorrelation) was assessed using the Durbin Watson statistic where a value of 1.5 and 2.5 indicated the absence of autocorrelation and in case the assumption is violated the study employed robust standard errors in the model.

3.5.2 Analytical Model

The data collected was used to conduct a regression analysis to determine the scale of the association between liquidity risk and stock returns. The study used the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

In which:

Y = Stock returns as measured by the change in stock prices as shown in the following formula $\frac{(MP_t - MP_{t-1}) + D_t}{MP_{t-1}}$

$$MP_{t-1}$$

Where MP is the market price of the share and D_t is dividend issued on an annual basis

$\beta_1, \beta_2, \beta_3, \beta_4$ = are the slope of the regression

α = y intercept of the equation.

β_0 = Constant Term

X_1 = Liquidity risk as measured by the ratio of current liabilities to current assets on an annual basis

X_2 = Profitability as given by return on equity on an annual basis.

X_3 = Capital structure given as long term debt divided by total assets on an annual basis

X_4 = Firm size as given by natural logarithm of total assets on an annual basis

ε =Error term

3.5.3 Tests of Significance

The researcher carried out parametric tests to assess the statistical significance of both the overall model and individual parameters. The F-test determined the meaning of the overall model and it was obtained from Analysis of Variance (ANOVA) while a t-test was employed to establish statistical significance of individual variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The focus of this chapter was to analyze the collected data in order to determine the influence of liquidity risk on stock returns of manufacturing and allied firms quoted at the NSE. Applying analytical tools which include descriptive statistics, regression and correlation analysis, the research findings were represented on tables as illustrated in the subsequent sections.

4.2 Descriptive Analysis

This explains the qualities of each of the variable of the study in terms of mean, minimum, maximum as well as the standard deviation. The variable analysis was done by means of SPSS software for the time frame of ten years (2009 and 2018) annually. Stock returns had 1.0126 as mean with a 2.6719 standard deviation. Liquidity risk resulted to 0.4939 mean with a 0.3319 standard deviation. Profitability, firm size and capital structure had means of 1.8343, 6.9381 and 0.3839 with standard deviations of 4.3872, 0.5648, and 0.2067 respectively.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Stock returns	45	-5.3310	7.1084	1.012638	2.6719658
Liquidity risk	45	.025	1.328	.49389	.331895
Profitability	45	-5.3539	17.3446	1.834364	4.3872676
Firm size	45	5.7587	7.8528	6.938107	.5647548
Capital structure	45	.0399	.8208	.383882	.2066846
Valid N (listwise)	45				

Source: Research Findings (2019)

4.3 Diagnostic Tests

Diagnostic tests were completed before running the regression model. In relation to this study the diagnostic tests that were done include normality test, Multicollinearity test, autocorrelation and heteroskedasticity tests.

4.3.1 Normality Test

To test for normality, the researcher used the Shapiro-Wilk test. Below are the null hypotheses as well as the alternative hypotheses.

H0: the secondary data was not normal.

H1 the secondary data is normal

A p-value more than 0.05, would lead to rejecting the null hypothesis and vice versa.

The table 4.2 below summarizes the outcomes.

Table 4.2: Normality Test

Stock returns	Statistic	Shapiro-Wilk	
		Df	Sig.
Liquidity risk	.918	45	.822
Firm size	.874	45	.812
Profitability	.913	45	.789
Capital structure	.892	45	.784

a. Lilliefors Significance Correction

Source: Research Findings (2019)

The data revealed a p- value of higher than 0.05 hence rejecting the null hypothesis and accepting the alternative hypothesis which means the normality test revealed the data was normally distributed. This data was henceforth suitable for usage in guiding parametric tests like ANOVA, Pearson's correlation as well as regression analysis.

4.3.2 Multicollinearity Test

Multicollinearity in statistics can be defined as an instance where more than one predictor variables are highly correlated. Strong correlations among independent variables are an undesirable situation. In situations where there is one or more linear relationship between some of the variables perfect Multicollinearity is said to exist.

Table 4.3: Multicollinearity Test

	Collinearity Statistics
Variable	VIF
Liquidity risk	2.513
Firm size	2.513
Profitability	2.577
Capital structure	2.659

Source: Research Findings (2019)

Multicollinearity test was carried out on the data collected. VIF value of the variable was applied. Result where the value of VIF is below 10 means that multicollinearity is nonexistent. The analysis found a VIF value of less than 10 meaning that there was no multicollinearity existing.

4.3.3 Autocorrelation Test

Correlation of error terms were checked across time period by conducting a serial correlation test. In testing the autocorrelation in the Durbin Watson test was applied for serial correlation which is a major challenge in panel analysis of data and it has to be factored in in order to find the right model specification. A DW statistic of 1.960 implied there is no serial correlation as it was within the accepted limit of 1.5 to 2.5

Table 4.4: Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.932 ^a	.868	.855	1.0183322	1.960

a. Predictors: (Constant), Capital structure, Profitability, Liquidity risk, Firm size
b. Dependent Variable: Stock returns

Source: Research Findings (2019)

4.3.3 Heteroskedasticity Test

The researcher checked for heteroskedasticity by use of Likelihood Ratio (LR) as indicated in the Table 4.5. This test used the alternative hypothesis that the error was homoscedastic. A chi-square value of 32.48 was produced by the likelihood-ratio test with a 0.0000 p-value. The chi-square esteem was significant at 1 percent level, in this manner the invalid speculation of consistent fluctuation was rejected meaning the nearness of heteroskedasticity in the examination information as suggested by Poi and Wiggins (2001). To deal with this issue the examination utilized the FGLS estimation method.

Table 4.5: Heteroskedasticity Test

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

chi2(1) = 32.48
Prob > chi2 = 0.0000

Source: Research Findings (2019)

4.4 Correlation Analysis

To test the relationship existing between two variables a correlation analyses was done. A negative and positive correlation coefficient indicates a negative and positive correlation respectively. Pearson correlation test was applied in evaluating the correlation between stock returns and the independent variables under study.

From the results of correlation analysis, it was acknowledged that liquidity risk has a moderate, negative and significant correlation with stock returns as evidenced by ($r = -.510$, $p = .000$). The study further revealed that profitability and firm size exhibited positive and statistically significant correlations with stock returns as evidenced by positive signs and p values less than 0.05. More findings established that a positive but not significant correlation exists between capital structure and stock returns of quoted firms as shown by ($r = .107$, $p = .483$).

Table 4.6: Correlation Analysis

		Stock returns	Liquidity risk	Profitability	Firm size	Capital structure
Stock returns	Pearson Correlation	1				
	Sig. (2-tailed)					
Liquidity risk	Pearson Correlation	-.510**	1			
	Sig. (2-tailed)	.000				
Profitability	Pearson Correlation	.904**	-.075	1		
	Sig. (2-tailed)	.000	.623			
Firm size	Pearson Correlation	.306*	-.411**	.404**	1	
	Sig. (2-tailed)	.041	.005	.006		
Capital structure	Pearson Correlation	.107	-.240	.115	.492**	1
	Sig. (2-tailed)	.483	.112	.452	.001	

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).
 c. Listwise N=45

Source: Research Findings (2019)

Source: Research Findings (2019)

4.5 Regression Analysis

Stock returns were regressed against four predictor variables; liquidity risk, profitability, capital structure and firm size. The results are as shown in table 4.7. In determining the influence of selected predictor variables on stock returns, the research

employed the coefficient of determination- R- squared. The study findings indicate that the value of the R-square was 0.868 implying that the selected predictor variables explain 86.8% of changes in stock returns. The R-square column highlights the quality of prediction by the independent variables. The study revealed that the predictor variables and the response variable have a strong relationship as shown by an R value of 0.932.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.932 ^a	.868	.855	1.0183322	1.960

a. Predictors: (Constant), Capital structure, Profitability, Liquidity risk, Firm size
b. Dependent Variable: Stock returns

Source: Research Findings (2019)

Table 4.8 provides the outcomes of the ANOVA. With P value being 0.000 and below the critical p value of 0.05, the model was considered statistically significant wholly and this is confirmed by an F statistic of 65.731 which implies that the selected predictor variables are good predictors of stock returns.

Table 4.8: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	272.654	4	68.163	65.731	.000 ^b
	Residual	41.480	40	1.037		
	Total	314.134	44			

a. Dependent Variable: Stock returns
b. Predictors: (Constant), Capital structure, Profitability, Liquidity risk, Firm size

Source: Research Findings (2019)

T-test was applied in determining the significance of each variable individually as a predictor of stock returns. P value indicated in the Sig. column shown the significance of the relationship of the variables. When P value is below 0.05 and confidence level at 95% it is considered to be a statistical significant measure. On the contrast when the p value falls above 0.05 it is concluded that there exist a statistically insignificant association between the response variable and the predictor variable. Table 4.9 below summarizes the outcomes.

Table 4.9: Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-4.992	3.149		-1.585	.121
	Liquidity risk	-.137	.036	-.241	-3.864	.000
	Profitability	.545	.039	.895	13.874	.000
	Firm size	.561	.444	.119	1.263	.214
	Capital structure	.025	.010	.153	2.399	.018

a. Dependent Variable: Stock returns

Source: Research Findings (2019)

Following the outcomes above, profitability generated a t value of 13.874 while capital structure value of t was 2.399 both with P values less than 0.05 and this is interpreted to mean they are positive and statistically significant in the study. Liquidity risk generated negative and statistically significant values as shown by a p value less than 5%. Firm size generated insignificant values as evidenced by a high p value.

The below equation was formed:

$$Y = -4.992 - 0.137X_1 + 0.545X_2 + 0.025X_3$$

Where,

Y = Stock returns

X₁= Liquidity risk

X₂ = Profitability

X₃= Capital structure

From the above formulated regression equation, the constant = -4.992 indicates that when chosen dependent variables (liquidity risk, profitability, capital structure and firm size) were rated zero, stock returns would be -4.992. An increment in liquidity risk with a unit would lead to a decline in stock returns of firms quoted at the NSE by 0.137. A unit increment in profitability of a firm would lead to an increment in stock returns by 0.545 while rise in capital structure by a unit would cause the stock returns to increase by 0.025.

4.6 Discussion of Research Findings

The researcher sought to ascertain how liquidity risk impacts stock returns of manufacturing and allied firms at the NSE. The independent variables were liquidity risk, capital structure, firm size and profitability. Stock returns of the listed firms at the NSE were measured by fluctuations in stock prices in addition to stock dividend if issued. All the predictor variables were analyzed independently in terms of their strength and direction in influencing the dependent variable.

A moderate and negative correlation of liquidity risk against stock returns was shown by Pearson correlation. The association is also significant as shown by a p value that was below 0.05. Profitability and firm size had both positive and statistically

significant correlation with stock returns of the listed firms. Additionally, it established that capital structure exhibit positive and insignificant correlation with stock returns of quoted firms.

Regression analysis undertaken discovered that the model would predict 86.8% of variations in returns of the firms. The other 13.2% however would be as a result of factors not in this model. The analysis showed that the alpha value was more than the p value and therefore the relationship was significant. The calculated value of F was higher than F statistic making the null hypothesis to be rejected. In conclusion the study outcomes were existence of a significant effect of the selected independent variables on stock returns.

The study findings concur with Otieno, Nyagol, and Onditi (2016) who conducted an empirical study with an aim of analyzing the link between liquidity risk management and financial performance of Kenyan 17 microfinance banks (MFBs). Longitudinal research design using panel data between the time frame 2011 and 2015 was utilized. Target population comprised 12 licensed MFBs. The desired sample size of 6 MFBs for the study was derived using purposive sampling. Secondary data was retrieved from MFBs financial reports using document analysis guide. The study affirmed that a significant association existed between liquidity risk management and performance and that liquidity risk management positively influences MFBs' performance. The study was well executed as comprehensive data was incorporated in the study.

This study is in contrast with Abwao (2017) who sought to establish the impact of liquidity risk on stock returns of quoted commercial banks at the NSE. The population of the study was all the 11 commercial banks quoted at the NSE. Collection of

secondary data was done annually for a 5-year time frame (January 2013 to December 2017). Descriptive cross-sectional design was adopted and for analyzing the association amongst the variables, multiple linear regression model was employed. The findings revealed that the size of bank gave positive and statistically substantial values for the research while liquidity risk and capital adequacy were established to be insignificant determinants of stock returns of listed commercial banks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This is a review of the results from the previous chapter, it further derives conclusions as well as the limitations encountered during the study. In addition, recommends policies that can be enforced to boost the expected stock returns of listed manufacturing and allied companies. Finally, the chapter gives suggestions of areas where further studies can be done.

5.2 Summary of Findings

Aim of researcher was seeking to investigate how liquidity risk affects stock returns of manufacturing and allied companies enlisted at the NSE. The predictor variables were liquidity risk, capital structure, firm size and profitability. The research design was descriptive cross-sectional design. Data for all the CMA reports were used to retrieve secondary data and SPSS software 22 was used to analyze it. The period for this study was the 5 years from the year 2014 to 2018 for the 9 listed firms.

The Pearson correlation showed moderate and negative correlation of liquidity risk against stock returns. The association is also significant as shown by a p value that was below 0.05. Profitability and firm size produced positive and statistically significant correlation with stock returns of the listed firms. The study further established that capital structure, exhibit positive and insignificant correlation with stock returns of the quoted firms.

From the regression analysis results, the findings revealed that 86.8% of changes in stock returns of entities are described by the four selected predictor variables. It is implied that 13.2% of fluctuations in returns of entities trading in the NSE are represented by other factors outside the scope of this study. The model wholly was said to be significant as the P value was below 0.05. Meaning that the selected independent variables significantly influence returns of firms enlisted entities at the NSE.

The regression model further established that liquidity risk alone has a significant negative influence on stock returns of quoted manufacturing and allied entities. This implies that an increase in liquidity risk will lead to a substantial stock return decrease. It was also revealed that profitability and capital structure have a notable positive influence on stock returns of listed firms and this implies that an increase in debt ratio and profitability will result to stock returns increasing.

5.3 Conclusion

A conclusion can be drawn that stock returns is significantly affected by liquidity risk, capital structure, firm size and profitability. Liquidity risk was established to negatively influence stock returns of listed manufacturing and allied firms and hence this study concludes that liquidity risk does significantly influence stock returns. Profitability was found to have a positive and significant effect on stock returns and therefore this study concludes that profitability influences stock returns positively and in a significant manner.

Capital structure was noted to have a positive and statistically significant influence on stock returns of manufacturing and allied firms enlisted at NSE meaning a rise in debt

levels leads to a rise in stock returns and to a significant extent. Firm size on the other hand was revealed to have a positive but insignificant impact on stock returns of companies quoted at the NSE and hence it is resolved that higher levels of assets results to an increase in stock returns but not significantly.

Conclusion on this study is that the predictor variables of this study; liquidity risk, capital structure, firm size and profitability largely affect stock returns of listed firms in NSE. The p value of the ANOVA summary also assists in concluding that these variables significantly affect the stock returns. Since the independent variables of this study have been found to explain 86.8% the stock returns of listed firms in the NSE, it is implied that 13.2% of variation in stock returns can therefore be related to factors that were not covered in the current study.

This finding concurs with Nyongesa (2016) who explored the association amongst liquidity risk and Kenyan commercial banks' financial performance. The descriptive research design was employed in the research. The target population constituted all commercial banks that were in operation between the time frame January 2011 and 31st December, 2015. Data analysis was by use of descriptive statistics, correlation and regression analysis as these are conventionally approved tools for descriptive research designs. The findings revealed that roughly 24.5% of the differences in return on assets of commercial banks over the duration of the study were accounted for by variation in their capital adequacy, profitability, and liquidity risk and asset quality. The study concludes that liquidity risk significantly affects Kenyan commercial banks' financial performance.

5.4 Recommendations

Liquidity risk was revealed to have a negative and statistically significant influence on stock returns of manufacturing and allied firms listed at the NSE. This study recommends that manufacturing and allied firms whether listed or not should strive to reduce liquidity risk as it does significantly reduce their stock return that is the primary objective of any firm.

Capital structure was revealed to having a positive effect on stock returns of listed manufacturing and allied firm's quoted at the NSE. The research therefore recommends firms to evaluate the tax benefits and the bankruptcy costs that come along with debt financing. Debt levels should be kept at optimal points since it has been found out that high level of debts increase stock returns. This will ensure the goal of maximizing shareholders' wealth is attained.

The study found out that a positive relationship exists between stock returns and profitability. This study recommends that a comprehensive assessment of listed manufacturing and allied firm's profitability should be undertaken to ensure that firms are profitable and this will lead to improved stock returns of firms. This is because profitability have been found to have a positive and significant effect on stock returns.

5.5 Limitations of the Study

The study period selected for this study was 5 years that is from 2014-2018. There is no proof that similar results will remain the same for a longer time period. Additionally, it cannot be determined if the same results will hold beyond 2018. A lengthier period of time would prove more dependable since it will include cases of major economic changes like recessions and booms.

The most significant limitation for this study was the quality of the data. It cannot be concluded with accuracy from this study that the findings are a true representation of the situation at hand. An assumption has been made that the data used in the study is accurate. Additionally, a lot of inconsistency in the measurement of the data was experienced due to the prevailing conditions. The study utilized secondary data contrast to primary data which is considered more superior. The study also took into consideration a few of the determinants of stock returns and not all factors because of the limit imposed by data availability.

To complete the analysis of the data, multiple linear regression model was utilized. Because of the limitations involved when using the model like erroneous and misleading results resulting from a change in variable value, it would be impossible for the researcher to generalize the findings with accuracy. In case of an addition of data to the functional regression model, the model may not perform as per the previous.

5.6 Suggestions for Further Research

This study concentrated on liquidity risk and stock returns of manufacturing and allied firms quoted at the NSE and secondary data was relied on. Further research study that uses primary data such as questionnaires and interviews as well as covering all the manufacturing and allied listed firms is recommended.

Not all the independent variables affecting stock returns were covered in this study and henceforth further studies that can accommodate different variables for examples ownership structures, opportunities for growth, industry practices, political instability, corporate governance of the firm or any other variables. Determining the impact of

each variable on stock returns of companies quoted at the NSE will assist policy makers in identifying the tool that should be used to maximize shareholder's wealth.

The study focused on the most recent ten years because it was the latest information accessible. Subsequent research may study a longer time frame like 20 years which can be useful in complementing or disapproving the results from this study. This research was constrained by concentrating on listed manufacturing and allied firms at the NSE. Further recommendation is that subsequent research examines other manufacturing and allied firms operating in Kenya. Lastly, due to the limitation of regression models, adopting different models like the Vector Error Correction Model (VECM) may be applied in explanation of the various relationships among variables.

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APPENDICES

Appendix I: Manufacturing and Allied Firms Listed at the NSE

1. B.O.C Kenya Ltd
2. British American Tobacco Kenya Ltd
3. Carbacid Investments Ltd
4. East African Breweries Ltd
5. Eveready East Africa Ltd
6. Flame Tree Group Holdings Ltd
7. Kenya Orchards Ltd
8. Mumias Sugar Co. Ltd
9. Unga Group Ltd

Source: Nairobi Securities Exchange (2019)

Appendix II: Research Data

Company name	Year	Stock returns	Liquidity risk	Profitability	Firm size	Capital structure
BOC Kenya	2018	0.3226	0.531	0.3310	6.3308	0.5472
	2017	0.2312	0.512	0.2373	6.3480	0.5412
	2016	0.7674	0.438	0.7874	6.3471	0.5399
	2015	0.6833	0.485	0.7011	6.3657	0.5395
	2014	-2.3473	0.468	-2.4087	6.3618	0.5143
EABL	2018	1.9527	1.198	4.0407	7.8528	0.3021
	2017	2.3607	0.993	4.8851	7.8239	0.3320
	2016	3.0976	1.298	6.4099	7.7906	0.3491
	2015	2.4331	0.978	5.0348	7.8257	0.3740
	2014	2.1487	1.328	4.4464	7.7984	0.3151
Carbacid	2018	1.1448	0.106	1.1449	6.5278	0.3160
	2017	1.3006	0.143	1.3008	6.5194	0.3143
	2016	1.4735	0.141	1.4737	6.4888	0.3856
	2015	1.5431	0.222	1.5433	6.4726	0.3755
	2014	1.7118	0.159	1.7120	6.4037	0.3871
BAT	2018	4.0833	0.629	4.0834	7.2634	0.5025
	2017	3.3434	0.759	3.3434	7.2506	0.4867
	2016	4.8506	0.708	4.8507	7.2672	0.4848
	2015	4.9761	0.689	4.9763	7.2714	0.5128
	2014	4.2552	0.801	4.2553	7.2613	0.4915
MUMIAS	2018	-4.9483	0.434	-4.9483	7.1969	0.0399
	2017	-2.2233	0.150	-2.2233	7.3819	0.0772
	2016	0.4864	0.533	0.4864	7.4282	0.0730
	2015	-1.5179	0.323	-1.5179	7.3103	0.1257
	2014	-0.8845	0.181	-0.8845	7.3722	0.1079
Unga Group	2018	1.7340	0.467	2.0690	6.9971	0.6641
	2017	-0.0156	0.603	-0.0186	6.9757	0.6980
	2016	1.1265	0.435	1.3442	6.9218	0.6968
	2015	1.3768	0.422	1.6428	6.9381	0.6288
	2014	1.0505	0.440	1.2535	6.9045	0.6147
Eveready	2018	-0.5319	0.395	-0.5319	5.7587	0.5617
	2017	1.2990	0.371	1.2990	5.8880	0.7479
	2016	-0.9329	0.204	-0.9329	6.0346	0.2462
	2015	2.2096	0.166	2.2096	6.1795	0.3696
	2014	-0.8457	0.750	-0.8457	5.9685	0.8208
Flame Tree Group	2018	-2.0842	0.880	-2.0932	6.8198	0.1717
	2017	-5.3310	0.669	-5.3539	6.8475	0.3377
	2016	-4.6699	0.489	-4.6900	6.8779	0.2954
	2015	1.4529	0.071	1.4591	6.9235	0.3513
	2014	2.3899	0.856	2.4002	6.8970	0.4876

Company name	Year	Stock returns	Liquidity risk	Profitability	Firm size	Capital structure
Kenya Orchards	2018	7.1084	0.025	17.3446	7.5801	0.0522
	2017	-0.9615	0.179	-2.3462	7.4371	0.0712
	2016	3.7679	0.346	9.1937	7.4447	0.0760
	2015	6.5323	0.193	15.9387	7.3638	0.1366
	2014	-0.3512	0.057	-0.8568	7.1964	0.2115

