

**EFFECT OF LIQUIDITY MANAGEMENT ON THE FINANCIAL PERFORMANCE OF
INSURANCE COMPANIES IN KENYA**

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DECLARATION

This project is my original work and has not been presented for the award of degree in any other University.

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DEDICATION

To my entire family, for the unwavering support, financial and otherwise. You deserve my deepest gratitude.

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ABBREVIATIONS AND ACRONYMS

NHIF	National Hospital Insurance Fund
HQLA	High Quality Liquid Assets
SGR	Standard Gauge Railway
IRA	Insurance Regulatory Authority
ROE	Return on Equity
ALM	Asset Liability Management
MPT	Modern Portfolio Theory

ABSTRACT

Since profitability is significantly affected by liquidity management, companies have opted for complex and rigorous programs to cope with their affairs. The core purpose of this research study was to establish the influence of liquidity management on insurance corporations' financial performance in Kenya. The Liquidity Preference Theory, the Shiftability Theory, and the Modern Portfolio Theory guided the study. 47 licensed insurance firms made up the research population. Only secondary data from the NSE and AKI websites was gathered for the research. The data included annual liquidity ratio for insurance companies and the annual ROA. The study covered a 5-year period from 2014-2018. SPSS V 25.0 was employed in generating quantitative data. Tables, frequencies and percentages were used in exhibiting the research results. Statistical assumptions tests were done. The study recorded that Liquidity jointly impacted insurance corporations' financial performance in Kenya. The outcomes indicated that when predictor variables are constantly held, financial metric indicator is 0.831, the research showed that increasing asset quality results in a rise of profitability by 0.636, furthermore, it was recorded that a rise in management of liquidity increased financial performance by 0.721, an expansion of capital adequacy grows financial performance by 0.701 and an increase in the size of firms increases financial performance by 0.523. The study made the recommendation that IRA needs to formulate new requirements of liquidity since it will contribute to an upward impact on insurance firms' earnings and promote economic stability. Insurance companies which play a critical role in protecting businesses and individuals from adverse events and earn their revenues primarily from premiums and investment income form a critical part of the financial system hence the study recommended that a well-coordinated regulatory approach across countries and regions will also ensure that systemic risk, where the failure of one insurance company creates a contagion effect, is mitigated given the inter-linkages between financial organizations in a globalized system.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Since profitability is significantly affected by liquidity management, companies have opted for complex and rigorous programs to cope with their affairs. Mehta, (2012), noted that liquidity management position of a financial institution can impact the financial performance of the institution and the economy at large. Liquidity position is therefore a paramount aspect of institution's performance since it impacts significantly on profitability and self-sustainability. The failure of financial institutions to attend to the short term demands of their customers in timely manner has led to poor liquidity management. The customers of financial institutions include the depositors and the investors (Sinkey, 2013). Liquidity management has therefore been moved from tactical and business level to strategic level hence it is the board mandate to control, plan and organize it because of the counterparty risks it creates.

The study utilizes theories that include theory of Liquidity Preference, the Shiftability Theory and Modern Portfolio Theory. Liquidity Preference Theory states that an increase in money supply at low interest rates will lead to an increase in cash balances and discourage savings and investment. Liquidity management has two aspects namely: buildup of sensible liquid assets levels for risk control and client premiums management, and attending to clients' needs. Nevertheless, impulse borrowing results in crisis if debtors lack confidence on the financial institution.

Kenya's insurance sector has experienced liquidity mismanagement which has greatly affected its financial performance. There is fear that incase the mismanagement of liquidity level increases in the insurance sector, it will pose serious liquidity challenges which could affect the stability and existence of this sector. Masinga (2000) points out a well performing insurance sector will upsurge the economy since savings will be encouraged and at the same time acts as a safety net for business

ventures. This will enhance individual as well as the country's productivity. Makove (2015) noted that insurers return is negatively affected by mismanagement which may compromise position of their liquidity. For this financial gap to be filled, insurers normally increase premiums. Liquidity mismanagement in insurance companies could be caused by fraudulent claims done by agents, employees, a broker, a claimant or even the policy holder (Some 2012).

1.1.1. Liquidity Management

It is defined as capacity for firms to meet cash and collateral requirements without suffering losses. (Saunders & Cornett, 2005). Liquidity mismanagement is mainly caused by a disparity amid assets and liabilities of firms. This arises from maturity mismatch or refinancing risk (Saunders & Cornett, 2005). The indicators of poor liquidity management are; falling asset prices, inadequate debt, low marketability of assets (Brealey, 2012). Many companies as a result, face the challenge of reduced profitability.

Persistent liquidity management constraints have brought about a reduction of the public confidence in many companies and an increase in financial disintermediation (Barad 2013). Current ratio is a comparison of present assets position with total obligations. This ratio manifests the level of liquidity. A drastic decline may be an indication of troubled liquidity position. Liquidity is viewed as the economy's life blood and can cause financial markets cease to function effectively in its absence. (Molefe & Muzindutsi, 2016).

On the other hand, Yahaya and Lamidi (2015), defined liquidity management as the process of trading assets at the present price in the market. Bhunia (2012) described management of liquidity as the ability of management and to proprietors to decrease the vulnerability to liquidity risk. So as to evaluate the liquidity risk managers, investors and lenders look at a corporations' financial statements via measurements of liquidity ratios. Over leveraged corporations ought to implement

actions to bridge cash in hand and debt obligations gap. Major banks' liquidity is critically monitored, however all governments and corporations with debt responsibilities are vulnerable to liquidity risk (Yahaya & Lamidi, 2015). Accounting metrics are used in the management of liquidity risk to evaluate cash/collateral needs to address financial responsibilities.

1.1.2. Financial Performance

Financial performance is a metric which gauges how well the financial aspirations will be met or have been met. Elyse (2008), defined financial performance in broader sense as the extent of financial goals having been accomplished and is an aspect of huge importance for financial risk management. Financial objectives is a key objective that companies and especially profit oriented firms should desire to achieve (Yahaya & Lamidi, 2015). Return on assets, return on investment, or an organization's market value are useful in measuring financial metrics indicators.

According to Dufera (2010) financial performance can be used to measure how an organization utilizes its assets for income generation. Financial statements or reports are the main focus of financial performance. Items such as dividend growth, asset base, capital employed and turnover are among a few of what financial analysis deals with (Omondi & Muturi, 2013). To measure economic units' accomplishment such as attainment of set objectives and goals is the financial performance. The stakeholders of a firm have a great interest in the firm's performance as far as finances are concerned. Major characteristics of a firm's financial performance include, business potential, defines competitiveness, economic intents of the company's leadership (Dufera, 2010). Most often the organization's performance is not defined by the increase of sales or cost of stocks. (Maghanga & Kalio, 2012).

1.1.3. Liquidity Management and Financial Performance

Liquidity management is integral function of financial institutions. It entails intermediation between fund creditors and fund seekers by the financial institutes. To attain these goals, financial institutions undertake two key functions, namely mobilization of deposit and credit extension in their intermediation roles. Profitability by financial institutions takes purposeful focus by management of bank so as balance profitability and liquidity that are two contradicting goals (Alemayehu & Ndung'u, 2012). These also play a very vital role of financing business in the economy. Companies will establish credit lines with lenders who will assist in times of unfavorable working capital.

Elyse (2008), very liquid assets have reduced risk and hence low return. Therefore, companies must make a trade-off of risk. It is expected that companies have liquid assets to the point that they aid in maximizing the corporation's financial performance in the absence of regulation. It is the responsibility of financial institutions to invest idle funds in high quality liquid assets since without clear credit lines, financial institutions may overstretch its liquidity requirements by over lending to these companies. (Chaplin *et al.*, 2010). The model of financial institutions works on a very delicate capital structure that is prone to risks like liquidity risk and rate of exchange risk.

Effective platforms of liquidity management assist in cash inflow and outflow. In severe scenarios, financial institution will dispose of High-Quality Liquid Assets (HQLA) it holds to address the mismatch between inflows and outflows. It's the other banks who buy up these assets hence if sold in times of distress will result in fire sales. Fire sales result in loss of value. This mismatch of financial firms and clients expectations' liquidity results in financial corporations' liquidity risk. Hence, it's the duty of financial institutions to accurately achieve its liquidity in consideration of its complexities (Elyse, 2008).

1.1.4 Liquidity Management in Insurance Companies in Kenya

Kenyan Insurance Companies have faced a number of liquidity management problems have reported poor financial performance (Alemayehu & Ndung'u, 2012). Poor liquidity management affect earnings and capital base. In extreme cases, it leads to insolvency and failure (Alemayehu & Ndung'u, 2012). Distressed banks can only access funds from the market at high interest rate (Alemayehu & Ndung'u, 2012). This results into decrease in the earnings of a company. Moreover, a company borrowing further to meet demands by the depositors (Alemayehu & Ndung'u, 2012). However, the insurance company may ration credit if it determines that the liquidity management needs of the company are quite low. Therefore, poor management of liquidity reduces the capacity of the Insurance corporations in Kenya to effectively operate.

The IRA has created guidelines on the management of risk for insurance corporations; it took effect in June 2013. This is to help with challenges faced by the insurance firms. Kongiro, (2015), deduced that most insurance corporations in Kenya have managerial practices and this has improved their financial performance.

1.1.5 Insurance Industry in Kenya

In Kenya, CAP 487 of the Kenyan laws, guide the operations of insurance corporations. IRA is the sector's regulatory body while AKI and AIBK and the sector's core associations (AKI, 2014). Insurance companies are also financial institutions and they are under jurisdiction of the National Treasury and Planning, they do provide financial services thus they are an important sector of the economy. Currently there are 47 Insurance Companies, (Wachira 2008).

The insurance industry has members association known as AKI. The functions of IRA as per the Act are supervision, development and regulation of the whole industry in Kenya. The industry total assets went up by 18.38% from Kshs. 359 billion shillings in December of 2013 to 425 billion

Kenyan shillings December 2014. Assets for generating income also went up to Kshs. 353.5billion, a 19.25% increase year-on-year from Kshs. 296.4billion. As in most cases with many African countries, the insurance market in Kenya mainly comprises the non-life segment. The segment of medical division has steadily been increasing in the past few years but majority of policyholders have not given it a priority. In the Swiss Re-insurance Company (2015) report, the non-life market contributed 66.3% of all premiums (Wanjohi 2015).

1.2. Research Problem

When firms experience difficulties with liquidity management, they may transfer their expenses to creditors this is very risky for firms and could bring about bad credit terms. In the long run greatly affects effectiveness (Bordeleau, 2010). The importance of liquidity management has been well embraced by institutions. Absence of regulations makes companies to hold liquid assets to a point that they maximize the profitability together with financial performance.

Insurance industry in Kenya has experienced huge financial losses due to poor liquidity management (Vintila & Nenu, 2016). There is a need to properly manage liquidity in the Insurance industry in Kenya. If not properly managed, liquidity management may lead to severe consequences in the institution (Marozva, 2015). Insurance Companies wholly depend on payments by their clients and most of their operations are done through premiums. In a situation whereby all their customers withdraw their cash from the accounts, financial institutions are likely to face a liquidity management trap. This may result into borrowing funds from the financial institutions at a very high cost due to high interest charges (Vintila & Nenu, 2016). Due to this problem, insurance companies have tried to ensure that they hold adequate funds at all times so that they can attend to the clients' demands.

Shukla (2012), analyzed the effect of management of liquidity on commercial banks' financial performance in Rwanda. The findings revealed that holding liquidity choices, cash management,

non-core investment and loan repayments constant, financial performance would increase. Similarly, Konadu (2009), in Ghana recorded that liquidity and firm profitability had no connection. On the other hand, Olagunju(2011), in their study in Nigeria on effective liquidity management and commercial banks' performance established that for effective work and continuity, liquidity must not be compromised by banks .

Sanghani (2014) on the liquidity effect on the performance (financial) of NSE listed firms showed that a rise in the ratio of operating cash flow had a positive impact on NSE listed firms' performance. Maina (2013) assessed the management of liquidity among oil firms in Kenya and recorded that the management of liquidity does not impact companies' profitability. A methodological, theoretical and conceptual gap was identified. This study's main aim was to fill these gaps by answering; what is the result of liquidity management on financial performance of insurance companies in Kenya?

1.3 Research Objective

Study's main goal was to establish the influence of liquidity management on the financial performance of insurance firms in Kenya. Financial performance (ROA) is the predicted variable while liquidity management, (premiums to total assets ratio) is one of four the predictor variables. The three other control variables are asset quality, measured by ratio of assets to total assets that are nonperforming; capital adequacy (capital to all assets ration) and size of the firm (value of all assets).

1.4 Value of the study

The results might prove valuable in the assessment of firms' financial position through its profitability ratios. Employees will find this study useful and will appreciate the best liquidity level that can meet their daily liquidity requirements. AKI will utilize the findings to appreciate the

extent to which fraud affects the industry's financial performance. The Insurance Regulatory Authority (IRA) will find this study useful in instituting measures that will be practical in executing its supervisory responsibilities. The general public is the immediate beneficiaries of insurance products.

Findings of the proposed study would act as a guide to Finance managers in insurance companies as well as other sectors to make investment decisions that would satisfy stakeholders interests with regard to liquidity and profitability. The literature provided in this study will benefit the scholars and researchers in that they will be able to expand their knowledge on the impact of fraud on the extent to which liquidity management affects the financial position of insurance entities. The study will also be useful to researchers as a secondary data to review the literature.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section conducts an evaluation of literature which forms the framework of the research. It starts by presenting the theoretical framework, discusses the financial performance determinants, empirical reviews, presents the conceptual framework, and finally provides the literature summary.

2.2 Theoretical Framework

The Liquidity Preference Theory, the Shiftability Theory, and the Modern Portfolio Theory guided the study.

2.2.1 Liquidity Preference Theory

In “*The General Theory of Employment Interest and Money*”, Keynes (1936) introduced the theory which describes to the total money the public can hold given the level of interest rates. Holding liquid assets can be explained by 3 reasons; First, for ordinary transactions, second, for precautionary purposes against emergencies, and third they are employed for speculative purposes. Keynes showed that transaction deposits are inversely proportional to the rate of interest (Ferrouhi & Lehadiri, 2013). The main argument in this theory is that an increase in money supply at low interest rates will lead to increase in cash balances and discourage savings and investment. The reason is that economic entities expect the interest rates to rise later in the future.

The theory further argues that the volatility in interest rates in the various economies triggered this push for an avenue that was seen in the development of this theory. The theory suggested that the financial institutions did not have to maintain old liquidity standards as they have no impact on asset stability in a bank. Diamond and Rajan (2001) posit that this theory focused on delivering abilities to meet the needs of liquidity. There is a correlation between management of liability and liquidity. It is a core tool to make decisions setting out to utilize the value of stakeholders. Asset

liability management (ALM) entails managing the elements of balance sheet which mainly entails assessing and quantifying risks and with regard to the structure of asset/liabilities implemented by financial firms to alleviate the eminent risks.

The relevance of the theory to the research is that it gives firms a chance to alleviate risk and to overcome the inconsistencies of interest income after accounting for interest expense for the short term period and overall value of firms is sustained for a long period (Ferrouhi & Lehadiri, 2013).

The advocates of the theory posit that an appropriate ALM liquidity, solvency and profitability of financial firms enables firms' credit risk to be managed and reduced. Financial firms' liabilities have various differing costs which is dependent in the pattern of maturity and tenor. The same way, these are made up of various categories with different yield relying on the factors of risks and maturity. The main goal of the theory is to connect assets and liabilities in hedging liquidity risk.

2.2.2 Shiftability Theory of Liquidity Management

This theory was propagated by Morton (1939), and later coined by Bhattacharyya (2011), states that the defensible level of financial institution liquidity management is having possession or investing in capital capable of shifting solely to other investments to meet liquidity requirements. Loan receivable for instance becomes secondary back up while secondary back up shifts to become primary back up. According to this theory insurance companies maintain liquidity if they hold assets that are marketable.

During a liquidity crisis, such assets are easily converted into cash. As such, the theory explains that marketability/shiftability/transferability of assets of firms is grounds for attaining effective management of liquidity. Supposing when there is no hard cash, financial institutions tend to sell off certain assets in order to obtain adequate cash. This situation happens when collateral which is illiquid turns into a liquid asset. Besides, they also often sell marketable securities like super

common stock (Mugenyah, 2015). As a result, the Shiftability theory is comprehended to give description and confidence of management of financial institutions until certain degree of transferable asset is needed to fulfill liquidity requirements.

The relevance of the theory to this research shows that firms are able to protect themselves from large deposit withdrawals by withholding credit for there exists a liquidity research as a secondary market. The theory highlights that the effectiveness of assets for the purpose of liquidity disappears since they do not have a market. In the event that all firms are in the search for assets that are liquidated, that represents a systemic issue affecting many entities which brings with it too much supply of assets and little demand hence lowering the selling price. This implies that lower asset prices would result as compared to stress-free market situations. The practice of firm's loan commitment as it is done and prevails today is because of the shiftability theory of liquidity (Mugenyah, 2015).

2.2.3. Modern Portfolio Theory

In the 1950s Harry Markowitz introduced this theory. This theory examines how a portfolio of assets can be managed and how risk can be reduced under a set of assumptions. It is founded on the belief which tries to understand the market in total. It offers a broad background for the interaction of systematic risk and profit. Thus, one can say that risk and return on a spread portfolio rely on local and foreign economic and financial variables. Barad (2013) notes that the MPT explains how investors that oppose risk are able to develop portfolios that maximize and optimize the intended return on the grounds of different market risk levels, making the emphasis that risk is a critical aspect of a greater reward. The theory shows the possibility of developing an "efficient frontier" of favourable portfolios that offer maximum returns with regard to a specific risk level.

A core insight by MPT is that a risk investment and characteristics of return ought not to be perceived alone, but should be assessed on the influence of the investments, and the complete return and risk of the portfolio. The theory indicates that an investor is able to develop a multiple asset portfolio that maximizes the returns for a specific risk level. Similarly, provided an intended return level, an investor is able to develop a low risk portfolio (Berrios, 2013). With respect to statistical measures (correlation and variance), single investment return is not as crucial as the behaviour of the investment in respect to the context of the whole portfolio.

The theory is vital to this research since it assesses how financial institutions can pool assets together to reduce the liquidity management exposure. Further, the theory investigates how the risks associated with the unforeseen economic changes can be minimized by having an asset backup. Risk reduction helps firms to maintain their strong point in the economy as well as capture more customers. The MTP assumes that investors averse risk, implying that they would prefer a portfolio with a low risk level to one that is risky for a particular return level. This means that an investor is willing to take a greater risk provided that a greater reward is expected.

Portfolio theory has been a breakthrough in the management of financial economics. The theory assesses the stock market and evaluates the rate of returns and how the financial institutions can assess and manage risks. An effective management system checks on how risks can be minimized. The use of diversification helps lay a foundation for systematic management of the risks that may arise. Further, risks can be minimized through an integrated element of creative formulation of strategies to minimize effects of such risks. The major factors that influence the state and strength of a risk is the domestic and overseas financial elements such as imports and exports (Stals, 2015). The theory was meant to shed light on the management of financial institutions assets. The theory was later complemented by Tobin (1958).

2.3 Determinants of Financial Performance of Firms

The following are the financial performance determinants of firms:

2.3.1 Asset Quality

Saunders and Cornett (2015) explain that the origin of asset quality is the ideology of effective asset management within financial firms. Bhattacharyya (2011) explain that financial firms' solvency is essentially at risk in instances where their assets are deemed as impaired, as such it is critical to observe quality indicators of their assets with regard to over-exposure to particular trends of risk in NPL and borrowers' profitability and health. Credit risk is immanent in lending; it's a core aspect of banking. It comes up when a borrower does not meet the agreements on loan repayments. A financial firm with defaulting borrowers may incur cash flow difficulties, which ultimately impacts its position of liquidity. In the end, this has a negative impact on the capital and profitability through to particular bad debts provisions (Saunders & Cornett, 2015).

Companies' assets entail investments, current and non-current assets and credit portfolios. Usually, an expanding the size of assets is associated with the period the financial institution has been in existence (Athanasoglou et al., 2015). In conventional financial institution operations set-up, the loans of a financial institution encompass a huge chunk of its assets that earns the biggest share of the financial institution income in form of interest income. This assertion implies that the superiority of loan portfolio defines the level of financial firm's financial performance. According to Dang (2011), the highest deterrents to profitability of financial institutions are the losses arising from 'bad' loans. Hence, financial institution ought to keep the level of non-performing loan ratios minimal as they are key indicators of the financial institution's asset quality. The measurement metric used was gross NPL to gross loans ratio.

2.3.2 Firm Size

Among the initial academicians who postulated a direct connection between the how large a of firm is and profitability was Smirlock (2010). The researcher explained that a firm that is large in size records high profits. The organization's size directly impacts its profitability; this is accomplished by reducing the costs associated with raising capital as was recorded by Short (2009). In addition, Smirlock (2010) finds a direct connection between the size of firms and their profitability. Notably an indirect connection between bank's size and its profitability exists. The size of a bank has an inverse correlation with firms that are large in sizes and a direct link with the profitability of smaller firms but an intermediate firm size records high investment return. According to Black (2010) in the negative link exists between the size of firms and the return while considering product mix and scale showed that organization size and its profitability were not correlated, as such a small reduction in cost is attainable by raising the operational magnitude of a firm.

Firms that are small in size are a main source of financing for small businesses which form a critical engine of productivity in many countries. Regulating for the concentration of the market and a difference of other indicators can affect yields. A study by Davis (2012) revealed that there is an existence of an inverse link between the size of a firm and the net return with regards to the lending of small businesses, implying that firms that are small in size perform well in developing such loans.

2.3.3 Liquidity Management

Banks are frequently assessed based on their liquidity/capability to meet the collateral and cash requirements without enduring any losses (Bodla & Richa, 2010). The management of liquidity is critical in making decisions that bank managers use. It references the management of liquidity and

in particular the assessment of their needs in association to the loans and deposits process. The benefits of liquidity supersede a single bank since a shortfall in liquidity in a single bank can precipitate systemic consequences. Dang (2011) argues that in instances when a bank has a greater liquidity, they attain this at the opportunity cost of a specific stake giving rise to high returns. According to Uzhegova (2010) an adequate liquidity level positively correlates to banks' profitability. The commonly used financial ratios mirroring the position of bank's liquidity include deposits of clients to all assets and deposits of clients to all loans. The trade-offs existing between liquidity risk and return are highlighted by assessing that a move from short to long term loans/securities results is an increase in the banks' returns and in the rise of liquidity risk and the vice versa is also applicable. Hence, a rise in ratios of liquidity indicates a less profitable and risky bank. As observed by Uzhegova (2010), the bank managers are stuck in a delicate trade-off of firm profitability and liquidity.

2.3.4 Capital Adequacy

The functions of capital in financial institutions include risk sharing function and other mitigation functions. Capital adequacy is a financial firm's ability to withstand abnormal losses (Saunders and Cornett, 2015). Due to the debt-like nature of liabilities in financial institutions, they tend to practice shifting of risk or substitution of assets. To avoid this, regulators require them to hold a minimum capital to assets to reduce their sensitivity to risk (Kongiro, 2012).

Profitable institutions which have a considerably more capital adequacy level are shown to have higher sustainability, efficiency and business reach. Shareholders who are the external suppliers of company's capital entrust their money to company's managers in the hope that the latter will increase the shareholders' value (Phani, et.al, 2000). Olalekan and Adeyinka (2013) revealed that

capital adequacy positively impacts financial corporations' profitability in Nigeria. This shows that capital adequacy is a prerequisite for a firm's financial health.

Adequate capital ought to be available as it supports the continued functioning of the bank; in terms of offering its mandated services to the public. Capital acts as a cushion during undesirable financial conditions. The bank capital forms bank liquidity due to the fragility and vulnerability of deposits to bank runs. In spite of capital being an imperative source of liquidity, it has limitations as it creates low liability demand which encompasses the least expensive sources to adequate capital to sustain financial institutions operations. CAR is adopted to evaluate the level of capital available in a bank (Dang, 2011). CAR represents the capacity of the financial institution in question to meet demand deposits as well as profitably run its operations.

2.4 Liquidity Management Practices

In the event that the risk liquidity has been analyzed at all levels, a firm's managers may make the decision to implement effective actions to minimize its vulnerability of liquidity risk. One action that managers can take is cash flow matching. According to Eljelly (2014) ladder asset maturities helps in matching the maturities of liabilities to the payments expected. This results in an increase in the opportunities that cash in hand will be available to meet the demand of cash within the firm. Diversifying assets entails an asset portfolio that is differentiated from all its aspects and is not vulnerable to situations of stress market conditions. An issuer, region, sector and asset class can diversify assets.

Diversifying liabilities means diversifying the portion of liabilities by product, channel and market; it can result in low vulnerability to liability risk. Moreover, with the increasing rate of liability maturing dates, a firm must not "flood" the business market with new sales to sustain its existing

levels of operations. Dong and Su (2014) observe that during bank runs, a firm may be in a position to issue new debts on unfavourable terms.

Back up surplus/capital with no Liquid assets; its sets up these assets for situations of market turmoil and tight liquidity conditions. These assets are able to cover the variation between the asset value at stress and the value of liability expected at an intermediate time such as 90 days. However, there exists a price value associated to buffer surplus. Reserves, are not normally intended to cater for tail type, and extreme events (Bhunia, 2012).

Issuing commercial paper: when operations are normal, a firm has access to short haul markets by offering commercial paper. The use of repurchase agreements (repos) helps in solving short haul needs for cash. Using repos enables organizations to hang onto liquid assets required for a period matching goals and hence allowing for liquidation of assets that are less liquid in an orderly manner for a long period. According to Akter and Mahmud (2014), the shortfall to this in a scenario that involves stress liquidity risk is that repos normally combine liquid assets so it is not applicable to offer solutions for the long term for stress liquidity risk

2.5 Empirical Review

This part highlights literature from other studies and work by other scholars. This will be used to make a comparison and establish variations and similarities between this study's findings and what other literature say.

2.5.1. International Studies

Shukla (2012), carried out an examination of the effect of management of liquidity on commercial banks' financial performance in Rwanda. A descriptive design was employed. The findings revealed that holding decisions on liquidity, management of cash, non-core investment, and loan

repayment constant, financial performance would increase. However, the findings focused on commercial banks in Rwanda and thus cannot be contextualized to insurance firms in Kenya.

Alshatti (2014) on liquidity management influence on banks' profitability in Jordan used 13 banks as the research population. A stationary test model was employed in testing a unit root using a time series of study variables and in hypothesis testing through regression analysis. The research revealed that a rise in the quick ratio and ratio of investments of funds available results in a growth in profitability, whereas a rise in the ratio of capital and liquid assets /results to low banks' profitability in Jordan. The outcomes, however were grounded on banks' profitability in Jordan, hence could not be applicable to insurance organizations in Kenya.

In the same way, Konadu (2009) assessed the liquidity and profitability connection of banks listed in Ghana. The research employed a descriptive design and a panel method. The researcher employed a document analysis in gathering secondary data covering the years 2005-2010. The outcomes showed no positive link between the trend of liquidity and the banks' profitability in Ghana. Akter and Mahmud (2014), studied the connection of liquidity and banks' profitability in Bangladesh. 12 banks in 4 varying sectors were used to gather data. Linear regression was employed and found no relevant link between liquidity and the studied banks' profitability. The findings targeted Ghana banking sector which have different operating environment with insurance firms in Kenya

On the other hand, Olagunju. (2011), in their study in Nigeria on effective management of liquidity and commercial banks' performance revealed that the survival and successful operations of commercial banks relies on the lack of compromise by the banks on effective management of liquidity. The study also revealed that among the financial ills in the environment include excess

liquidity and illiquidity. The findings focused on commercial banks in Nigeria which have different operating environment with insurance firms in Kenya

2.5.2. Local Studies

Kyalo (2014), researched the liquidity management influence on deposit taking SACCOs' financial performance in Kenya. The research used 27 deposit taking SACCOs as the research population in gathering secondary data covering the years 2010-2014. Regression analysis models formed the basis of data analysis and interpretation. The outcomes recorded financial performance positively correlates to liquidity, funding risk of liquidity, efficiency of operations, log of assets and quick ratio. The research did not target insurance companies but only targeted deposit taking SACCOs.

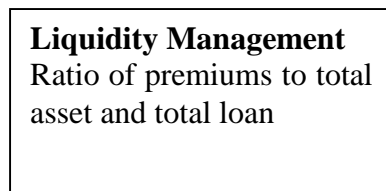
Sanghani (2014) on the impact of liquidity on the performance (financial) of NSE listed firms employed secondary data from the NSE. A multiple regression conducted. The outcomes showed that a rise in the ratio of operating cash flow had a positive impact on NSE listed firms' performance. Maina (2013) assessed the management of liquidity among oil firms in Kenya. The research collected data covering a time period of 2007-2012. A regression analysis was employed. The outcomes recorded that the management of liquidity does not impact companies' profitability. This study however targeted non-financial firms, while this current research only focused on insurance firms.

Kimondo (2014) assessed the liquidity and firm profitability connection on non-financial NSE listed firms. A descriptive survey was employed where 39 firms were used to gather data covering a time period of 2009-2013. The outcomes highlighted a weak positive bearing of liquidity on company profitability. The research only targeted non-financial organizations while this current research targets insurance firms in Kenya.

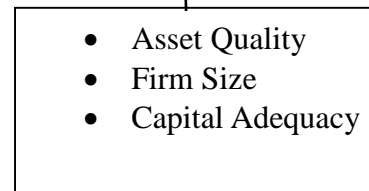
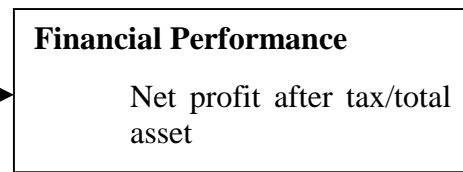
2.6. Conceptual Framework

The conceptual framework shows the interrelationships between the variables under study. ROA was used in the measurement of financial performance since it is an effective financial performance metric in comparison to measures of income statements profitability like sales margin metrics.

Independent Variable



Dependent Variable



Control Variables

Figure 2.1: Conceptual Framework

2.7 Summary of Literature Review

Liquidity position and regulation is a concern and challenge for effective and efficient running of financial institutions on national and global fronts. Satisfaction and meeting customer's needs has been at forefront for every financial institution and hence the necessity of optimal liquidity is to such institutions. Cut-throat competition for customers for deposits and savings has pushed lenders to embrace changing liquidity management tools that shape the general trends of liquidity and the transactional needs and repayment of short term loans.

Despite many research studies on firm value and capital structure, there were few research on liquidity management and its impact on the financial health of insurance entities. Conflicting findings have been recorded both negative and positive connections between the research variables have been established. From these findings, it is clear that a big literature gap exists in insurance companies, which has to be covered by research.

Most of the research have targeted the banking sub-sector, yet insurance companies that contribute a considerable share in the financial ecosystem has not been studied. Hence the lack of a related research in insurance companies, thus the generalizations present are non-comprehensive on the basis of context. A severe liquidity management crisis would lead to a wider crisis in the financial system in the form of a run on the financial institutions in a particular country. This research aims to fill the research gap by examining the effect that liquidity management has on financial health of insurance corporations in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section covers the methods employed throughout the research. It covers the study design, research population, collection of data and data and the analysis of the gathered data.

3.2 Research design

According to Ogula (2005) a research design is a tool to investigate a specific phenomenon to acquire answers for particular study questions. This research adopted the descriptive and inferential statistics. It will involve description of data using tables and statistical metrics of mean, frequencies and graphs after analysis of data to give the general spread and central tendency of the data (Mugenda, 2003). Inferential statistics enabled various statistical tests to be conducted so as to achieve the objectives of the research.

3.3. Population of the Study

Mugenda (2003), deduced that population is a group of objects(s) or a group of people or even a group of events that share some common characteristics. According to Sim & Wright (2000) population is a group of items that the examiner has interest in. The population for this research consisted of all 47 licensed and operational insurance companies in Kenya from years 2014 to 2018.

3.4 Data Collection

The research gathered secondary data. The data included annual liquidity ratio for insurance companies and the annual ROA as an indicator of performance. Data on ROA and liquidity was gathered from the NSE, IRA and the AKI websites. The research covered a 5 year period from 2014-2018.

3.5 Data Analysis

Once the data has been gathered, it is vital to make sure that the three aspects of a good parameter is achieved, which are accuracy, completeness and consistency. This is arrived at by editing the questionnaire to avoid missing values.

SPSS V 25.0 was employed in generating quantitative data. The study did tests on statistical assumptions i.e. test of regression assumptions and statistics applied. Tables, percentages and frequencies were used to exhibit the research results.

To measure the quantitative data which was analyzed using the SPSS, multiple regression was used. The study employed the regression model below

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

Where Y = Financial Performance (measured by net profit after tax/total assets)

X₁ = Asset Quality (measured by net NPAs to total assets)

X₂ = Liquidity Management (measured by ratio of premiums to total assets)

X₃ = Capital Adequacy (measured by ratio of capital to assets)

X₄ = Firm Size (measured by total assets value)

B₁– B₄ are the regression coefficients or variation in Y given a unit change in the independent variable

e is the random error term accounting for all other variables that affect financial performance but not captured in the model.

A T-test was used with a level of confidence of 95% to show the significance of the independent variables in describing the dependent variable changes.

3.5.1 Test of Significance

One-way ANOVA is a statistical tool to divide the total variance into meaningful pieces that correspond to different sources. The level of significance used for the study was 95%.

3.5.2 Diagnostic Test

A regression model is usually fitted under the assumption that the observations are independent and identically distributed, residuals should be normally distributed and the observations have the equal variance. Diagnostic tests will therefore be done to confirm that the assumptions of regression have been met and the sampled data appear to have come from a population that meets the regression assumptions.

Tests of Normality

A core assumption of building a regression model is the residuals normality. The test helps in measuring whether the random error of the dependent and independent variables relationship is normally distributed. There are a number of statistics available to test for the violation of the normality assumption including skewness and kurtosis. The assumption can also be tested by assessing graphical depictions of the error terms in normal probability distribution. Shapiro Wilk and Kolmogorov Smirnov tests were employed to determine whether there is violation of normality assumptions. So as to make a conclusion using this test we compare the calculated value of significance with the significance level of the research (0.05). A significant computed value that is greater than that of the research implies normal distribution of the residuals.

Test for Multicollinearity

Multicollinearity is evident when more than one independent variables in a model are correlated either at a high or moderate extent. It skews the multiple regression model outcome. Another fundamental impact of a high level of multicollinearity is that it can raise the variance of the coefficient estimations. It comes from poor experimental designs with a shortage in techniques of gathering data. It can also emanate from the use of inadequate samples. The Variance Inflation Factor (VIF) is employed in showing the multicollinearity severity level. The VIF weighs the extent to which an estimate of variance of coefficient increase and the independent variables correlate. A VIF of 1 means no multicollinearity; a VIF of more than 1 implies a moderate correlation between the independent variables; a VIF of 5-10 indicates a problem since it represents severe multicollinearity.

Heteroscedasticity

Heteroscedasticity means a situation when the error term variation does not represent all observations. The test for equality of variance will be tested using graphical representation by plotting the model residuals against the predictor variables. A well-fitted model shows no conceivable patterns of the fitted values. Scatter plots are a valuable method assessing the variance of a data and are the first step in gauging Heteroscedasticity. If the p-value is lower than 0.05 (significance level of the research), then there is a violation to the equality of variance assumption.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

An in-depth analysis and interpretation of the gathered data and results is the focus of this chapter. Data was gathered from 47 Kenyan insurance corporations. The sources of data included, annual statements for 2014-2018 and different publications. Data was gathered based on the research variables; that is financial performance indicated by ROA; asset quality, capital adequacy, size of the firm and liquidity management.

4.2 Descriptive Statistics

Descriptive statistics measure and describe the overall nature of the research data. They describe the response nature from the gathered data. Mean, standard deviation, maximum and minimum made up the descriptive statistics of the current study. Descriptive analysis was carried out on the asset quality; ROA; capital adequacy; liquidity management; and the size of the firm.

Table 4.1: Descriptive Statistics

	Minimum	Maximum	Mean	Std.	Skewness	Kurtosis		
				Deviation				
	Statistic	Statistic	Statistic	Statistic	Statistic	Std.	Statistic	Std.
						Error		Error
Return on Assets	.03	1.10	.4087	.32195	.324	.347	-1.297	.681
Asset quality	.02	.86	.2685	.21831	1.388	.347	1.040	.681
Liquidity management	.01	1.46	.1347	.21132	5.604	.347	35.192	.681
Capital adequacy	.01	2.66	.3213	.49878	3.531	.347	13.445	.681
Firm size	4.62	8.51	6.4838	.65464	.842	.347	2.657	.681

The mean ROA was 40% for the 47 researched firms, suggesting that insurance companies in Kenya have a generally moderate average ROA. With the 110% maximum and a standard deviation coming in at 0.32195, the indication is that insurance companies in Kenya financial performance record significant variations by financial performance hence, levels of liquidity impact ROA of insurance entities operating within Kenya's jurisdiction.

The mean of the asset quality is 0.2685 and a standard deviation of 0.21832. This shows that asset quality differs significantly and hence impacts insurance firms' financial performance. Management of liquidity reveals similar attributes with ROA and asset quality. The mean for liquidity management is 0.1347, and the standard deviation output of 0.21132. This implies a large gap between liquidity management in the insurance companies in Kenya.

From the outcomes generated, a considerable gap between the research variables exists. The constant outcomes show a positive link between the research variables meaning that liquidity positively impacts insurance firms' financial performance.

4.3 Diagnostic Tests

The research tested the suitability of the gathered data by conducting statistical assumptions testing for the all statistical variables and the results are described below.

4.3.1 Tests of Normality

For effective parameters application of inferential statistics, the normality assumption was tested. This ensured the testing of the kurtosis and skewness of the gathered data. This is for the confirmation of whether the gathered data being studied has a normal distribution. The normality of the data was later assessed using the Kolmogorov Smirnov and the Shapiro Wilk Tests. The mentioned second test is effectively used in small data, hence the method is highly reliable particularly when determining the data kurtosis and skewness. Findings, below 0.05 show a slow deviation from a normally distributed data.

Table 4.2: ShapiroWilk Test of Normality

Variables	KolmogorovSmirnov ^a			ShapiroWilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Asset quality	.072	47	.200	.979	47	.428
Liquidity management	.093	47	.200	.972	47	.219
Capital adequacy	.085	47	.200	.976	47	.322
Firm size	.349	47	.200	.853	47	.401

In accordance with the results, the Shapiro Wilk values were 0.428 for asset quality, 0.219 for liquidity management, 0.322 for Capital adequacy, and 0.401 for firm size. Kolmogorov Smirnov tested significant values were at 0.200 for asset quality, liquidity management, Capital adequacy, and firm size each. This brings an implication that the p-value is far much greater than level 0.05 then the prediction that the data was normally distributed cannot be rejected. The tested results are therefore of the population emanating from the normal distribution.

4.3.2 Test for Multicollinearity

Multicollinearity is the type of the test that makes an evaluation of whether the independent variable under the study is correlated or not. It occurs when more than 2 predictors present in a model have a high correlation resulting in the instability and unreliability of regression coefficient estimated, thus resulting in biased findings when trying to research how effective single independent variables make up in elaborating the independent variable. The test of multicollinearity was done to check if the data exhibit a high correlation of the independent variable. The VIF was used to make an evaluation of how the variable correlate and the level of variance each variable has as a result of the dependence with the other variables. Newbert, (2008) explains that upon the application of the

rule of the thumb when VIF is bigger than 10 then there must be an existence of a great problem with the multicollinearity hence this greatly affects the research findings. The test of multicollinearity findings are exhibited on Table 4.3.

Table 4.3: Coefficients^a

	Colinearity Statistics	VIF
	Tolerance	
Asset quality	.500	2.000
Liquidity management	.608	1.646
Capital adequacy	.633	1.580
Firm size	.498	2.034

The outcomes generated above show that VIFs are low since they are below 5. This implies that there is an unbiased estimation of the coefficients.

4.3.3 Serial Correlation

Wooldridge F-statistic serial correlation analysis was used in testing the correlation of the research variables. The test of serial correlation revealed that the research variables recorded no correlation. This shows that the estimations of the OLS are unbiased. The diagnostic findings are exhibited on Table 4.4

Table 4.4: Serial Correlation

Test	Statistic
Durbin Watson	2.345

Source: Research Findings

From the results of the Durbin Watson serial correlation test in Table 4.4 the value is higher than 2 showing no serial correlation.

4.3.4 Heteroscedasticity

This takes place when the error term of the variance is different across the observed data. The heteroscedasticity is very essential in examination of the difference that exist in the variance of the observation to the other (Godfrey, 1996). The research work maximized on the conduct of regression analysis of the independent variables Glejser test (1969). In accordance with this case, the assumption made is that if the value >0.05 , then there should be very minimal problem of the herescedasticity. The results for tests of Heteroscedasticity were as presented in Table 4.5.

Table 4.5: Test for Heteroscedasticity

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized	t	Sig.
	B	Std. Error	Coefficients Beta		
(Constant)	1.125	.012		3.856	.000
Asset Quality	.198	.045	.186	0.156	.269
Liquidity management	.096	.056	.112	0.258	.148
Capital adequacy	.256	.089	.349	0.481	.86
Firm size	.125	.064	.151	0.256	.059

a. Dependent Variable: ROA

Basing on the level of output, the values obtained >0.05 , hence no significant variations existing in the variation of dependent to independent variables that were tested

4.4 Regression Analysis

Regression is a statistical tool that describes the connection and link between research quantitative variables. This technique is employed in determining the equation that shows the research variable's relationship. A multiple regression shows an equation that makes the prediction of a variable from more than one independent variables.

Multiple regression analysis was carried out to test the connection between independent research variables on the insurance firms' financial performance (dependent variable). SPSS V 25.0 was employed to generate the research's multiple regression measurements. The determination of coefficients shows the degree to which dependent variable changes are elaborated by the independent variable changes or the variation percentage in financial performance (dependent variable) as explained by Asset quality, Liquidity management, size of the firm and capital adequacy (independent variables).

The multiple regression adopted by the study is shown by the model below:

$$Fp_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e_t$$

Table 4.6 explains the model summary.

Table 4.6: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.891 ^a	.794	.642	3.31805

Table 4.6 reveal that Liquidity jointly influenced financial performance of insurance corporations in Kenya represented by $r=0.891$. The R squared value of 0.794 revealed that the independent variables contributed to 79.4% of the financial performance variance of insurance corporations in Kenya. Table 4.7 exhibits the ANOVA findings

Table 4.7: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	99.576	4	24.894	6.2095	.018 ^b
Residual	168.378	42	4.009		
Total	267.954	46			

Table 4.7 reveals that the F statistic was 6.2095. At a 5% confidence level, the F statistic was significant, implying that the predictor variables (management of liquidity, capital adequacy, asset quality, and size of the firm) show financial performance variation and the model was significant.

Table 4.8 exhibits the coefficient results.

Table 4.8: Coefficients

Model	Unstandardized		Standardized t		Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	0.831	0.196		4.240	0.000
Asset quality	0.636	0.121	0.146	5.256	0.000
Liquidity management	0.721	0.179	0.126	4.028	0.000
Capital adequacy	0.701	0.273	0.045	2.568	0.014
Firm size	0.523	0.214	0.142	2.444	0.019

a. Dependent Variable: Financial Performance

4.5 Interpretation of the Study Findings and Discussion of Results

The findings explained that Liquidity jointly affected financial performance of insurance corporations in Kenya represented by $r=0.891$, which is statistical that is applied to measure the

direction and strength of linear association between two variables. Correlation coefficient ranges from -1 to +1. +1 suggests that there is a perfect positive correlation between two variables.

The results show that there is a strong positive relationship between financial performance of insurance companies and liquidity management.

The R squared value of 0.794 shows the proportion of total variation in the predicted variable that is explained by the predictor component of the variables. The higher the R squared/coefficient of determination the higher the proportion of variation in the dependent variable that is attributable to variation in the independent variable.

The results reveal that the independent variables contributed to 79.4% of the financial performance variance of insurance corporations in Kenya. At a 5% confidence level, the F statistic was significant, implying that the predictor variables (management of liquidity, capital adequacy, asset quality, and size of the firm) show financial performance variation and the model was significant. This is similar to Loo (2007) on the approaches to management of liquidity and their impact on insurance firms' financial performance. The research covered years 1997-2004, and employed a descriptive design. The research revealed a positive connection between liquidity and banks' financial performance.

The outcomes indicated that when predictor variables are constantly held, financial performance is 0.831, the research showed that increasing asset quality results in a rise of profitability by 0.636, moreover, it was recorded that a rise in management of liquidity increased financial performance by 0.721, an increase in capital adequacy increases financial performance by 0.701 and an increase in the size of firms increases financial performance by 0.523. In tandem with the study findings, Maaka (2013) on the effect of liquidity risk on insurance firms' performance in Kenya. The researcher covered the period covering 2008 – 2012. Data was gathered from commercial banks and suggested that banks' financial performance is negatively impacted by liquidity risk as

measured by leverage and liquidity gap. The existence of a considerable liquidity gap, insurance companies are required to borrow from the repo market at high rates of interest increasing the cost of financing incurred by the banks. Additionally, customer deposit frequency positively affects insurance firms' financial performance, hence, economists propose launch of multiple branches to enhance high deposit frequency.

CHAPTER FIVE

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

A high level summary of the results, conclusions and policy recommendations as well as highlights of the study limitations with respect to the goals of the research are the focus of this chapter.

5.2 Summary

The research objective was to determine the effect of liquidity management on the financial performance of Insurance Corporations in Kenya. The research used secondary data from annual financial statements of 47 insurance companies and other industry publications covering the period from 2014-2018. The data collected was based on 5 research variables; financial performance as the dependent variable was measured by annual ROA while liquidity management as measured by a ratio of premiums to total assets, was the independent variable under study. There were three control variables; Asset quality, capital adequacy and firm size.

Multiple regression analysis was used to analyze the relationship between the variables under study. Test of statistical assumptions was carried out on the individual variables under study and on the statistical model itself confirm that it's adequacy in predicting the relationship between the variables involved. The results of all statistical tests of regression analysis revealed that no assumptions were violated hence the conclusions drawn were not biased.

Statistical package developed by IBM Corporation, SPSS V 25.0 was used to generate quantitative output of statistical results.

Descriptive statistics applied to analyze the data collected include the statistical measures of mean, standard deviation and range (the difference between maximum and minimum values).

The results show that Liquidity jointly influenced financial performance of insurance corporations in Kenya represented by $r=0.891$. The R squared value of 0.794 revealed that the independent

variables contributed to 79.4% of the financial performance variance of insurance corporations in Kenya. At a 5% confidence level, the F statistic was significant, implying that the predictor variables show financial performance variation and the model was significant.

The outcomes indicated that when predictor variables are constantly held, financial performance is 0.831, the research showed that increasing asset quality results in a rise of profitability by 0.636, more it was recorded that a rise in management of liquidity increased financial performance by 0.721, an increase in capital adequacy increases financial performance by 0.701 and an increase in the size of firms increases financial performance by 0.523.

5.3 Conclusion

The analysis on the previous chapter shows that liquidity is a financial performance important determinant. The correlation between ROA and deposit to asset and liquidity ratio is positive, meaning that a rise in liquidity results in an improvement in insurance firms' financial performance in Kenya. The research draws the conclusion that liquidity jointly influences insurance firm's financial performance as revealed by the r value 0.891. The R squared value of 0.794 revealed that the independent variables contributed to 79.4% of the financial performance variance of insurance corporations in Kenya. At a 5% confidence level, the F statistic was significant, implying that the predictor variables show financial performance variation and the model was significant.

5.4 Recommendations for Policy and Practice

The study made the recommendation that IRA needs to formulate new requirements of liquidity since it will contribute to an upward impact on insurance firms' earnings and promote economic stability. Insurance companies play a critical role in protecting businesses and individuals from adverse events and earn their revenues primarily from premiums and investment income. Insurance companies mainly have two broad divisions; property and casualty and life and health. In order to ensure greater stability and profitability of the industry, IRA should also consider formulation of

policies which require insurance companies to give a higher proportion of their portfolio to Life and Health Division since their cash flows are fairly predictable and due to their long-term nature. This will boost the liquidity position of insurance companies which lead to a stronger financial performance.

Insurance companies with a higher proportion of property and casualty division vis a vis life and health experience a high level of uncertainty in their claims operations and therefore require a high level of liquidity. Such companies should invest heavily in highly liquid securities.

Insurance companies ought not to only pay attention to financial performance but to also guarantee efficient management of liquidity. This promotes their growth. Moreover, these firms ought not to possess a high level of liquidity but devise ways of ensuring the sustainability of liquidity. The liquidity that is in excess ought to be used for short term investments for ROI increase.

The IRA ought to develop forums that allow all its stakeholders to engage with each other to formulate conducive and practical policies of regulation to attain firms' growth. IRA ought to give insurance firms a chance to use other techniques in addressing their surplus withdrawals and in lowering the liquidity risk. The IRA ought to promote the application of online payment platforms and other forms of online payments for large transactions. This will create a faster cash turnaround time and help stimulate economic activities in the country at large.

IRA and AKI should formulate guidelines on prudent underwriting of risks, pricing of adequate premiums for bearing risk and diversification of risk. Such guidelines directly affects the liquidity position of insurance corporations, which by extension affects the insurance corporations' financial performance.

Capitalization of insurance corporations is also critically important and the regulatory bodies should specify minimum capital levels based on size and risk on insurance companies. A well-coordinated approach across countries and regions will also ensure that systemic risk, where the

failure of one insurance company creates a contagion effect, is mitigated given the inter-linkages between financial organizations in a globalized system.

5.5 Limitations of the Study

The researcher came across some difficulties while undertaking the study, the financial statements of some of the insurance firms were not availed to the researcher in time for their inclusion in the research, thus the reduction in the sample population from which data was gathered.

The research targeted firms in Kenya, hence the irrelevance of the findings in other nations where the insurance industry operates in different environments.

The research concentrated on a time period of only 5 years; this is not enough time for proper conclusions to be made.

Secondary data from financial statements was gathered from selected insurance firms, websites of NSE and IRA. A research based on primary data is recommended which will involve the use of questionnaires from selected respondents.

The research study applied multiple regression analysis. Regressions relations tend to change over time i.e they suffer from parameter instability.

5.6 Suggestions for Further Studies

Further research on the liquidity and financial performance relationship ought to be carried out different sectors in Kenya.

In addition, further research on the topic ought to be carried out in other nations to illuminate on the varying factors of operations and the economy on the interrelationships between the two research variables.

The research relied on quantitative information to reach its conclusions and recommendations. A research study encompassing both quantitative and qualitative aspects including questionnaires is

recommended in order to arrive at more comprehensive conclusions on the relationship between the two variables.

The research covered years from 2014-2018. A research study is recommended covering a longer period of time especially under different economic situations and cycles to show the connection of the two research variables.

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APPENDIX I: ROA

	2014	2015	2016	2017	2018
AR Insurance Kenya Limited	0.81	0.86	0.87	0.89	0.93
Africa Merchant Assurance Company Limited	0.05	0.06	0.07	0.05	0.06
AIG Kenya Insurance Company Limited	0.21	0.3	0.38	0.3	0.31
APA Insurance Limited	0.03	0.01	0.03	0.02	0.04
APA Life Assurance Limited	0.16	0.03	0	0.14	0.03
British American Insurance Company	0.11	0.04	0.05	0.06	0.07
Cannon Assurance Company Limited	0.11	0.11	0.15	0.14	0.16
CFC Life Assurance Limited	0.14	0.3	0.04	0.11	0.13
CIC General Insurance Limited	0.05	1.39	0.18	0.02	0.17
CIC Life Assurance Limited	0.02	0.04	0.06	0.07	0.06
Continental Reinsurance Limited	0.13	0.17	0.17	0.19	0.19
Corporate Insurance Company	0.08	0.06	0.07	0.07	0.07
Directline Assurance Company Limited	0.13	0.18	0.19	0.15	0.13
East Africa Reinsurance Company	0.03	0.04	0.04	0.03	0.04
Fidelity Shield Insurance Company	0.07	0	0.05	0.05	0.05
First Assurance Company	0.02	0.04	0.03	0.04	0.04
GA Life Assurance Limited	0.37	0.27	0.28	0.31	0.31
GA Insurance Limited	0.04	0.04	0.04	0.04	0.05
Gateway Insurance Company Ltd	0.08	0.11	0.11	0.11	0.1
Geminia Insurance Company	0.07	0.07	0.2	0.02	0.28
ICEA LION General Insurance Company	0.36	0.34	0.28	0.31	0.28

ICEA LION Life Assurance Company	2.66	0.12	0.14	0.14	0.14
Intra Africa Insurance Company Ltd	0.24	0.24	0.24	0.25	0.27
Invesco Assurance Company Limited	0.42	0.36	0.39	3.93	0.42
Kenindia Assurance Company Limited	0.52	0.53	0.55	0.57	0.58
Kenya Orient Insurance Limited	0.54	0.56	0.57	0.59	0.61
Kenya Reinsurance Corporation Limited	0.56	0.58	0.59	0.61	0.63
Madison Insurance Company Limited	0.58	0.60	0.62	0.63	0.65
Mayfair Insurance Company Limited	0.60	0.62	0.64	0.66	0.68
Mercantile Insurance Company Limited	0.62	0.64	0.66	0.68	0.70
Metropolitan Life Insurance Company	0.03	0.03	0.03	0.03	0.03
Occidental Corpany Limited	0.66	0.68	0.70	0.72	0.74
Old Mutual Life Assurance Company Limited	0.68	0.70	0.72	0.74	0.77
Pacis Insurance Company Limited	0.70	0.72	0.74	0.77	0.79
Pan Africa Life Assurance Limited	0.72	0.74	0.77	0.79	0.81
Phoenix of East Africa Insurance Company Limited	0.74	0.76	0.79	0.81	0.83
Pioneer Assurance Company Limited	0.03	0.03	0.03	0.03	0.03
Real Insurance Company Limited	0.78	0.81	0.83	0.85	0.88
Resolution Insurance Company Limited	0.71	0.73	0.75	0.78	0.80
Takaful Insurance of Africa Limited	0.82	0.85	0.87	0.90	0.93
Tausi Insurance Company Limited	0.84	0.87	0.89	0.92	0.95
The Heritage Insurance Company	0.25	0.26	0.27	0.27	0.28
The Jubilee Insurance Company Limited	0.34	0.35	0.36	0.37	0.38
The Kenya Alliance Insurance Company	0.90	0.91	0.94	0.97	1.00

The Monarch Insurance Company	0.67	0.67	0.69	0.71	0.73
UAP Life Assurance Company Limited	0.27	0.27	0.28	0.29	0.30
UAP Insurance Company	0.43	0.43	0.45	0.46	0.47

APPENDIX II: Asset quality

	2014	2015	2016	2017	2018
AR Insurance Kenya Limited	0.03	0.04	0.04	0.03	0.04
Africa Merchant Assurance Company Limited	0.05	0.04	0.03	0.03	0.01
AIG Kenya Insurance Company Limited	0.04	0.05	0.06	-0.01	0.01
APA Insurance Limited	0.03	0.03	0.03	0.02	0.02
APA Life Assurance Limited	0.04	0.04	0.04	0.04	0.04
British American Insurance Company	0.03	0.02	0.01	0.03	0.01
Cannon Assurance Company Limited	0.01	0.04	0.05	-0.01	0.01
CFC Life Assurance Limited	0.05	0.03	0.03	0.03	0.01
CIC General Insurance Limited	0.70	0.72	0.53	0.51	0.42
CIC Life Assurance Limited	0.75	0.73	0.73	0.69	0.68
Continental Reinsurance Limited	0.72	0.68	0.63	0.70	0.66
Corporate Insurance Company	0.77	0.74	0.72	0.66	0.64
Directline Assurance Company Limited	0.74	0.74	0.74	0.73	0.73
East Africa Reinsurance Company	0.76	0.75	0.68	0.67	0.63
Fidelity Shield Insurance Company	0.82	0.84	0.85	0.88	0.90
First Assurance Company	0.72	0.70	0.69	0.74	0.72
GA Life Assurance Limited	0.19	0.18	0.20	0.18	0.19
GA Insurance Limited	0.16	0.16	0.17	0.17	0.17
Gateway Insurance Company Ltd	0.18	0.19	0.16	0.18	0.17
Geminia Insurance Company	0.16	0.16	0.18	0.16	0.17

ICEA LION General Insurance Company	0.16	0.17	0.19	0.19	0.21
ICEA LION Life Assurance Company	0.15	0.16	0.17	0.17	0.18
Intra Africa Insurance Company Ltd	0.16	0.13	0.10	0.09	0.06
Invesco Assurance Company Limited	0.16	0.16	0.18	0.18	0.19
Kenindia Assurance Company Limited	0.21	0.21	0.22	0.23	0.23
Kenya Orient Insurance Limited	0.22	0.22	0.23	0.22	0.23
Kenya Reinsurance Corporation Limited	0.21	0.21	0.21	0.22	0.23
Madison Insurance Company Limited	0.21	0.21	0.21	0.22	0.22
Mayfair Insurance Company Limited	0.23	0.23	0.23	0.24	0.24
Mercantile Insurance Company Limited	0.22	0.22	0.23	0.23	0.24
Metropolitan Life Insurance Company	0.22	0.22	0.23	0.23	0.24
Occidental Corpany Limited	0.22	0.22	0.23	0.23	0.24
Old Mutual Life Assurance Company Limited	0.21	0.21	0.21	0.23	0.23
Pacis Insurance Company Limited	0.24	0.24	0.24	0.24	0.24
Pan Africa Life Assurance Limited	0.22	0.23	0.23	0.24	0.24
Phoenix of East Africa Insurance Company Limited	0.22	0.23	0.23	0.24	0.24
Pioneer Assurance Company Limited	0.22	0.23	0.24	0.24	0.25
Real Insurance Company Limited	0.22	0.22	0.22	0.23	0.23
Resolution Insurance Company Limited	0.24	0.24	0.24	0.25	0.25
Takaful Insurance of Africa Limited	0.23	0.23	0.24	0.24	0.25
Tausi Insurance Company Limited	0.23	0.23	0.24	0.24	0.25

The Heritage Insurance Company	0.23	0.23	0.24	0.24	0.25
The Jubilee Insurance Company Limited	0.22	0.22	0.22	0.24	0.24
The Kenya Alliance Insurance Company	0.25	0.25	0.25	0.25	0.25
The Monarch Insurance Company	0.23	0.24	0.24	0.25	0.25
UAP Life Assurance Company Limited	0.23	0.24	0.24	0.25	0.25
UAP Insurance Company	0.23	0.24	0.25	0.25	0.26

APPENDIX III: Liquidity management

	2014	2015	2016	2017	2018
AR Insurance Kenya Limited	0.04	0.12	0.09	0.03	0.00
Africa Merchant Assurance Company Limited	0.11	0.04	0.04	0.12	0.08
AIG Kenya Insurance Company Limited	0.04	0.06	0.01	0.01	0.10
APA Insurance Limited	0.32	0.08	0.00	0.02	0.14
APA Life Assurance Limited	0.01	0.01	0.00	0.07	0.08
British American Insurance Company	0.12	0.11	0.09	0.03	0.08
Cannon Assurance Company Limited	0.05	0.05	0.03	0.01	0.01
CFC Life Assurance Limited	0.29	0.21	0.00	0.04	0.11
CIC General Insurance Limited	0.06	0.11	0.02	0.04	0.08
CIC Life Assurance Limited	0.05	0.04	0.04	0.04	0.03
Continental Reinsurance Limited	0.02	0.03	0.03	0.02	0.03
Corporate Insurance Company	0.03	0.03	0.03	0.02	0.02
Directline Assurance Company Limited	0.05	0.05	0.05	0.04	0.04
East Africa Reinsurance Company	0.02	0.02	0.02	0.02	0.02
Fidelity Shield Insurance Company	0.03	0.04	0.03	0.04	0.04
First Assurance Company	0.03	0.03	0.03	0.03	0.03
GA Life Assurance Limited	0.01	0.01	0.01	0.01	0.01
GA Insurance Limited	0.03	0.03	0.03	0.03	0.03
Gateway Insurance Company Ltd	0.04	0.04	0.05	0.03	0.03
Geminia Insurance Company	0.04	0.04	0.03	0.03	0.03

ICEA LION General Insurance Company	0.03	0.11	0.04	0.06	0.09
ICEA LION Life Assurance Company	0.04	0.00	2.83	4.01	0.44
Intra Africa Insurance Company Ltd	0.03	0.11	0.04	0.25	0.31
Invesco Assurance Company Limited	0.09	0.24	0.22	0.19	0.34
Kenindia Assurance Company Limited	0.34	0.30	0.28	0.24	0.22
Kenya Orient Insurance Limited	0.08	0.07	0.08	0.11	0.11
Kenya Reinsurance Corporation Limited	0.04	0.03	0.01	0.01	0.03
Madison Insurance Company Limited	0.15	0.10	0.14	0.15	0.14
Mayfair Insurance Company Limited	0.06	0.06	0.08	0.09	0.08
Mercantile Insurance Company Limited	0.14	0.10	0.11	0.17	0.16
Metropolitan Life Insurance Company	0.11	0.16	0.12	0.12	0.12
Occidental Corpany Limited	0.14	0.10	0.13	0.09	0.11
Old Mutual Life Assurance Company Limited	0.36	0.37	0.38	0.41	0.38
Pacis Insurance Company Limited	0.21	0.23	0.21	0.15	0.19
Pan Africa Life Assurance Limited	0.35	0.21	0.19	0.23	0.24
Phoenix of East Africa Insurance Company Limited	0.14	0.13	0.21	0.09	0.03
Pioneer Assurance Company Limited	0.13	0.16	0.14	0.08	0.08
Real Insurance Company Limited	0.20	0.16	0.12	0.06	0.10
Resolution Insurance Company Limited	0.21	0.17	0.15	0.15	0.12
Takaful Insurance of Africa Limited	0.20	0.16	0.16	0.16	0.17
Tausi Insurance Company Limited	0.19	0.20	0.19	0.12	0.17

The Heritage Insurance Company	0.19	0.20	0.08	0.00	0.13
The Jubilee Insurance Company Limited	0.20	0.20	0.09	0.00	0.13
The Kenya Alliance Insurance Company	0.20	0.21	0.09	0.00	0.14
The Monarch Insurance Company	0.21	0.21	0.10	0.01	0.14
UAP Life Assurance Company Limited	0.21	0.22	0.10	0.01	0.14
UAP Insurance Company	0.22	0.22	0.10	0.01	0.14

APPENDIX IV: Capital adequacy

	2014	2015	2016	2017	2018
AR Insurance Kenya Limited	0.05	0.14	0.05	0.00	0.24
Africa Merchant Assurance Company Limited	0.01	0.02	0.02	0.02	0.02
AIG Kenya Insurance Company Limited	0.41	5.36	0.22	0.19	0.23
APA Insurance Limited	0.16	0.03	0.15	0.31	0.38
APA Life Assurance Limited	0.15	0.10	0.18	0.01	0.03
British American Insurance Company	0.02	0.01	0.01	0.01	0.01
Cannon Assurance Company Limited	0.63	0.55	0.54	0.42	0.51
CFC Life Assurance Limited	0.01	0.01	0.00	0.01	0.01
CIC General Insurance Limited	0.02	0.01	0.02	0.02	0.01
CIC Life Assurance Limited	0.05	0.02	0.03	0.03	0.03
Continental Reinsurance Limited	0.59	0.62	0.71	0.82	0.91
Corporate Insurance Company	0.01	0.00	0.00	0.01	0.01
Directline Assurance Company Limited	0.02	0.10	0.08	0.08	0.08
East Africa Reinsurance Company	0.01	0.02	0.04	0.05	0.07
Fidelity Shield Insurance Company	0.05	0.03	0.04	0.04	0.05
First Assurance Company	0.27	0.19	0.17	0.26	0.24
GA Life Assurance Limited	0.02	0.28	0.42	0.41	0.44
GA Insurance Limited	0.77	0.82	0.82	0.84	7.38
Gateway Insurance Company Ltd	0.21	0.30	0.32	0.35	0.34
Geminia Insurance Company	0.00	0.01	0.01	0.02	0.02

ICEA LION General Insurance Company	0.10	0.16	0.10	0.11	0.13
ICEA LION Life Assurance Company	0.10	0.02	0.05	0.06	0.05
Intra Africa Insurance Company Ltd	0.01	0.16	0.01	0.01	0.02
Invesco Assurance Company Limited	0.02	0.02	0.02	0.02	0.02
Kenindia Assurance Company Limited	0.48	0.33	0.28	0.46	0.36
Kenya Orient Insurance Limited	0.45	0.31	0.26	0.43	0.34
Kenya Reinsurance Corporation Limited	0.42	0.29	0.25	0.41	0.32
Madison Insurance Company Limited	0.39	0.27	0.23	0.38	0.30
Mayfair Insurance Company Limited	0.37	0.26	0.22	0.36	0.28
Mercantile Insurance Company Limited	0.34	0.24	0.20	0.33	0.26
Metropolitan Life Insurance Company	0.32	0.23	0.19	0.31	0.25
Occidental Corpany Limited	0.30	0.21	0.18	0.29	0.23
Old Mutual Life Assurance Company Limited	0.28	0.20	0.17	0.27	0.22
Pacis Insurance Company Limited	0.26	0.18	0.15	0.26	0.20
Pan Africa Life Assurance Limited	0.25	0.17	0.15	0.24	0.19
Phoenix of East Africa Insurance Company Limited	0.23	0.16	0.14	0.22	0.18
Pioneer Assurance Company Limited	0.22	0.15	0.13	0.21	0.17
Real Insurance Company Limited	0.20	0.14	0.12	0.20	0.15
Resolution Insurance Company Limited	0.19	0.13	0.11	0.18	0.14
Takaful Insurance of Africa Limited	0.18	0.12	0.10	0.17	0.14
Tausi Insurance Company Limited	0.17	0.12	0.10	0.16	0.13

The Heritage Insurance Company	0.52	0.50	0.32	6.04	5.94
The Jubilee Insurance Company Limited	0.57	0.54	0.32	1.27	0.23
The Kenya Alliance Insurance Company	0.61	0.58	0.33	0.27	0.22
The Monarch Insurance Company	0.66	0.62	0.33	0.06	0.21
UAP Life Assurance Company Limited	0.54	0.51	0.26	0.09	0.15
UAP Insurance Company	0.51	0.47	0.24	0.10	0.14

APPENDIX VII: Firm size

	2014	2015	2016	2017	2018
AR Insurance Kenya Limited	7.63	7.73	7.76	7.73	7.83
Africa Merchant Assurance Company Limited	6.56	6.55	6.59	6.58	6.56
AIG Kenya Insurance Company Limited	6.2	6.19	6.22	6.23	7.21
APA Insurance Limited	8.28	8.4	8.53	8.56	8.76
APA Life Assurance Limited	6.5	6.52	6.57	6.46	6.44
British American Insurance Company	7.21	7.2	7.2	7.21	7.24
Cannon Assurance Company Limited	4.47	4.45	4.45	4.42	5.31
CFC Life Assurance Limited	5.93	5.73	6.19	6.22	6.78
CIC General Insurance Limited	7.12	6.21	7.09	7.17	7.17
CIC Life Assurance Limited	7.51	7.44	7.47	7.48	7.52
Continental Reinsurance Limited	8.11	8.13	8.16	8.19	8.26
Corporate Insurance Company	6.69	6.77	6.78	6.79	6.8
Directline Assurance Company Limited	6.25	6.14	6.15	6.26	6.34
East Africa Reinsurance Company	7.6	7.51	7.53	7.59	7.6
Fidelity Shield Insurance Company	6.5	6.63	6.64	6.65	6.67
First Assurance Company	6.6	6.94	6.93	6.94	6.95
GA Life Assurance Limited	6.08	6.12	6.15	6.16	6.24
GA Insurance Limited	6.57	6.58	6.6	6.6	6.61
Gateway Insurance Company Ltd	6.38	6.31	6.32	6.35	6.37
Geminia Insurance Company	6.65	6.57	6.6	7.6	6.6

ICEA LION General Insurance Company	5.77	5.78	5.74	5.8	5.87
ICEA LION Life Assurance Company	6.71	7.09	7.05	7.08	7.09
Intra Africa Insurance Company Ltd	7.19	7.25	7.26	7.26	7.26
Invesco Assurance Company Limited	6.05	6.08	6.11	5.13	6.16
Kenindia Assurance Company Limited	6.41	6.48	6.48	6.47	6.45
Kenya Orient Insurance Limited	6.39	6.47	6.45	6.45	6.42
Kenya Reinsurance Corporation Limited	6.37	6.45	6.43	6.42	6.38
Madison Insurance Company Limited	6.35	6.44	6.41	6.40	6.34
Mayfair Insurance Company Limited	6.33	6.42	6.39	6.37	6.31
Mercantile Insurance Company Limited	6.30	6.41	6.37	6.35	6.27
Metropolitan Life Insurance Company	6.28	6.39	6.34	6.33	6.24
Occidental Corpany Limited	6.26	6.37	6.32	6.30	6.20
Old Mutual Life Assurance Company Limited	6.24	6.36	6.30	6.28	6.16
Pacis Insurance Company Limited	6.21	6.34	6.28	6.25	6.13
Pan Africa Life Assurance Limited	6.19	6.33	6.25	6.23	6.09
Phoenix of East Africa Insurance Company Limited	6.17	6.31	6.23	6.21	6.06
Pioneer Assurance Company Limited	6.15	6.30	6.21	6.18	6.02
Real Insurance Company Limited	6.13	6.28	6.19	6.16	5.98
Resolution Insurance Company Limited	6.10	6.27	6.17	6.14	5.95
Takaful Insurance of Africa Limited	6.08	6.25	6.14	6.11	5.91
Tausi Insurance Company Limited	6.06	6.23	6.12	6.09	5.88

The Heritage Insurance Company	6.04	6.22	6.10	6.06	5.84
The Jubilee Insurance Company Limited	6.02	6.20	6.08	6.04	5.80
The Kenya Alliance Insurance Company	5.99	6.19	6.05	6.02	5.77
The Monarch Insurance Company	5.97	6.17	6.03	5.99	5.73
UAP Life Assurance Company Limited	5.95	6.16	6.01	5.97	5.70
UAP Insurance Company	5.93	6.14	5.99	5.94	5.66