EFFECT OF FIRM SPECIFIC FACTORS ON FINANCIAL PERFORMANCE OF INSURANCE COMPANIES IN KENYA

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DECLARATION

I declare that this project is my original work and has not been submitted for presentation and examination for any award of degree in this university or any other.

Signature …… Date……

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This research project has been submitted for examination with my approval as the University of Nairobi supervisor

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DEDICATION

I would like to dedicate this study to my late father David Nduati Peter whose love for me knew no bounds and who taught me the value of hardwork.

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ABBREVIATIONS AND ACRONYMS

AIBK Association of Insurance Brokers of Kenya

AKI Association of Kenya Insurers

GMM Generalized Methods Moments

IRA Insurance Regulatory Authority

ROA Return on Assets

ROE Return on Equity

SPSS Statistical Package for Social Sciences

ABSTRACT

Insurance firms face risks of taking excessive risks that might attract huge insurance losses and increase management expenses in claims investigation, claims payments and monitoring costs. This might impact negatively on operational performance. Therefore, the objective of the research was to determine the effect of firm specific characteristics on financial performance of insurance companies in Kenya. The secondary data used was extracted from the audited IRA annual reports. The study period was five years (2013-2017). Out of the fifty five insurance companies in Kenya, the research managed to get data for thirty companies amounting to 55% response rate. The data was analyzed with the use of SPSS. Descriptive statistics such as means and standard deviations were used to analyze the data while inferential statistics such as correlation and regression analysis were used to test the causal relationship between the dependent and in dependent variables. Financial performance was measured using return on assets. Solvency margin was measured as a ratio of net income to total liabilities. Premium retention was measured as net premium to gross premium. Firm age was done as a log number of years. Financial leverage was measured through debt ratio. Firm size was measured as log total assets while liquidity management was measured through net premium to total liabilities. The study concludes that there is a strong relationship (R= 0.775) between firm specific characteristics and financial performance of insurance companies in Kenya. The independent variables accounted for 60.1% of the total variance in the financial performance of insurance companies. The study also concluded that different factors used affect financial performance of insurance companies differently. There was a strong positive and statistically significant correlation (r = .744, p = .000) between financial performance and solvency margin. The study also revealed the relationship between liquidity management and financial performance was positive but insignificant. There was a negative and insignificant association between (premium retention, firm size) and financial performance. However, the relationship between firm age (r =-225, p =0.006), financial leverage (r =.-200, p = .014) and financial performance was negative and significant. The study recommends that managers of insurance companies in Kenya should therefore consider increasing the solvency margin of their companies in terms of improving efficiency in use of companies' resource to enhance the net income.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Over the recent past there has been rapid changes and high competitive pressure in the insurance industry which has forced firms to adopt competitive strategies that improve on their financial performance. The performance of a firm not only contributes towards increasing the market value of that specific firms but it leads to the growth of the entire industry which ultimately spurs growth of an economy (Pastor & Veronesi, 2013). The money related framework involves monetary organizations, budgetary instruments and money related markets that give a viable installment, credit framework and hazard exchange and subsequently encourage channelizing of assets from savers to the financial specialists of the economy. Surely, a well-working budgetary markets and foundations like insurance agencies assume a huge job in directing monetary development in any case, inadequately performing money related markets and establishments are a piece of the fundamental causes why a few nations around the globe record a poor development in economy (Staikouras & Wood, 2004).

Theories that anchor this study are information asymmetry theory, agency theory and liquidity preference theory. According to Stiglitz (1985), emphasized on asymmetry in insurance markets. Ledyard (2008) noted that information asymmetry was based on general equilibrium models to explain negative externalities that priced out the bottom of markets. According to Jensen and Meckling (1976), agency relationship is a contract in which an individual or individuals (principal) hires another individual (agent) to execute certain tasks on their behalf, agent gets certain powers to make decisions. Liquidity preference theory is

a financial theory that maintains that investors prefer (and hence are willing to pay a premium) assets that are liquid and hence they are willing to pay a premium (Rothbard, 1962).

Insurance companies operate in an environment that is risky and uncertain. Performance of these insurance companies is largely affected by factors; some of these factors are beyond the control of the management (external factors) and others can easily be controlled (internal factors). External factors emanate from the external environment and are as a result of technological changes, competition and regulations among others. Internal factors are part of firm characteristics that impact on insurance performance. Failure by the management of the firm to cope and accommodate these factors could impact negatively on firm performance.

1.1.1 Firm Specific Factors

Firm specific factors are grouped into two: external factors and internal factors. External factors constitute those factors that are beyond the control of the firm and impact on investment decisions of the firm since the management of the firm has no control over them. Inflation will be considered as an external factor in this study because it cannot easily be controlled by the firm. Internal factors are factors that can easily be controlled by the firm. Internal factors that will be considered in this study include premium retention, solvency margin, leverage and age of the firm, financial leverage, firm size and liquidity. Premium maintenance is processed as the level of net composed premiums to net composed premiums which mirrors the level of endorsed hazard held by the backup plan, which is the distinction that is being surrendered in reinsurance (Gberevbie, 2010). Dissolvability edge is registered as the proportion of net resources for net composed premiums, and

speaks to a basic marker of the backup plan's money related soundness. A positive connection between dissolvability edge and budgetary execution is foreseen, since the backup plan's monetary security is a key benchmark to imminent clients (Haan and Kakes, 2010). Use is the measure of obligation used to back an organization's advantages. The firm with more obligation contrasted with value is considered to be exceedingly utilized. Use will be evaluated utilizing obligation to add up to value.

Nader (2011) tested the impact of firm characteristics (size, leverage, tangibility, risk, growth, liquidity and age) on performance of listed life insurance firms in Pakistan. Age is computed as one plus the difference between the year under investigation and the firm's year of birth. Shumway (2001) argues that the most common measure of firm age is the number of years since establishment. Firm size affects the firm's financial performance. Large firms are more advantaged in comparison to smaller firms for instance they enjoy discounts from purchasing items in bulk and thus are able to operate at an average cost (Chen, 2014). Liquidity is another factor that affects financial performance. It refers to firm's ability to realize its financial obligation without sustaining any losses. Firm management needs to minimize exposure to liquidity risks by ensuring a proper balance between debt and equity. Insurers face huge risks of inflation or deflation. For example, the value of an insured property can either increase or decrease its value because of inflation, forcing the insurers to pay more or limited claims (Loderer & Waelchli, 2010).

1.1.2 Financial Performance

Pandey (2004) defines financial performance as a process that involves examining the firm's policy and operations using economic parameters. Financial performance of a firm is determined using some measures for example return on assets (ROA), value addition

and return on investment among others. In accordance to Penman (2007) financial performance is performance of a firm over a specific period of time which is determined by profits or losses. By examining the financial performance of a firm, decision-makers can ascertain the firm's strategic outcomes in monetary terms objectively. Financial performance can be attributed to a subjective measure of the firm effectiveness through asset utilization to generate revenues. This also applies to the assessment of overall financial health of the firm over a given time period while making comparison with other players across the industry. In measuring financial performance, various tools need to be applied to obtain the right results. Use of single measure can limit the firm from getting more accurate and reliable results (Petersen & Kumar, 2010). This view is supported by Pandey (2007) who avows that use of different sets of measures enables the firm to realize a comprehensive evaluation. Peterson et al. (2010) indicate that return on equity (ROE) and ROA serve as two essential measures utilized by financial institutions to assess financial measure. ROE is key to investors since it assists them to ascertain if there is any income associated with investments. Similarly, investors utilize ROA to understand the use of the firm's assets by managers to generate income. This study used ROA to determine the management's efficiency to balance and control internal and external factors in order to provide a stable environment for firms to effectively utilize assets to generate income.

1.1.3 Firm-Specific Factors and Financial Performance

Studies have been conducted to show how firm specific factors affect financial performance: Weersainghe and Ravinda (2013) delved firm specific factors and financial performance and the findings depicted that size of firm, premium retention, capital adequacy and solvency ratio were key determinants of financial performance. But, size of

the financial and financial leverage recorded an insignificant relationship. Contrary to this, solvency margin was found to have a significant and positive association towards financial performance.

Dang (2011) tested the effectiveness of firm specific factors had on financial performance and it was found that financial leverage and bank size had a positive link to ROA, capital adequacy demonstrated the bank's internal strength which enabled it to sustain losses during financial crisis. Sangmi and Tabassum (2011) found that financial institutions that had stable capital were stable and thus recorded better performances. Ayanda et al. (2013) tested factors that affected bank performance in Nigeria and the findings showed that solvency margin recorded an insignificant relationship with profitability. This view coincides with the observation of Haron (2014) who found an inverse link between solvency margin and ROA. These results objects the findings by Dang (2011) who indicated that leverage and solvency ratio were significantly linked to bank profitability.

Sangmi and Nazir (2010) found that the size of the firm was significantly linked to ROA. Delmar (2013) revealed that large firms recorded better profits than smaller firms within the short-run. Franscesa and Claeys (2010) did an investigation involving financial leverage and bank's performance and the findings showed that financial leverage was positively related to ROA. Al-Jabri and Sohail (2012) did a study on the link between size and profitability of insurance firms and the results showed that premium retention and age of the bank lacked a significant link with ROA. Liquidity was significant linked to ROA. Said and Mohd (2011) tested the link between firm-specific factors and profitability of insurance firms in Asia and the results showed lack of relationship between solvency margin and ROA. Dietrich et al. (2012) studies the factors that affected performance of

insurance firms and the findings showed leverage, solvency margin and age of the company as the main factors.

1.1.4 Insurance Companies in Kenya

The insurance sector in Kenya consists of 52 insurance companies, 3 reinsurance companies, 204 insurance brokers, 10 reinsurance brokers and 7,720 insurance agents. Insurance Regulatory Authority (IRA) is a legal government agency established under the Insurance Act 2006, CAP 487, of the Laws of Kenya. Its key functions involve regulating, supervising and developing the insurance industry (IRA, 2016). The industry has two associations: Association of Kenya Insurers (AKI) and Association of Insurance Brokers of Kenya (AIBK) that ensure insurance firms and brokers adhere to responsible business practices by creating awareness to the public (IRA, 2016).

Kenya being the leading insurance market in East Africa has subsidiaries insurance firms within this region. Insurance companies seek to provide financial protection and risk management to people and business. There are two different types of insurance: general insurance and life insurance. General insurance offers protection against risks that result to loss or property damage. Life insurance provides for long-term savings through accumulating funds that can be utilized by policy holders at several stages of life. The number of insurance companies in the industry has increased from 39 in 2001 to 52 at the end of 2016. Previously, the products and services offered by insurance companies were standardized and competition was relatively low (AKI, 2016). Insurance firms have resorted to innovation to effectively address customer needs and remain competitive in the market. Today insurance firms are going to an extent of helping the Kenyan population to purchase insurance by assisting them to manage risks (AKI, 2016). This is expected to

lower the cost of purchasing insurance; this will attract more customers and boost sales by insurance firms.

1.2 Research Problem

Insurance firms face risks of taking excessive risks that might attract huge insurance losses and increase management expenses in claims investigation, claims payments and monitoring costs. This might impact negatively on operational performance. Similarly, selective underwriting and effective claim management function might significantly minimize expenses and losses that might in turn boost performance. Thus, there is a need for insurance firms to maintain an optimal level of underwriting and claims management standards to prevent exposure to underwriting losses for improved performance (IRA annual bulletin, 2017).

The insurance sector in Kenya is affected by various factors both from external and internal environment. These factors affect performance of insurance firms. Internal factors entail premium retention, solvency margin, firm size and age of the company. External factors are but not limited to technology, competition, inflation and regulation. Zablon and Ariemba (2015) asserts the worth of appreciating firm specific factors that impact on financial performance of the firm particularly the management of the firm, stakeholders and the regulators.

Lin (2015) examined the link between bank-specific variables and bank performance of commercial banks and the findings showed that factors such as financial leverage, bank size and solvency ratio led to bank performance. Muneeni (2015) revealed that bank size, leverage and liquidity enhanced performance of listed firms. Osoro (2014) explored the factors that affected bank sector performance and the findings showed that bank size,

liquidity, solvency margin affected bank performance. Bongoye, Banafa and Kingi (2016) tested the link between firm specific factors and financial performance of listed firms and the findings showed that firm size and financial leverage were significantly related to financial performance.

Although studies have been carried out on firm specific factors and performance, a limited focus has been given to the effect of firm specific factors and financial performance particularly in insurance companies, it is because of this limitation that this study sought to find an answer to the question: What was the effect of firm specific factors on financial performance of insurance companies in Kenya?

1.3 Research Objective

To determine the effect of firm specific factors on financial performance of insurance companies in Kenya.

1.4 Value of the Study

Investors and finance practitioners might find this study useful. They can apply the findings obtained in this study to make investment decisions on whether to invest or not, how to effectively utilize assets optimally and maintain efficiency.

Empirical findings might be useful to policy makers such as IRA in setting policies that conforms to internal best practices. This can help to maintain a balance between external and internal factors and thus provide insurance firms with a stable environment to operate and engage in healthy competition.

Students will understand some of the internal and external factors which affect insurance companies. Moreover, they will learn and understand the theories that guide this study,

their application and relevance. The research findings obtained from this study might be utilized as a basis for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter is broadly classified into three main parts. Theoretical framework comprising of the theories supporting this study, this is covered in the first section of this chapter. The second part reviews extant literature in line with the specific determinants of financial performance and a conceptual framework. The third part outlines past empirical studies from developed and emerging countries and a summary of the reviewed literature.

2.2 Theoretical Review

There are various theories put forward by different scholars explaining the effect firm specific factors on financial performance. Under this study, the following theories have been selected to guide this study: information asymmetry theory, agency theory and liquidity preference theory. Below is the conceptual and empirical discussion of these theories, their application and significance to this study.

2.2.1 Information Asymmetry Theory

According to Akerlof (1970) asymmetric information was postulated in 1970s and 1980s being a credible explanation of a common phenomenon that ordinary general equilibrium economics could not explain. According to Ledyard (2008) information asymmetry entails a study of decisions that involves transactions in which a party has more or quality information than the other. Asymmetry brings about an imbalance of power in transactions; this may twist the transactions, or market failure in worst cases. Examples of these problems include adverse selection, moral hazard and monopolies of knowledge.

Information asymmetry extends to non-economic behavior. Stiglitz and Weiss (1981) explain that information asymmetry models hold the assumption that at least a party to a transaction has access to relevant information, while the other part do not. Some asymmetric information models can be applied in situations where at least a single party can impose, or retaliate for breach of certain sections of an agreement, while the other party cannot.

The relevance of this theory to this study is that it tries to explain an imbalance of information between the firm (insurance company) and the customer (Akerlof, 1970). These imbalances may affect underwriting risks. An example of an adverse selection is when individuals who are risky buy insurance since the insurance company is not able to discriminate against them; this might happen due to failure to have information about the individual's risk and thus expose the insurance company to high underwriting risks. Thus, this might impact negatively on performance of the insurance company. In some cases, this may take place by force of law or other limitations. An example is when individuals behave recklessly upon being insured, either because the insurance company cannot monitor their behaviors', or it is not able to retaliate, may be by declining to renew insurance.

2.2.2 Agency Theory

Agency theory was mentioned for the first time in the literature of information economics in a bid to give a theoretical model on the link between a single party (the principal), that delegates work to another party (the agent), agency theory got a growing attention in organisations and information system literature (Thompson, 1967; Eisenhardt, 1985). This theory attempts to give an explanation about organisational behaviours through laying much emphasis on the association between the manager (executive director) who is the

agent of the firm, and the stakeholders who in this case are the principals. Various scholars and researchers from different disciplines made various contributions, most notable fields include accounting (Baiman, 1990), law (Banfield, 1965), economics (Cooper, 1949 & 1951; Ross, 1973), finance (Jensen & Meckling, 1976), sociology (Shapiro, 1987), strategy (Barnard, 1983) among others.

The relevance of this theory to this study is that a company hires managers, who are supposed to act in the best interest of the shareholders (Jensen & Meckling, 1976). Sometimes this is not possible to achieve due to conflict of interests (agency problems). Thus, large and stable firms might allocate huge costs of agency such as monitoring and commitment costs to ensure that the managers act in the best interest of the shareholders and win their trust. Smaller firms cannot afford these costs as it might eat up on their operational costs and impact negatively on their performance. Smaller firms might threaten the managers of takeovers by larger firms in a bid to push them to work harder and achieve better performance.

2.2.3 Liquidity Preference Theory

Liquidity preference theory is basically demand for money, this is regarded as liquidity. This theory was developed from the works of John Maynard Keynes, written in his book titled “The General Theory of Employment, Interest and Money “in 1936. The underlying premise of this book was explaining how interest rate was determined through demand and supply for money. Demand for money as an asset was hypothesized to rely on the forgone interest by failure to hold bonds (Keynes, 1964). In this case, bonds also represent stocks among other assets that are less liquid including government bonds). Keynes (1964) argues that interest rates is not a reward that is got from saving as such, this is because if an

individual hoards his savings in cash terms (say like keeping the money in the house), he will not get any interest, even though he has not ceased from utilizing his current incomes (all). Instead of getting a reward for saving, interest, Keynesians opines that it is a reward that one gets because of parting with liquidity

A critic such as Rothbard (1962) maintains that Liquidity Preference Theory of interest has a fallacy of mutual determination. Keynes argues that interest rate is determined by liquidity preference. The relevance of this theory is that firms are ready to pay premiums to get liquid assets. On the other hand, firms will consider paying less than market value for illiquid assets. Solvent firms are more efficient in their operations since they can meet their financial obligations on time and this minimizes unnecessary costs from delays and inefficiencies, and this contributes positively towards the firm's financial performance.

2.3 Determinants of Financial Performance

There are numerous determinants of financial performance in insurance companies; this study will discuss the following determinants premium retention, solvency margin, premium retention, financial leverage and company age.

2.3.1 Solvency Margin

The financial state of the firm is affected by a number of factors not limited to; size and total assets. While the regulators (IRA) might not liquidate large insurers easily, it is expected that small insurers might be exposed to insolvency. Cash flow and asset liquidation are two important components of liquidity (Pastor & Veronesi, 2013). Bhunia (2012) indicated that current liquidity ratio was an essential indicator of solvency. The level of stability of liquidity ratio was considered a key measure of corporate solvency.

Intuitively, being profitable implied that insurers accumulated more revenues as compared to money that was disbursed as expenses.

Harris and Raviv (2013) showed that there was a positive linkage between operating margin and financial solidarity; operating margin was found to be negatively related to insolvency ratio. A few cases have been cited showing that financial performance of insurers is essential and as such it is also essential to highlight the level of solvency and factors that affect the solvency of the insurers. Some firms fail because of poor solvency margin that hinders them from meeting their financial obligation. Firms that aspire to be profitable; one of the ways of achieving this fundamental objective is ensuring that they maintain their levels of solvency margins for purposes of investing and meeting their financial obligation (Chakraborty, 2008).

2.3.2 Premium Retention

Risks which are transferred to insurance companies from individuals and enterprises could be transferred to reinsurers from insurance firms through reinsurance (Chhibber & Majumdar, 2011). Reinsurance enables insurance firms to mitigate the impact of unanticipated losses and ensuring earnings stability and enhance underwriting capacities (Charumathi, 2012). Premium growth and market are other determinants of insurance performance. However, premium growth is not always a positive indicator of the insurer's success; it can be achieved through underwriting of new policies unlike depending on insurance rate increases.

Cheng (2008) did a survey in Geneva, Switzerland consisting of 100 top managers of insurance companies and the findings showed that satisfied customers returned to renew their policies, share experience with other people and are ready and willing to pay a

premium to insure with a specific insurer. In his study, Cooley and Quadrini (2011) found that customer needs kept evolving and were dynamic in nature and this is called for a continuous improvement of the existing products and new ones in order to remain competitive and satisfy customer needs.

2.3.3 Age of the Company

Studies have looked at age and its effect on firm performance including Pastor and Veronesi (2013) and Cheng (2008) have measured age using similar approaches. Older firms are less efficient as compared to their industry peers; this has been shown through high costs, slow rates of growth, old assets and reduced research and development activities. As firms become older, the quality of corporate governance and chief executive officer compensation also declines; this is consistent to their inability to deal with collective action problems.

Cooley and Quadrini (2011) place that monetary imperatives repress firms from raising every one of the funds fundamental for the minimal result of cash-flow to rise to its chance expense. As capital builds additional time, its minor item decreases thus does the company's rate of development. Pastor and Veronesi (2013) argue that as the firm grows older the levels of uncertainty declines. This is in line with the arguments put forward by (Berger & Ofek, 2015). Risk decline implies a decline in the required rate of return. Thus, profitability might appear to deteriorate with the age of the firm when in fact the driving factor is decrease in uncertainty. Chhibber and Majumdar (2011) indicate that older industrial firms that are more experienced enjoy the benefits of learning and thus enjoy superior performance compared to new firms. Thus, small firms are less likely to succeed

in adjusting to new environmental dynamics. Kuntluru, Muppaniand Khan (2008) found a statistically significant positive linkage between age and ROA.

2.3.4 Financial Leverage

Studies (Charumathi, 2013; Meanza, 2014) found out that financial leverage was negatively and significantly linked to profitability of insurance firms. Researches (Alchian & Harold, 2011; Ansah-Adu, Andoh & Abor, 2012) found that financial leverage was positively and significantly linked to profitability. Contrary to this, Ansah-Adu, Andoh and Abor (2012) found that micro-life insurers were insignificantly linked to financial leverage. Meanza (2014) examined the determinants of insurance profitability of Pakistanian firms.

Bobakova (2013) studied the determinants of profitability of Indian life insurers and the findings showed that financial leverage, size of the firm were significantly linked to profitability. This view coincides with the suggestions of Chen (2014) who found that financial leverage was significant related to ROA. Well capitalized firms are more profitable while above-average growth of loans impacts positively on profitability. Ansah-Adu et al. (2012) did a study on the link between financial leverage and financial performance of firms in the fuel and energy sector of Pakistan and the results depicted a positive relationship amide financial leverage and financial performance. It further established that high levels of profitability improved the firms' level of financial leverage.

2.3.5 Firm Size

Size of a company determines the amount of debt that the company can access for investments or project financing. Large firms are advantaged due to economies of scale and use of average cost of production because of efficiency in their operations and capacity to invest in sophisticated technologies. It is easier for larger firms to access debt as

compared to their smaller firms because large firms maintain a positive corporate reputation that is got from their stakeholders (Cheng, 2008).

Due to instability of smaller firms, most financial institutions get discouraged to give credit to these smaller firms. Smaller firms record high growth rates that necessitate the need for debt while large firms are stable and established. According to Meanza (2014) larger companies are competitive than their smaller companies in exploiting economies of scale, this results to high levels of profitability. When size of a company increases, its performance is likely to increase (Alchian & Harold, 2011). However, Berger and Ofek (2015) indicate that for large companies, the impact of their size might be adverse due to bureaucracies, company structure among other factors.

2.3.6 Liquidity Management

Liquidity relates to the cash available for the near future when financial obligations relating to that period is considered. In the absence of external finance, the firm can rely on liquid assets in financing its operations. Higher liquidity helps the firm to deal with unexpected contingencies and meeting financial obligations even when the firm records low earnings. Firm liquidity impacts on financial performance of insurance firms (Harris & Raviv, 2013).

Extant literature has demonstrated that the need for firms to increase their current assets and decrease current liabilities since liquidity and financial performance are positively related. Pastor and Veronesi (2013) argue that while moderate liquidity level might be helpful in enhancing a firm's performance, a high liquidity level has more than harm than good to a firm, these leads to ambiguity on the effect of liquidity on the firm's financial performance.

2.4 Empirical Studies

2.4.1 International Studies

Akben-Selculk (2016) did a study spanning amid 2005 to 2014, the study sough to explore factors that influenced the competitiveness of a firm in Borsa Istanbul, panel data was utilized. A longitudinal design was employed and panel data and the findings disclosed that ROA was positively associated with the size, growth, gross sales, and liquidity. Similarly, ROA was adversely associated with R&D outflows and leverage. Additionally, there was higher Tobin's Q ration when debt and liquidity levels were high. The study's limitation is that it was conducted in a developed economy, broadness, and firm competitiveness being considered as the dependent variable.

Wersainghe and Ravinda (2013) tested the contribution made by bank-specific factors as well as financial structure in the profitability of a bank in Macao. Bank-level data was gathered from 1993 through 2007 and relied on panel data in establishing internal factors for boosting profitability. These factors comprised of market share, asset quality, bank size, and capital adequacy. Some of the external variables considered were inflation, gross domestic product and interest rate. The study uncovered that bank's capital strength affected its profitability. A study conducted by Dietrich and Wanzenreid (2011) in Switzerland, the researchers sought to establish the connection between bank-specific traits and industry characteristics on commercial banks profitability. Notable factors considered during the eight years period of study were the growth of the bank in relation to market growth and bank age together with the effective tax rate. Other factors involved comprise of growth of bank loans and market, effective tax rate as well as bank age. The researchers revealed that banks that were well capitalized had better performances. Additionally, it

was found out that the age of a bank had a major impact on profitability with location equally directly associated with the bank's profitability. The shortcomings for this study were: the study employed a longitudinal design and the study being conducted in a global set-up whose situations are different from the local setting.

Ifeacho and Ngalawa (2014) study in Naara, Ghana examined the factors that affected the financial performance of rural banks in the region. These researchers relied on financial statements for the period covering from the year 2000 through 2010. An imperative statistical tool comprising various multiple approaches was used for data analysis. The researchers found out that liquidity and the size of a firm were positively associated with a bank's performance. On the other hand, bank performance was found to be adversely affected by non-performing loans. A major limitation for this research is that it was broad and it covered a very long duration. Additionally, the study failed to take into consideration the moderating factors (variables). In a study conducted by Ghazouani and Moussa (2013) on Tunisian banks, the researchers examined explanatory factors that impact banks. These factors comprised of operational efficiency, ownership, credit quality, size of the firm, and capital ratio. The study was carried out from 1998 through 2011, and relied on a sample of ten conventional banks. The researchers relied on panel data as well as a generalized method of moments (GMM) in establishing the study findings.

It was revealed that a significant and positive effect on a bank's performance was correlated with bank size and bank capitalization. However, the researchers failed to take into account the firm-specific factor. Again, the study is different from the current study that adopts a regression equation since this study applied different analytical tools and methods for instance, GMM.

2.4.2 Local Studies

In a study conducted by Omondi (1996), the researcher examined how commercial banks financial performance is affected by bank-specific factors. The study applied an explanatory approach research design and panel data. Sources of data involved published statements by the CBK from 1991 through 1995. Through the use of a regression model, the researcher found out that a significant nexus amid bank-specific factors and financial performance. This study is different from the current study because it was conducted 21 years ago, and since then, major regulatory and technological changes have taken place making the findings not be up-to-date.

A study conducted by Oloo (2010), evaluated factors determining the financial performance of commercial banks in Kenya. In a study that took 10 years from 2001 to 2010, the researcher utilized panel data and a regression equation. The results discovered that liquidity and financial leverage was insignificantly linked to financial performance. But, firm size was significantly linked to ROA. This study was broad and failed to explicitly examine the role of firm-specific factors (which other studies attribute) that impact on commercial banks' financial performance.

In a study conducted by Litunya (2014) on commercial banks in Kenya for ten years, the researcher examined the connection between internal variables and profitability of firms. The researcher employed a descriptive research design and applied published data from KNBS and CBK. Regression analysis was applied by the researcher and the findings unearthed that liquidity, asset quality, and load portfolio had a significant impact on commercial banks financial performance. The study was limited to commercial banks while the current study is focusing on insurance companies.

Kamau (2014) evaluated the link between liquidity and profitability of 43 Kenyan commercial banks. The researcher revealed that liquidity and profitability were positively correlated. Control variables used in the study like branch network, bank growth as well as asset quality proved to be insignificant. The study was restricted to commercial banks only. This study ignored financial leverage and solvency margin that the current study considers to be important.

2.5 Conceptual Framework

The conceptual framework demonstrates the link between firm specific factors (independent variables) and financial performance (dependent variable). It is hypothesized that firm specific factors may affect financial performance of insurance companies in Kenya.

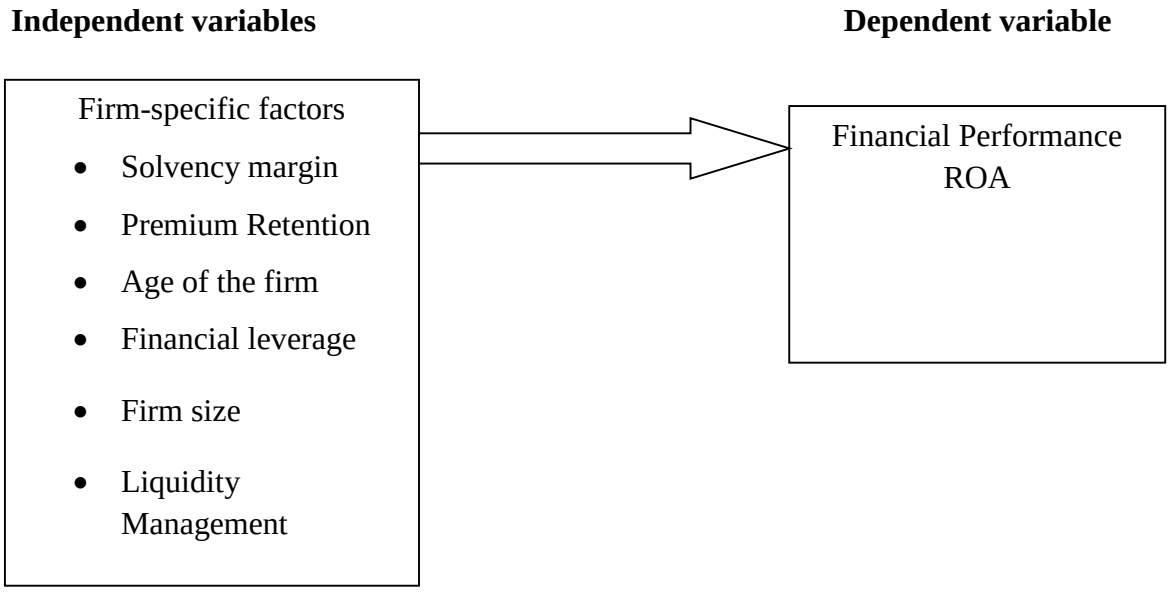

Figure 2.1: Conceptual framework

2.6 Summary of the Literature Review

It can be deduced that the empirical studies support theories that anchor this study. They include information asymmetry theory, agency theory and liquidity preference theory. The

literature has shown that a variety of factors affect financial performance of insurance firms, however, from the empirical findings, the most notable factors include solvency margin, premium retention, age and financial leverage. Empirical studies have demonstrated a mixer of reaction from findings obtained from various studies carried out locally and internationally (Selcuk, 2016; Dietrich & Wanzenried, 2011) have demonstrated a positive link between firm specific factors (age, bank size and leverage) and financial performance. Oloo (2010) found no relationship amidst firm specific factors (liquidity, bank size and management competence index) and financial performance while Kamau (2015) established an inverse link between firm specific factors and financial performance. However, limited studies have zeroed in on the link between firm specific factors and financial performance in the insurance industry particularly insurance companies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology that was applied to realize the research objective. Research methodology is an approach employed to collect and analyze data in order to address research question. Sections discussed in this chapter are research design, study population, data collection and data analysis.

3.2 Research Design

This study employed a descriptive type of research design. The choice of a descriptive research design is because it is useful in establishing hypothetical relationships among variables. The study sought to find no relationship between firm specific factors and financial performance of insurance companies in Kenya.

3.3 Study Population

Target population for this study was 55 insurance companies which have been operational over the last five years (IRA, 2017) (See Appendix I). Census was employed since this population is small and thus no sampling.

3.4 Data Collection

Secondary data sources were used in this investigation. This form of data was gathered from IRA annual reports. The choice of secondary data was because it is easy to access and to verify. Kothari (2005) explains that data collection is a systematic method that is applied to gather and examine data from different sources so as to get a clearer picture of an area under investigation. Data collection allows the researcher to assess the findings,

possibilities in future and trends. The study spanned for a period of 5 years (2013-2017). This period was considered a satisfactory in enabling the researcher to establish the link amid variables.

3.5 Data Analysis

The study used SPSS version 22 for data analysis. The reason for choosing this tool was because it gives a complex set of statistical and physical tools of analysis. Cooper and Schindler (2008), contend that data analysis applies logic to internalize collected information to determine uniformity and trend among other important details in a study. Inferential statistics such as regression and correlation analysis were applied for analysis. Mean and standard deviation were utilized in data presentation to find out the trends, patterns and the relationships between the variables.

3.5.1 Diagnostic Tests

3.5.1.1 Normality Test

Normality tests are meant to test normal distribution which is bell shaped (i.e. Mean of zero). Shapiro-Wilk (S-W) tests was utilized in this study to test the assumption that sample data is obtained from a normally-distributed population. A null hypothesis test was done to test if the data is derived from a population that is normally-distributed.

3.5.1.2 Autocorrelation

Autocorrelation is the measurement of the similarity between a certain time series and lagged value of the same time series over successive time intervals. The test was done using Durbin-Watson. This test depicts a test statistic with a value of 0 to 4 where 2 no autocorrelation exists, where the statistic is less than two a positive autocorrelation exists and where greater than two, negative autocorrelation exists (Cohen, et al., 2013).

3.5.1.3 Multicollinearity Test

To ensure the data collected is free from biasness and one variable data is not related to another variable data, the study conducted a multicollinearity test. It occurs when there is nearly exact or exact linear relation among two or more of the independent variables. The variance of Inflation was used to test multicollinearity. Whenever the values of VIF between 1 and 10, then there is no multicollinearity while when the VIF is less than 1 or greater than 10, then there is presence of multicollinearity. When the test fails you should standardize the continuous variables by choosing on a standardization method on the regression dialog box. For instance you may choose variable centering approach (Cohen, West & Aiken, 2013).

3.5.2 Analytical Model

The study used a multiple regression in carrying out analysis in finding out the outcome between the responsive variable and predictors variables. A responsive variable is financial performance of insurance companies while the predictor variables are the financial leverage, solvency margin, premium retention, age, firm size and liquidity management. The analytical model used in analyzing the interrelation of the predictor variables on the response variable is:

$$\mathbf{Y=\alpha+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\varepsilon}$$

Where;

Y = ROA which was measured using net income divided by total assets

X_1= Solvency margin was measured as Net Income divided total Liabilities

X_2= Premium retention was measured as net premium divided with gross premiums

X_3= Age was measured as a log of number of years since establishment of the insurer

X_4= Financial leverage was evaluated using total liabilities to total Assets

X_5= Firm size was assessed using natural logarithm of assets.

X_6 =Liquidity management was evaluated using net premium divided by total liabilities.

α = Regression constant

ε = Error term

$\beta 1 \beta 2 \ldots \beta n$ = coefficients of variation

3.5.3 Tests of Significance

F-test and T-test was carried out. In the F-test, when computed F-statistics is bigger compared to F-value, a rejection of null hypothesis was made. P-value was determined using F-statistic which was an indication that the findings might have been a consequence of chance. T-test was conducted to find out whether the coefficients in the regression equation are significant.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter outlines the data analysis and the research findings. Data was obtained from the audited financial statements collected from Insurance Regulatory Authority website for a period of five years starting from 2013 to 2017. Out of the total population of 55 licensed insurance companies, only 30 firms' data was completely available was gotten representing 55% response rate which was viewed reasonable for the subsequent statistical analysis. The secondary data was subsequently analyzed by aid of regression analysis. The rate of response is shown in the Figure 4.1 below.

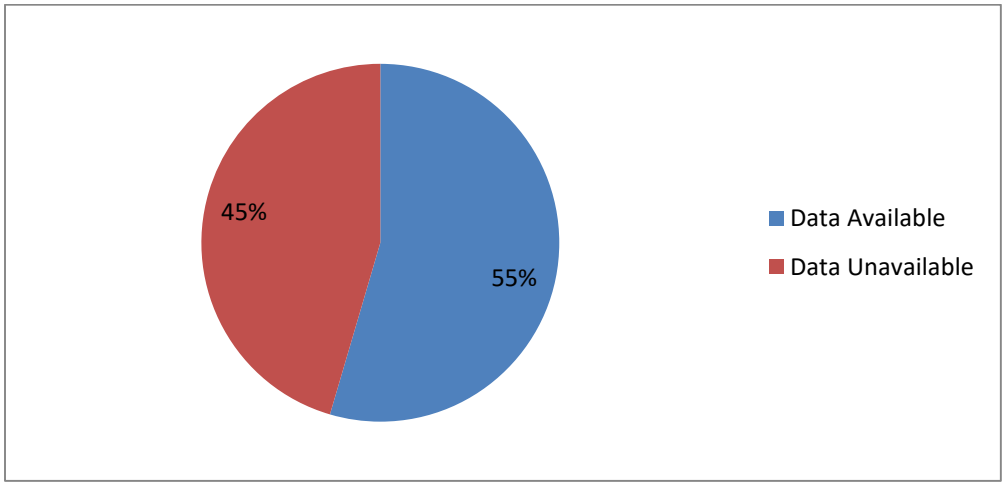

Figure 4.1 Response Rate

4.2 Diagnostic Tests

The study assessed normality through Kolmogorov-Smirnov and Shapiro-Wilk tests, multicollinearity through variance of inflation factors and autocorrelation through Durbin-Watson test.

4.2.1 Normality Test

To test normality of data, Shapiro Wilk and Kolmogorov Smirnov were used.

Table 4. 1: Test of Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial performance	.174	150	.320	.806	150	.841
Solvency Margin	.227	150	.432	.677	150	.758
Premium Retention	.410	150	.630	.193	150	.387
Age	.190	150	.334	.857	150	.784
Financial leverage	.157	150	.311	.901	150	.879
Firm size	.126	150	.235	.940	150	.980
Liquidity management	.312	150	.477	.267	150	.324

Source: Research Findings (2018).

Both Shapiro-Wilk tests and Kolmogorov-Smirnova indicated that p-values greater than 0.05. This was an indication that the secondary data used in this study was collected from a normally distributed population. The null hypothesis that the data was not normally distributed is therefore, rejected. Consequently, the data can be used in carrying out advanced parametric analysis such as Pearson's correlation and regression analysis

4.2.2 Multicollinearity Test

Tolerance of the variable and the VIF value were used where values more than 0.2 for Tolerance and values less than 10 for VIF means that there is no Multicollinearity. For multiple regressions to be applicable there should not be strong relationship among variables. From the findings, the all the variables had a tolerance values >0.2 and VIF values <10 as shown in table 4.2 below indicating that no Multicollinearity exists among the independent variables.

Table 4. 2: Test for Multicollinearity

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Solvency Margin	.753	1.328
	Premium Retention	.972	1.029
	Age	.930	1.075
	Financial Leverage	.590	1.696
	Firm Size	.676	1.478
	Liquidity Management	.951	1.051

Source: Research Findings, (2018)

4.2.3 Autocorrelation

Autocorrelation test was done to check if there was similarity between the data and their lagged value in time series. Autocorrelation tests were executed so as to check for correlation of error terms across time periods. Autocorrelation was tested using the Durbin Watson test.

Table 4. 3: Test for Autocorrelation

Model Summary[b]	
Model	Durbin-Watson
1	1.859[a]
a. Predictors: (Constant), Liquidity management, Age, Financial leverage, Premium retention, Solvency margin, Firm size	

Source: Research Findings, (2018)

From the finding on table 4.3 above a durbin-watson statistic of 1.859 indicated that the variable residuals were not serially correlated since the value was within the acceptable range of between 1.5 and 2.5.

4.3 Descriptive Statistics

The descriptive statistics covers the mean, minimum, maximum and the standard deviation. Table 4.4 below shows the descriptive statistics for the variables applied for the research. An analysis of all the variables was obtained using SPSS software for the period of five years (2013 to 2017) on an annual basis. Financial performance had 0.0248 as mean with a 0.0670 standard deviation. Solvency margin had a 0.0664 mean and 0. 1707 standard deviation. Premium retention resulted to 0. 8728 mean with a 0. 6585 standard deviation. Firm age had a mean of 1.5409 and a standard deviation of 0. 3437 while financial leverage and liquidity management recorded a 0. 6889 mean and 0.5512 mean with a 0.2013 and 1.1224 standard deviation respectively.

Table 4. 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial performance	150	-.1999	.4389	.024809	.0670253
Solvency margin	150	-.3006	1.2681	.066437	.1707479
Premium retention	150	.2900	8.6821	.872847	.6585622
Age	150	.0000	2.0128	1.540918	.3437971
Financial leverage	150	.1052	.9737	.688911	.2013035
Firm size	150	5.2314	7.8440	6.260458	.6642537
Liquidity management	150	.0011	13.5127	.551249	1.1224573

Source: Research Findings, (2018)

4.5 Correlation Analysis

The researcher carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. A p-value of 0.05 or less was used to indicate significant

correlations. The results of the study are as shown in Table 4.4.

Table 4. 5: Correlation Analysis

Correlations								
		Y	X1	X2	X3	X4	X5	X6
Financial Performance	Pearson Correlation	1						
	Sig. (2-tailed)		.000	.881	.006	.014	.413	.560
Solvency Margin	Pearson Correlation	.744**	1					
	Sig. (2-tailed)	.000		.975	.098	.000	.009	.257
Premium Retention	Pearson Correlation	-.012	-.003	1				
	Sig. (2-tailed)	.881	.975		.502	.403	.122	.355
Age	Pearson Correlation	-.225**	-.136	.055	1			
	Sig. (2-tailed)	.006	.098	.502		.673	.013	.885
Financial Leverage	Pearson Correlation	-.200*	-.474**	.069	.035	1		
	Sig. (2-tailed)	.014	.000	.403	.673		.000	.331
Firm Size	Pearson Correlation	-.067	-.213**	.127	.202*	.507**	1	
	Sig. (2-tailed)	.413	.009	.122	.013	.000		.026
Liquidity Management	Pearson Correlation	.048	.093	.076	-.012	-.080	-.182*	1
	Sig. (2-tailed)	.560	.257	.355	.885	.331	.026	

Source: Research Findings, (2018)

Correlation analysis was used to show the associations between variables. The results in the above table shows that there was a positive and statistically significant correlation (r = .744, p = .000) between financial performance and solvency margin. The study also revealed the relationship between liquidity management and financial performance was positive but insignificant since (r= 0.048, p= 0.56) p value was greater than p (0.05). The study results revealed a negative and insignificant association between premium retention

(r =-0.012, p =.881), firm size (r = -0.067, p = .413) and financial performance. Negative and significant correlation was noted between firm age (r =-225, p =0.006), financial leverage (r =.-200, p = .014) and financial performance. The relationship of financial leverage and financial performance was negative and insignificant. When computing a matrix of Pearson's bivariate correlations among the independent variables, the magnitude of the correlation coefficients should be a lesser amount than 0.8. The highest correlation coefficient among the independent variables is 0.744 hence we conclude that multicollinearity is absent.

4.6 Regression Analysis

Financial performance of insurance companies was regressed against six predictor variables; solvency margin, premium retention, age, financial leverage, firm size and liquidity management. The regression analysis was executed at 5% significance level. The study obtained the model summary statistics as illustrated in table 4.6 below.

4.6.1 Model Summary

Table 4. 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775[a]	.601	.584	.0432268

a. Predictors: (Constant), Liquidity management, Age, Financial leverage, Premium retention, Solvency margin, Firm size

Source: Research Findings, (2018)

Regression analysis results presented in table 4.6 above indicate R which is simple correlation coefficient was 0.775 which points to a strong relationship between the studies

variables. Coefficient of determination ($R2$) of 0.601 indicates that 60.1% of the variation in financial performance is expounded by the specific factors in the analytical model (solvency margin, premium retention, age, financial leverage, firm size and liquidity management). Other specific factors not included in the model justify for 39.9% percent of the variations in financial performance of insurance firms in Kenya.

4.6.2 Analysis of Variance

Table 4. 7: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.402	6	.067	35.871	.001[b]
	Residual	.267	143	.002		
	Total	.669	149			

b. Predictors: (Constant), Liquidity management, Age, Financial leverage, Premium retention, Solvency margin, Firm size

Source: Research Findings, (2018)

The significance value is 0.01 which is less than p=0.05. This implies that the model was statistically significant in predicting how solvency margin, premium retention, age, financial leverage, firm size and liquidity management affect financial performance of insurance companies in Kenya.

4.6.3 Coefficient of Determination

Table 4. 8: Coefficients of Determination

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.025	.037		-.686	.494
	Solvency Margin	.321	.024	.818	13.425	.000
	Premium Retention	-.002	.005	-.021	-.383	.702
	Age	-.025	.011	-.129	-2.363	.019
	Financial Leverage	.056	.023	.168	2.445	.016
	Firm Size	.005	.006	.049	.766	.445
	Liquidity Management	-.001	.003	-.006	-.105	.916

Source: Research Findings, (2018)

From the table above, it was evident that at 95% confidence level, premium retention (t= -0.383, p= 0.702), firm age (t= -2.363, p= 0.019) and liquidity management (t= -0.105, p= 0.916) produced a negative effect on the financial performance of insurance companies in Kenya. However, the effect of firm age was found to be statistically significant. Solvency Margin (t= 13.425, p= 0.000), Financial Leverage (t= 2.445, p= 0.016) and Firm Size (t= 0.766, p= 0.445) had a positive effect on the financial performance of insurance companies in Kenya. However, only the effect of firm size was found to be statistically insignificant.

The following regression equation was estimated:

$$\mathbf{Y = -0.025 + 0.321X_1 - 0.002X_2 - 0.025X_3 + 0.056X_4 + .005X_5 - 0.001X_6}$$

Where;

Y= Financial Performance

X_1 = Solvency Margin

X_2= Premium Retention

X_3= Age

X_4= Financial Leverage

X_5= Firm Size

X_5= Liquidity Management

4.7 Discussion of Research Findings

The research purposed to explore the effect of firm specific factors on financial performance of insurance companies in Kenya. Solvency margin was measured by ratio of net income to total liabilities, premium retention was measured by the ratio of net premiums to gross premium, age was measured by log number of years since the company establishment, financial leverage was determined as a ratio of total liabilities to total assets, firm size measured as a log of total assets and liquidity management measured through net premium to total liabilities were the independent variables while financial performance of insurance companies measured by return on assets on an annual basis was the dependent variable. The effect of each of the independent variable on the dependent variable was analyzed in terms of strength and direction.

The Pearson correlation coefficients between the variables revealed that there was a strong positive and statistically significant correlation (r = .744, p = .000) between financial performance and solvency margin. The study also revealed the relationship between liquidity management and financial performance was positive but insignificant. There was a negative and insignificant association between (premium retention, firm size) and financial performance. However, the relationship between firm age (r =-225, p =0.006), financial leverage (r =.-200, p = .014) and financial performance was negative and significant.

The model summary revealed that the independent variables: solvency margin, premium retention, age, financial leverage, firm size and liquidity management explains 60.1% of variation in the dependent variable as depicted by an R^2 value implying that other factors were not included in the model that account for 39.9% of changes financial performance of insurance companies in Kenya. The model was fit at 95% confidence level as the F-value was 35.87. Therefore, the overall multiple regression model was statistically significant and suitable in predicting how the independent variables selected affects financial performance of insurance companies in Kenya.

This finding was in line with Muneeni (2015) that revealed that bank size, leverage and liquidity enhanced performance of listed banks. Bongoye, Banafa and Kingi (2016) tested the link between firm specific factors and financial performance of listed firms and the findings showed that firm size and financial leverage were significantly related to financial performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter shows the summary of the results of the prior chapters, the conclusions drawn from the study findings and the encountered shortcomings during the course of the study. The chapter makes also policy recommendations, which can be executed to attain high financial performance and firm's worth. Finally, the chapter shows suggestions for future research studies, which can be helpful to future scholars.

5.2 Summary of Findings

The study sought to investigate the effect firm specific factors on financial performance of insurance companies in Kenya. The independent variables for the study were solvency margin, premium retention, age, financial leverage, firm size and liquidity management. The study adopted a descriptive research design. The secondary data used was extracted from the audited IRA annual reports. The study period was five years (2013-2017). Data was analyzed using SPSS software version 21.

From the results of correlation analysis, there was a strong positive and statistically significant correlation ($r = .744$, $p = .000$) between financial performance and solvency margin. Negative and significant correlation was noted between firm age ($r =-225$, $p =0.006$), financial leverage ($r =.-200$, $p = .014$) and financial performance of insurance companies in Kenya.

The co-efficient of determination R-square value was 0.601 implying that the predictor variables selected for this study explains 60.1% of changes in the dependent variable. This means that there are other factors not included in this model that account for 39.9% of

changes in financial performance of insurance companies in Kenya. The model was fit at 95% confidence level and F-value of 35.87. Therefore, the overall multiple regression model was statistically significant and thus suitable in explaining how the financial performance of the insurance companies in Kenya is affected by the selected firm specific factors.

The regression results show that when all the independent variables (solvency margin, premium retention, age, financial leverage, firm size and liquidity management) selected for the study had zero value, financial performance of insurance companies in Kenya would be -0.025 in the estimated analytical model. A unit increase in solvency margin, financial leverage and firm size would lead to an improvement in financial performance by 0.321, 0.056 and 0.005 respectively. Increase in premium retention, age and liquidity management would reduce by financial performance by 0.002, 0.025 and 0.001 respectively.

5.3 Conclusions

The study concludes that there is a strong relationship (R= 0.775) between firm specific factors (solvency margin, premium retention, age, financial leverage, firm size and liquidity management) and financial performance of insurance companies in Kenya. The selected specific factors accounts for 60.1% of the total variance in the financial performance of insurance companies.

The study also concludes that different factors chosen affect financial performance of insurance companies differently. Solvency margin, financial leverage and firm size influences financial performance positively but only the effect of solvency margin was statistically significant. Premium retention, age and liquidity management influence

financial performance negatively. However, the effect of premium retention and firm size was statistically significant.

5.4 Policy Recommendations

The study found out that solvency margin influences financial performance positively and in a statistically significant manner. The managers of insurance companies in Kenya should therefore consider increasing the solvency margin of their companies in terms of improving efficiency in use of companies' resource to enhance the net income.

Since premium retention has a negative and statistically significant effect on financial performance of insurance companies. The study therefore recommends that the managers of insurance in Kenya to retain low premium level and avoid uncontrolled growth of their companies in order to improve financial performance.

5.5 Limitations of the Study

The researcher found it difficult to obtain the data. This was because some of the data sought was not readily available in the IRA annual reports. This explains why the researcher was only able to get data from thirty companies out of the targeted fifty five. Another limitation was the quality of the data. It is illusion to derive conclusions from the study since the legitimacy of the situation cannot be ascertained. The data that has been used is only assumed to be accurate. The measures used may keep on deviating from one year to another subject to prevailing condition. Secondary data that had already been retrieved was utilized for the study, unlike the primary data which is first-hand information.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and

misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Further Research

This study has implemented a descriptive design spanning for a duration of five years (2013-2017), this duration is may not sufficient in establish the cause and effect of these specific factors on financial performance. It would be worthwhile if a replica of this study could be conducted but this time round covering a longer duration of time say ten years using a longitudinal form of a research design to establish the impact of the firm specific factors on insurance company's financial performance.

The study was not exhaustive of the independent variables affecting financial performance of insurance companies in Kenya and this study recommends that further studies be conducted to incorporate other variables like management efficiency, growth opportunities, industry practices, political stability and other macro-economic variables. Establishing the effect of each variable on financial performance of insurance companies will enable policy makers know what tool to use when maximizing shareholder's wealth.

REFERENCES

Akben-Selcuk, E. (2016). Factors affecting firm competitiveness: Evidence from an Emerging Market, *International Journal of Financial Studies*, 1, 4, 19-27

Akerlof, G. A. (1970). The market for 'lemons: Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*. *The MIT Press*, 84 (3), 488–500

AKI (2016). *AKI annual report 2016.* Available at http://www.akinsure.com/

AKI (2017). *AKI annual report 2017.* Available at http://www.akinsure.com/

Alchian, A., & Harold, D. (2011). Production, information costs and economic organization. *American Economic Review*, 62 (5), 1-7

Ansah-Adu, K., Andoh, C., & Abor, J. (2012). Evaluating the cost efficiency of insurance companies in Ghana, *Journal of Risk Finance*, 13(1), 61-76

Arthurs, J. D., Hoskisson, R. E., Busenitz, L. W., Johnson, R. A. (2008). Managerial agents watching other agents: multiple agency conflicts regarding underpricing in IPO firms. *Academy of Management Journal*, 51(2), 277–94

Baiman, S. (1990). Agency research in managerial accounting: A second look. *Accounting, Organizations and Society*, 15(4), 341-371.

Banfield, E. C. (1985). Corruption as a feature of governmental organization. *Here the People Rule* (pp. 147-170): Springer.

Barnard, C. (1938). *1938. The functions of the executive*. Cambridge/Mass.

Berger, P., & Ofek, E. (2015). Diversification's effect on firm value, *Journal of Financial Economics* 37:39-65.

Bhunia, A. (2012). A trend analysis of liquidity management efficiency in selected private sector Indian steel industry, *Journal of Research in Commerce and Management*, 1(1),1-5

Chakraborty, T. (2008). Working capital and profitability: an empirical analysis of Indian banks, the Icfai, *Journal of Management Research*, 3(4), 1-2

Charumathi, A. (2012). Determinants of profitability of Indian life insurers, *Proceedings of the World Congress on Engineering*, 1, 2,100-201

Chen, L. (2014). Effects of firm specific factors and macroeconomics on profitability of property-liability insurance industry in Taiwan. *Asian Economic and Financial Review*, 1 (2), 34-56

Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial Economics* 8 (7),157-176

Chhibber, P. K., & Majumdar, S. K. (2011). Foreign ownership and profitability: property rights, control and the performance of firms in Indian Industry, *Journal of Law and Economics*, 46(3), 209–238

Cooley, T. F., & Quadrini, V. (2011). Financial markets and firm dynamics. *American Economic Review* 91:1286-1310.

Cooper, R., & Schindler, S., (2008). *Business research methods*. Irwin: McGraw- Hill.

Cooper, W. W. (1949). Social accounting: An invitation to the accounting profession. *The Accounting Review*, 24(3), 233-239.

Cooper, W. W. (1951). A proposal for extending the theory of the firm. *The Quarterly Journal of Economics*, 87-109.

Dang, U. (2011). The CAMEL *rating system in banking supervision*: A case study of Arcada University of Applied Sciences, International Business.

Dietrich, A., & Wanzenried, G. (2011). Determinants of bank profitability before and during the Crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21,307327.

Eisenhardt, K. (1985). Control: Organisational and economics approaches. *Management Science*, 31(2), 134-149

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of management review*, 14(1), 57-74.

Fama, E. F. (1980). Agency problems and the theory of the firm. *The Journal of Political Economy*, 288-307.

Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The Journal of Law & Economics*, 26(2), 327-349.

Freeman, R. E. & Moutchnik, A. (2013). Stakeholder management and CSR: questions and answers. U*mweltWirtschaftsForum*. 21 (1), 5–9

Friedman, A. L., & Miles, S. (2002). Developing stakeholder theory. *Journal of Management Studies*. 39 (1): 1–21.

Ghazouani, B., & Moussa, M.S. (2013). *Explanatory factors of bank performance in Tunisia: a panel model approach*, Global J. Manage. Bus. Res. Finance. 13(5), 1-12.

Haron, S. (2014). Determinants of Islamic Bank Profitability, *Global Journal of Finance and Economics, 1, 23,122-127*

Ifeacho, H. & Ngalawa, H. (2014). Performance of the South African Banking Sector since 1994. *Journal of Applies Business Research*, 30, 4,112-119

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360

Keynes, J.M. (1936).*The general theory of employment, Interest and Money*. London: Macmillan.

Keynes, J.M. (1983). *The collected writings of john Maynard Keynes*, London: MacMillan and Cambridge: Cambridge University Press

Keynes, J.M., (1964). *The General Theory of Employment, Interest and Money*, New York: Harcourt, Brace, Jovanovich

Kothari, C. R. (2009). *Research methodology: methods & techniques* (2nd ed.). New Delhi: New Age International Publishers

Kuntluru, S., Muppani, V. R., & Khan, M. A., (2008). Financial performance of foreign and domestic owned companies in India. *Journal of Asia-Pacific Business*, 9 (1), 28–54.

Ledyard, J.O. (2008). *Market failure. The new Palgrave dictionary of economics*, 2nd Ed. Abstract.

Meaza, M. (2014). *Determinants of insurance companies' profitability in Ethiopia*, Addis Ababa University, Ethiopia.

Miles, S. (2011). *Stakeholder Definitions: Profusion and Confusion. EIASM 1st interdisciplinary conference on stakeholder, resources and value creation*. IESE Business School, University of Navarra, Barcelona.

Mukonyi, P., Basweti, K., & Kamau, S. (2016). The relationship between ownership structure and leverage of firms listed in the Nairobi Securities Exchange. *IOSR Journal of Economics and Finance (IOSR-JEF), 7(3), 2321-5925.*

Nader, A. (2011). The effect of banking expansion on profit efficiency of Saudi Banks. *2nd International Conference on Business and Economic Research (*2nd ICBER 2011), Proceeding 269.

Omondi, O. (1996). Firm specific determinants of capital structure for companies listed at the NSE, *Unpublished MBA project*, University of Nairobi

Pandey, M. (2004). Capital structure, profitability and market structure: evidence from Malaysia, *Asia Pacific Journal of Economics and Business*, 8, 2

Pastor, L., & Veronesi, P. (2013). Stock valuation and learning about profitability, *Journal of Finance* 5, 8, 1749-1789.

Penman, S. H. (2007). *Financial statement analysis, 3rd international edition*, McGraw Hill, Singapore.

Petersen, A., & Kumar, V. (2010). Can product returns make you money, *MIT Sloan Management Review*, Spring, 51, 3, 8-11

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review*, 63(2), 134-139.

Rothbard, N.R. (1962). *Man, economy, and state with power and market* (PDF). Ludwig von Mises Institute, 785.

Shapiro, S. P. (1987). The social control of impersonal trust. *American Journal of Sociology*, 623-658.

Stiglitz, J. E. (1985). Information and economic analysis: a perspective. *The Economic Journal*, 95, 21-41.

Stiglitz, J.E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review*, 71(3), 393–410

Thompson, J. D. (1967). *Organizations in action: Social science bases of administration*. NY: McGraw-Hill.

Weersainghe, V., & Ravinda, T. (2013). Determinants of profitability of commercial banks in Sri Lanka, *International Journal of Arts and commerce*, 2,10, 119-132

APPENDICES

APPENDIX I: REGISTERED INSURANCE COMPANIES IN KENYA

1.	AAR Insurance Company Limited
2.	Africa Merchant Assurance Company Limited
3.	AIG Kenya Insurance Company Limited
4.	Allianz Insurance Company of Kenya Limited
5.	APA Insurance Limited
6.	APA Life Assurance Company Limited
7.	Barclays Life Assurance Kenya Limited
8.	Britam General Insurance Company (K) Limited
9.	Britam Life Assurance Company (K) Limited
10.	Cannon Assurance Company Limited
11.	Capex Life Assurance Company Limited
12.	CIC General Insurance Company Limited
13.	CIC Life Assurance Company Limited
14.	Continental Reinsurance Limited (Kenya)
15.	Corporate Insurance Company Limited
16.	Directline Assurance Company Limited
17.	East Africa Reinsurance Company Limited
18.	Fidelity Shield Insurance Company Limited
19.	First Assurance Company Limited
20.	GA Insurance Limited
21.	GA Life Assurance Limited
22.	Geminia Insurance Co. Limited
23.	ICEA Lion General Insurance Company Limited
24.	ICEA LION Life Assurance Company Limited
25.	Intra Africa Assurance Company Limited
26.	Invesco Assurance Company Limited
27.	Kenindia Assurance Company Limited
28.	Kenya Orient Insurance Limited
29.	Kenya Orient Life Assurance Limited
30.	Kenya Reinsurance Corporation Limited
31.	Liberty Life Assurance Kenya Limited
32.	Madison Insurance Company Kenya Limited
33.	Mayfair Insurance Company Limited
34.	Metropolitan Cannon Life Assurance Limited
35.	Occidental Insurance Company Limited
36.	Old Mutual Assurance Company Limited

37.	Pacis Insurance Company Limited
38.	Phoenix of East Africa Assurance Co. Limited
39.	Pioneer General Insurance Company Limited
40.	Pioneer Assurance Company Limited
41.	Prudential Life Assurance Company Limited
42.	Resolution Insurance Company Limited
43.	Saham Assurance Company Kenya Limited
44.	Sanlam General Insurance Company Limited
45.	Sanlam Life Assurance Company Limited
46.	Takaful Insurance of Africa Limited
47.	Tausi Assurance Company Limited
48.	The Heritage Insurance Company Limited
49.	The Jubilee Insurance Company of Kenya Limited
50.	The Kenyan Alliance Insurance Company Limited
51.	The Monarch Insurance Company Limited
52.	Trident Insurance Company Limited
53.	UAP Insurance Company Limited
54.	UAP Life Assurance Company Limited
55.	Xplico Insurance Company Limited

APPENDIX II: DATA

ROA	Solvency margin	Premium Retention	Age	Financial Leverage	Firm Size	Liquidity Management
0.011	0.013	0.727	1.568	0.827	6.441	0.233
0.013	0.014	0.726	1.580	0.878	6.543	0.243
-0.003	-0.004	0.290	1.591	0.876	6.565	0.043
0.005	0.005	0.951	1.602	0.906	6.600	0.070
-0.010	-0.011	0.633	1.613	0.905	6.671	0.223
0.052	0.066	0.955	1.690	0.788	7.503	0.306
0.042	0.050	0.973	1.699	0.843	7.598	0.295
-0.005	-0.006	0.836	1.708	0.868	7.659	0.029
0.055	0.066	0.774	1.716	0.835	7.723	0.005
0.008	0.009	0.637	1.724	0.863	7.801	0.016
0.078	0.236	0.933	1.681	0.331	6.196	0.187
-0.001	-0.003	0.465	1.690	0.429	6.250	0.171
-0.016	-0.036	0.370	1.699	0.459	6.244	0.018
0.020	0.039	0.985	1.708	0.521	6.231	0.090
-0.003	-0.004	0.990	1.716	0.675	6.254	0.067
0.054	0.144	0.993	1.477	0.374	5.586	0.102
-0.004	-0.009	1.000	1.491	0.463	5.649	0.104
0.005	0.010	0.783	1.505	0.496	5.678	0.059
0.005	0.011	0.791	1.519	0.481	5.674	0.197
-0.019	-0.037	0.943	1.531	0.512	5.825	0.863
0.013	0.022	0.935	1.663	0.589	6.726	0.903
0.036	0.050	0.944	1.672	0.712	6.827	0.811
0.025	0.033	0.745	1.681	0.741	6.873	0.347
0.081	0.105	0.964	1.690	0.769	6.922	0.614
0.008	0.010	0.833	1.699	0.802	7.012	0.494
0.146	0.714	0.850	1.462	0.204	5.380	1.176
0.073	0.248	0.850	1.477	0.296	5.740	0.406
0.056	0.274	0.848	1.491	0.206	5.687	0.776
0.157	0.741	0.842	1.505	0.211	5.728	1.384
0.090	0.350	0.850	1.519	0.258	5.764	1.195
0.040	0.062	0.989	1.505	0.649	5.812	0.481
0.006	0.008	0.993	1.519	0.721	5.874	0.442
0.008	0.011	1.000	1.531	0.749	5.934	0.179
0.113	0.174	0.818	1.544	0.651	5.962	0.341
0.001	0.002	0.994	1.556	0.671	5.963	0.450
0.108	0.169	0.819	1.279	0.640	5.921	0.515
0.105	0.283	0.790	1.301	0.371	5.950	1.032
0.040	0.086	0.809	1.322	0.460	6.091	0.971

0.087	0.223	0.914	1.342	0.388	6.181	1.117
0.104	0.267	0.830	1.362	0.389	6.221	1.200
0.133	1.268	0.915	1.919	0.105	5.456	0.472
-0.042	-0.156	0.564	1.924	0.269	5.549	0.784
-0.025	-0.112	0.661	1.929	0.225	5.554	0.294
-0.034	-0.130	0.739	1.934	0.263	5.623	0.744
-0.030	-0.098	0.730	1.940	0.303	5.690	0.830
0.008	0.010	0.986	0.903	0.780	5.975	0.974
0.003	0.003	0.978	0.954	0.886	6.248	0.465
0.002	0.002	0.829	1.000	0.917	6.404	0.009
0.001	0.001	0.882	1.041	0.944	6.615	0.006
0.005	0.005	0.982	1.079	0.952	6.777	0.279
0.000	0.000	0.566	1.505	0.693	5.688	0.093
0.120	0.163	0.639	1.519	0.735	5.753	0.119
0.000	0.000	0.618	1.531	0.763	5.801	0.082
0.303	0.362	0.932	1.544	0.838	5.966	0.523
-0.002	-0.003	0.651	1.556	0.727	6.032	0.148
0.010	0.012	0.964	1.477	0.823	7.594	0.192
0.010	0.011	0.955	1.491	0.852	7.657	0.161
0.006	0.007	0.692	1.505	0.862	7.703	0.014
0.010	0.012	0.786	1.519	0.833	7.757	0.016
0.006	0.007	0.982	1.531	0.862	7.844	0.212
0.001	0.047	0.948	1.881	0.782	5.786	13.513
0.001	0.050	0.972	1.886	0.779	5.872	0.185
0.001	0.045	0.655	1.892	0.753	5.916	0.893
0.001	0.048	0.984	1.898	0.763	5.957	0.174
0.001	0.049	0.960	1.903	0.760	6.021	0.154
0.133	0.137	0.979	1.556	0.969	7.215	0.130
0.006	0.006	0.991	1.568	0.974	7.278	0.136
0.003	0.003	0.537	1.580	0.927	7.374	0.001
0.002	0.002	0.783	1.591	0.937	7.420	0.022
0.002	0.002	0.991	1.602	0.942	7.483	0.161
0.005	0.263	0.913	1.301	0.385	5.441	0.936
0.005	0.258	0.914	1.322	0.379	5.508	0.857
0.005	0.253	0.909	1.342	0.390	5.555	0.777
0.005	0.229	0.900	1.362	0.373	5.585	0.754
0.004	0.230	0.917	1.380	0.363	5.631	0.961
0.159	0.207	0.973	1.415	0.765	6.716	0.303
0.031	0.038	0.972	1.431	0.818	6.781	0.286
0.072	0.091	0.659	1.447	0.794	6.898	0.017
0.010	0.013	0.785	1.462	0.828	6.976	0.195

-0.006	-0.008	0.983	1.477	0.849	7.016	0.290
-0.113	-0.179	0.786	1.663	0.630	5.829	0.378
-0.130	-0.162	0.759	1.672	0.803	5.883	0.491
-0.111	-0.121	0.535	1.681	0.915	5.887	0.266
-0.076	-0.092	0.828	1.690	0.823	6.018	0.380
-0.067	-0.083	0.868	1.699	0.812	6.437	0.238
-0.011	-0.012	0.869	1.940	0.932	7.081	0.112
-0.006	-0.007	8.682	1.944	0.811	7.156	1.228
0.016	0.021	0.493	1.949	0.774	7.143	0.017
-0.109	-0.124	0.901	1.954	0.875	7.128	0.156
-0.002	-0.002	0.902	1.959	0.888	7.166	0.133
0.015	0.023	0.916	1.869	0.678	6.068	1.176
0.126	0.179	0.645	1.875	0.707	6.319	1.180
0.050	0.066	0.626	1.881	0.756	6.498	0.920
0.038	0.048	0.743	1.886	0.792	6.655	1.100
0.007	0.008	0.805	1.892	0.816	6.723	0.973
0.012	0.016	0.501	1.996	0.763	5.929	0.236
-0.005	-0.006	0.608	2.000	0.821	6.039	0.261
-0.014	-0.016	0.986	2.004	0.882	6.170	0.111
-0.002	-0.003	0.875	2.009	0.824	6.375	0.364
0.009	0.011	0.841	2.013	0.817	6.481	0.264
0.051	0.140	0.670	1.544	0.365	5.723	0.145
0.069	0.183	0.418	1.556	0.377	5.758	0.088
-0.021	-0.051	0.410	1.568	0.413	5.769	0.024
-0.026	-0.059	0.700	1.580	0.439	5.769	0.119
-0.019	-0.042	0.770	1.591	0.453	5.782	0.131
0.043	0.049	0.845	1.663	0.876	6.810	0.277
0.003	0.003	1.111	1.672	0.933	6.933	0.360
-0.022	-0.025	0.616	1.681	0.873	6.992	0.062
0.002	0.002	0.857	1.690	0.882	7.034	0.232
0.043	0.051	0.844	1.699	0.842	7.042	0.216
0.025	0.032	0.891	1.462	0.808	6.255	0.587
0.031	0.038	0.784	1.477	0.819	6.436	0.432
0.092	0.122	0.714	1.491	0.750	6.494	0.323
0.042	0.052	0.865	1.505	0.807	6.713	0.205
-0.095	-0.117	0.892	1.519	0.817	6.555	0.528
0.059	0.096	0.874	1.114	0.617	6.351	0.899
0.039	0.062	0.803	1.146	0.631	6.425	0.940
0.038	0.063	0.811	1.176	0.607	6.561	0.433
-0.009	-0.015	0.990	1.204	0.615	6.599	0.413
-0.004	-0.007	0.790	1.230	0.609	6.588	0.664

0.100	0.164	0.816	1.623	0.607	6.538	0.468
0.171	0.315	0.937	1.633	0.544	6.608	0.749
0.042	0.075	0.797	1.643	0.559	6.621	0.670
0.048	0.088	0.785	1.653	0.547	6.624	0.380
0.088	0.158	0.944	1.663	0.560	6.674	0.752
0.077	0.122	0.815	1.663	0.628	5.231	0.918
0.046	0.066	0.732	1.672	0.696	5.375	0.397
0.042	0.061	0.910	1.681	0.686	5.397	0.575
0.004	0.006	0.713	1.690	0.722	5.429	0.543
0.016	0.021	0.842	1.699	0.750	5.484	0.660
0.439	0.714	0.821	0.000	0.615	5.313	0.906
-0.200	-0.301	0.860	0.301	0.665	5.448	0.933
0.077	0.106	0.861	0.477	0.727	5.679	1.194
0.060	0.090	0.787	0.602	0.663	5.744	0.621
0.008	0.011	0.907	0.699	0.688	5.866	0.758
0.005	0.072	0.760	1.690	0.685	5.671	0.546
0.005	0.049	0.882	1.699	0.704	5.860	0.452
-0.001	-0.016	0.857	1.708	0.772	5.890	0.425
0.003	0.037	0.875	1.716	0.786	5.922	0.694
0.000	0.007	0.797	1.724	0.771	5.996	0.883
0.059	0.070	0.819	1.826	0.842	5.325	0.554
0.035	0.042	0.912	1.833	0.846	5.391	0.473
-0.002	-0.003	0.715	1.839	0.860	5.433	0.452
0.003	0.004	0.647	1.845	0.862	5.454	0.473
0.001	0.001	0.829	1.851	0.864	5.474	0.469
0.033	0.039	0.852	0.602	0.826	5.498	0.657
0.032	0.040	0.974	0.699	0.815	5.521	0.997
0.020	0.024	0.630	0.778	0.820	5.538	0.988
0.017	0.021	0.933	0.845	0.807	5.543	0.888
0.022	0.028	0.949	0.903	0.800	5.570	0.835