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**COMPARISON OF THE EFFECT OF CASH FLOW MANAGEMENT ON LISTED AND NON-
LISTED INSURANCE COMPANIES IN KENYA.**

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LIST OF ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
AKI	Association of Kenyan Insurers
CMA	Capital Markets Authority
CP	Company Performance
EOQ	Economic Order Quantity
FE	Fixed Effects
IAS	International Accounting Standards
IRA	Insurance Regulatory Authority
KBA	Kenya Bankers Association
KPMG	Klynveld Peat Marwick Goerdeler
KES	Kenya Shillings
NSE	Nairobi Stock Exchange
OLS	Ordinary Least Squares
RE	Random effects
ROA	Return of Assets
ROE	Return of Equity
VIF	Variance Inflation Factor



ABSTRACT

The purpose of this study is to ascertain how cash flow management strategies impact the financial performance of Kenyan insurance businesses, both listed and unlisted. The study compares the efficacy of cash flow management initiatives across two categories of firms in an effort to fill in the gaps in the body of literature. The study focuses on the relationship between operating, investing, and financing cash flows and financial performance as indicated Return on Equity (ROE). The study uses secondary data that was gathered from 33 regulated insurance companies in Kenya between 2010 and 2023 and applies a descriptive research design. The results underline the differing effects of cash flow management strategies on listed versus non-listed companies' financial performance, highlighting the influence of market forces and regulatory oversight on listed businesses. The study concluded that operating cash flows had a positive and statistically effect on the financial performance of Kenyan insurance firms. The cash flow management activities from investing activities had a positive but insignificant effect on the financial performance. Financing activities cash flows had a negative but statistically insignificant effect on financial performance. Additionally, the comparison of the financial performance of the listed and unlisted firms concluded that there was no statistically significant difference between the means of the ROE, however there was a statistically significant difference between the means of net profit margin with the unlisted insurance firms outperforming the listed firms. This study offers investors, regulatory legislators, and managers of insurance companies insightful information about the strategic value of cash flow management in improving financial performance and stability



CHAPTER ONE

INTRODUCTION AND BACKGROUND OF STUDY

Background of the Study

Cash is king but cash is not necessarily profit. One of the concepts that is already plainly needed to rework is that “the main purpose of the business is profit” (Vazov, 2019). A firm posting profits does not necessarily translate to financial durability (Knyazeva et al., 2016). According to (Efeloo & Emeka, 2021), even a profitable company may experience liquidity issues if it is not effectively managing its cash flows. Pelser and Belobo (2014) state that a recurrent threat to the sustenance of most firms derives from an issue of inadequate cash flow emanating from shifts in the business environment. It is proven that cash flows outperform earnings since costs are accounted for by cash flows (Odhwa, 2023). In order to encourage prudent cash flow management, we consider the present opportunities that might strengthen the financial standing of the company and improve its fiscal status while reducing the need for borrowed resources and lowering the risk of the company going bankrupt (Knyazeva et al., 2016). Additionally, cash flows overcome the effect of utilising alternative accounting treatments for identical processes making it an important metric for comparing different projects (Al-Nimer & Alslehat, 2017).

The structure and volume of the insurance company's resources must orient with the level and nature of the absorbed risk to guarantee positive net cash flows. Momanyi, Bichanga, and Nyangau's (2017) study supports the introduction's opening remark by pointing out that an issue lies with global preoccupation with profitability and an insufficient focus on cash flow management. The manager is greatly aided in financial charting by the statement of cash flows' portrayal of all potential sources and uses of funds by the firm (Motlagh, 2013). According to Al-Nimer and Alslehat (2017), the cash flow statement boosts shareholders' ability to make well-informed investment decisions about efficient fiscal structuring, the firm's potential for earning, and its expenses deeply into the components cash flow components.

Cash flows

According to Zhang (2020), management of cash flows shows a firm's financial health and thereby is an accurate gauge of the organization's monetary strategy. Cashflow management refers to the practice of actively keeping detailed records of the quantity of money that enters and exits the business, as well as the influence on the firm's cash management. Managing cash flows is a vital aspect of running a successful organisation because it allows management to predict how much cash will be available for its operations now and well into the future. According to Soet et al. (2018),

cash flow management oversight has an impact on flexibility, financial efficiency, and solvency. Concurrently, the sequence of cash inputs and outflows determines the firm's financial competence (Belobo & Pelser, 2014).

How information concerning changes of the corporation's cash and cash equivalents during a period is presented in a cash flow statement is overseen by International Accounting Standard (IAS) 7 Statement of Cash flows. The standard governs cash flow statements are constructed to display the amount of money generated and how it is applied (Etim et al., 2022). Cash flows during a given period are divided into three categories by the Standard, financing, operating and investment cash flows. The corporation's capacity to produce and acquire cash is just as important for its survival as its profitability for development and success. This reality emphasises how it is important to maintain cash flow information for the company (Makau, 2021). A company's investment, funding, and operating activities may be considered to determine its viability for a given time period (Gatsi, Gadzo, & Akoto, 2013).

Insurance Companies in Kenya

Insurance organisations offer methods for assessing "uncertain risk" and take on the corresponding financial burden. Through this initiative, insurance companies enable businesses and individuals to engage in activities which could expose them to unintended losses. Insurance firms' initiative encourage individuals and organisations to participate in potentially risky ventures, as stated by Makau (2021). According to Nyongesa (2017), some of the specialised services offered include underwriting the risks connected to economic organisations and raising substantial sums of funds through premiums that are subsequently put towards long-term investments. Insurance firms essentially have the same objective: to shield their clientele against risks that are anticipated.

Underwriting and investment income are Kenyan insurers' principal sources of profitability (IRA, 2023). The insurance sector in Kenya is vital to the nation's economic topography, offering persons and companies that contribute to GDP financial protection, risk management services, and investment opportunities (IRA, 2023). As a result, the overall economy would become destabilized if these companies dissolved. The Insurance Act of 2006 and its provisions are the responsibility of the IRA to make sure insurance companies adhere to them. Kenya hosts 58 insurers and reinsurers, with the lion's share of the market being controlled by CIC, Jubilee, Britam, ICEA Lion, and APA. General insurance accounts for 60% of the industry's gross written premiums, making it the dominant type of insurance (KPMG, 2024). The IRA stated Kenyan insurance firms confront many issues such as incidents of delays in guaranteed benefits, late premium remuneration liquidity shortages prompting business closures, inefficient managerial instances and high market saturation. As a result, over the years, a large number of firms have either closed or repossessed their models. The regulator closed two insurers in December 2023 due to insolvency concerns (The Standard,

2023). Kenya's insurance industry had the highest insurance penetration rate in the Eastern Africa region in 2023, at 3%. In addition, a net profit of KES 14.72 billion was announced, a significant rise over the KES 8.65 billion recorded the year before.

Research Problem Statement

Knyazeva et al. (2016), it is imperative to analyse cash flows in order to assess insurance companies' fiscal durability. The problem that this study addresses is that of the comparison of the implications cash flow management practices have on profitability of unlisted and listed insurance firms. The company is expected to gain a number of advantages from listing, including improved financial performance, increased market share, and stronger brand awareness (Karinga, 2016). Realistically, this is not the case. Empirical evidence reveals the contradictory nature of the insurance industry in respect of cash flow management practices showcasing distinct causal interactions between cash flow management practices and performances when a dataset of listed insurers is used and when a set of all licensed insurers is adopted. A corporation that is listed publicly has easier access to capital, which it can use to further its business objectives (Karinga, 2016). Listed insurers, however, might encounter their cash flow management strategies impacted by regulatory supervision and strict reporting requirements to the shareholders and the regulator. On the other hand, huge non-listed insurance companies might be less subject to investor and regulatory scrutiny and enjoy greater latitude in their financial management strategies.

Makau (2021) found a direct link existed between the profitability of the set of Kenyan insurance companies that are publicly listed and all cash flow management activities. The financial experience of licensed Kenyan insurance firms, with regard to the cash flow management practices was examined by Obure (2023), who found that while operating and financing cash flows had a major impact on insurance companies' profitability, investment cash flows had an insignificant effect. Each of the data sets used in the aforementioned studies produced inconsistent findings, requiring more research into the causes of the discrepancies between the results of the subset made up exclusively of listed businesses and the set of all licensed insurance companies. As noted by Karinga (2016), there were differing outcomes from the public listing of insurers, with certain companies exhibiting higher Return on Equity (ROE) and others with lower ROE. It appears that there were variations in ROE even among the listed companies included in the analysis. According to Soet et al. (2018), the operational activities of insurance companies alone have a noteworthy and favourable outcome on ROA and a negligible but favourable consequence on ROE.

This study looks to fill the gap by examining and contrasting the extent of listing on cash flow management activities and on the realisations of the publicly listed and unlisted Kenyan insurance firms.

The purpose for the Study

The study seeks to compare the ramifications of cashflow management on the financial performance of listed and non-listed Kenyan insurers.

Research Objectives of the Study

- To compare the financial performance of listed and unlisted insurance companies in Kenya
- To discern the effect of operating cashflow management practices on the financial results of listed and non-listed Kenyan insurers
- To discern the effect of investing cashflow management practices on the financial results of listed and non-listed Kenyan insurers
- To discern the effect of financing cashflow management practices on the financial results of listed and non-listed Kenyan insurers

Hypotheses of the Investigation

H₀₁: Publicly listed insurance companies perform better financially than non-listed insurance firms in Kenya

H₀₂: Operating cash flow activities have an insignificant bearing on the financial performance of insurance firms in Kenya

H₀₃: Investing activities play an insignificant role in the financial standing of insurance firms in Kenya

H₀₄: Financing activities are insignificant to the financial performance of insurance firms in Kenya

Importance of the Study

The study's objective is to supply insurance companies' managers with information on cash flow management techniques that would enable a discernible improvement in their financial performance. Additionally, it will educate insurance company management and staff on the significance of public listing in conjunction with efficient cash flow management strategies for improved financial performance. The investigation's conclusions will provide investors and policyholders with an improved understanding of the cashflow management strategies used by insurance companies. They will also highlight the significance of assessing an insurance company's financial condition before entering into an insurance contract in order to verify its viability. This researcher provides a foundation for further study on cash flow theories in different industries and sectors, as well as access to pertinent literature for subsequent research endeavours, for other researchers and academicians.

CHAPTER TWO

LITERATURE REVIEW

Theoretical Literature Review

The Free Cash Flow Theory

In 1986, Jensen advanced the Free Cash Flow Theory, defined as free cash flows as the surplus of cash flows from operations that the company needs to make investments. Cash flows over and about the required to preserve assets and fund projected future investing avenues is referred to as free cash flow (Richardson, 2006). The theory demonstrates how companies in the possession of strong free cash reserves are likely to engage in poor investment alternatives, leading to agency issues. The foundation for understanding the consequences of free cash flow in corporate finance was established by these groundbreaking studies. Jensen (1986) concentrated on the idea of surplus cash and proposed that the usage of free cash flows might increase or decrease a company's value. This idea addresses conflicting interests that arise between stakeholders and management of companies. The free cash flows conviction presents the business directors an incentive to withhold large cash amounts in order to boost the total assets being supervised. This gives them a decision-making advantage over the firm when it comes to investment strategies and employee compensation. Managers take part in capital projects, sales, and other transactions that might not always be advantageous to the company.

Investing free cash flows on a regular basis rather than increasing shareholder value could give rise to low profitability and pointless spending. This theory is not without flaws. Jensen (1986), for example, places emphasis on giving shareholders their excess cash and raising more money to finance investment projects. This causes an increased reliance on credit for funding, the company has to contend with high interest rates and is required to disclose to funders the details of the investment initiatives it is pursuing. Therefore, for carefully managed organisations, holding excess capital within the company can be essential to funding initiatives which carry a positive net present value. Furthermore, this viewpoint discourages long-term, profitable investments while encouraging short-term ones.

This theory, according to Soet (2020), shows how cash flows can be managed to in order to guarantee that shareholders get returns on their investments in the company. The theory serves this study because the research demonstrates how free cash flows could influence a company's financial performance.

Baumol Deterministic Theory of Cash Management

The Baumol Deterministic Theory of Cash Management was first put forward in 1952 by Baumol. This hypothesis was created to give businesses an organised method for effectively managing their cash balances. Its main goal was to reduce opportunity costs, or the overall expenses related to keeping and using money. The Economic Order Quantity (EOQ) model, which is utilised in inventory management, is analogous to Baumol's model. Applying the EOQ model to currency, it was recommended that businesses optimise their cash holdings in order to balance the opportunity costs associated with holding idle cash against the expenses associated with turning financial securities into cash. By striking this ideal equilibrium, companies can make sure they have enough cash on hand for transactions and save money on keeping and using those cash reserves.

The theory is not devoid of weaknesses, despite its utility in practice. A consistent and predictable cash flow was envisioned by Baumol's approach. In order to provide a more practical framework for capturing liquidity preferences and cash management in a range of economic settings, James Tobin expanded on Baumol's deterministic cash management model by integrating risk and uncertainty. The new stance proposed that businesses and individuals should manage their cash by balancing risk and return in a manner similar to that of the portfolio theory outlook comprising of other assets. Since Tobin (1956) acknowledged that cash inflows and outflows could fluctuate unexpectedly, he expanded the model to show how interest rates affected cash holdings and how cash management policies were set up. Besides, the theory also exercises a due diligence basis reflecting the necessity of cash reserves to buffer against unplanned expenditures or alterations in cash inflows.

Economic variables that represent the intricacies of the real world were incorporated into Baumol's model, which greatly enhanced our understanding revolving around cash management. Management of financing cash flows is relevant to this theory since it is imperative that sufficient cash quantities be kept when dealing securities, considering the consequences of transaction and holding charges.

Financial Life Cycle Theory

Mueller developed the financial life cycle theory in 1972. The theory presents a concept that tries to describe how businesses function throughout various phases of their life cycles. According to this theory, a firm's financial strategies are organised differently in all of the stages of the life cycle of the firm. Through these phases, financing choices, investment plans, and dividend policies are impacted and dispersed (Dickinson, 2011). Because of the low revenue levels and unrealised economies of scale in early stage of the cycle, young companies frequently depend on venture

capital and other kinds of equity financing for operation. Negative net operating cash flows are anticipated at this point.

As these businesses grow, they begin to generate money internally and have greater access to financing as they expand, reach their full potential, and stabilise. Within this stage, firms may prioritise growth-oriented investments and choose external financing sources, such as debt, in anticipation of expenditures that may result in negative net cash flows.

Businesses are more tangible at the mature stage, with slower, more steady growth rates and more robust cash flows. A significant market share and greater operating cash flows are also prerequisites for achieving optimal profit margins. Additionally, because of their strong credit rating, they have even more access to debt funding. It might be important to pursue this alternative since, as evidenced by their continued existence, the firms have made substantial and profitable investments at this point, leaving them with few alternatives for investment leading negative net cash flows from investments. According to Fama and French (2001), large, profitable corporations will likely distribute dividends compared to small firms. Mature enterprises are more likely to disseminate dividend payments than expanding companies because they have exhausted most of the investment options at their disposal, allowing them to keep the majority of their profits or distribute it out as dividends. Still, it's likely that the company managers' primary goal is growth, which means that they will aim to withhold or underpay dividends and possibly overextend on investments that do not generate the required rate of return by shareholders (Mueller, 1972). Evidently, as the organisations progresses through the stages of the life cycle, the agency problem becomes increasingly important. The firms eventually reach the decline phase, which is marked by declining sales and depressed profitability. During this phase, strategies frequently centre on restructuring, divesting, or even liquidation if necessary.

Despite the theory's validity, some drawbacks are discovered. The criteria use to define the stages of the life cycle are not exact or consistent, resulting in circumstances in which enterprises are qualified as being in different life cycle phases simultaneously. In addition, the theory assumes homogeneity. It presupposes that enterprises in the same life cycle phase have identical behaviours and financial plans, which may not be true due to differing market conditions and managerial actions. Mueller's financial life cycle theory provides a comprehensive framework for illustrating the dynamic nature of operating, financing, investment, and dividend decisions as firms progress through various stages of their life cycle, as well as how the stages influence their preferences.

Agency Cost Theory

In 1976, Jensen and Meckling first proposed the agency cost theory. A principle-agent relationship exists when one or more people (the principal) hire a third party referred to as the agent to execute duties on their behalf, including decision-making purviews (Meckling & Jensen, 1976). The asymmetry of information in the agency relationship is of a major concern, as agents know more about the firm's operations than the principals. This theory is therefore the inspection of the relationship between principals and agents and the challenges accompanying, particularly the paradox that, despite working towards the same goal, the principle and the agent may not necessarily share the same objectives (Delves and Patrick, 2010).

In corporate finance, corporate managers act as agents for the shareholders, a relationship complicated by competing priorities (Jensen, 1986). According to the theory, managers are motivated to keep a large amount of cash and use it to advance their own interests rather than strengthening the importance of the organisation, permitting them to make potentially loss-making investments in an aim to gain broad dominance over the organisation's protocols of investment. As a result, managers gain influence over the organisation by retaining earnings, reducing the owners' ability to oversee the company (Bates, Kahle, & Stulz, 2009). This challenge raises the question of how to best persuade these agent(s) to operate synonymous to the principal(s)' convenience.

Agency problems, like all other costs, will be observed by in the markets and portrayed in a corporation's worth. Costs arising from the agency relationship could be defined as the loss borne by capital owners caused by opposing interests between shareholders and business managers (Meckling & Jensen, 1976). The theory is useful to the ongoing inquiry because these agents are in charge of the company's operations, the cash flows generated and ultimately the enterprise's financial performance.

Elements of Cash flows

Cash flow management activities are the aggregation of net earnings obtained from investment, financing and operational activities (Obure, 2023). Cash outflows is the total amount of money going out of the business in a given financial period. Cash inflows refer to cash amounts going into the business. Cash inflows include sales, financing or investment. Cash outflows include claim settlements in the case of insurance, fixed and variable expenses such as salaries, commission remunerations and office space, and any existing interest payments on debt. These elements lead to the development of both favourable and unfavourable cash flows. A favourable cash flow emerges when the inflows remain greater than the cash out flows.

Operating Cash flows

The management of cash flows from operating activities provides an estimate of the amount money the company must have made through its regular business activities. Managing operational cash flow is important for conveying the revenue that a firm earns from its daily activities. According to Rhaman and Sharma (2020), a firm's failure to adhere to proper operating cash flow policies may result in a decline in financial performance and sustainability. As a result of inefficient cash flow forecasting for operational activities, cash outflows would undesirably increase while cash inflows would decrease.

Investing Cash flows

All transactions comprising cash movements for long-term initiatives and projects and alternative investments that do not qualify as cash equivalents are classified as investment transactions. Capital expenditures (Penman, 2013), acquisitions and dispositions of enterprises or business divisions (Brigham & Daves, 2019), and investment sales are instances of investing cash flow generating activities. These undertakings combine to determine the net investing cash flows. A firm's ability to capitalise on investment routes may greatly rest upon the level of fiscal constraints established and the resources available. A firm's success is determined by its long-term investment in productive enterprises. The contrary is thus valid; expending significant sums of cash holdings in a haphazard fashion could result in investment in loss-making business operations, resulting in a discouraging impact on financial results of the firm.

Financing Cash flows

Cash flow management from financing operations includes decisions about debt repayment and issuance (Brigham & Ehrhardt, 2020), equity issuance, dividend allocations, and in many cases, share buybacks (Berk & DeMarzo, 2019). Financing operations include borrowing money to repay debt and obtaining capital investment from stockholders in exchange for dividend payments, according to Joshua and Vera (2017). As noted by Bhattacharyya (2015), commercial transactions with funders modify the capital structure and framework. Cash movements from financing operations include investments in securities, the acquisition of intangible assets, loan repayment, cash payments for other assets, and other cash payments (Obure, 2023). The sum of these effects will equal the net cashflow from financing activities.

Financial Performance

Financial performance evaluates the monetary worth of the outcomes and efficacy of a company's management strategies and financial objectives, indicating how well managers' strategies and policies were implemented. Improving financial performance usually results in increased asset value and other accounting indicators (Etim et al., 2022). Managers commit resources and skills to devising strategies to identify the best potential solutions to improve performance. Resultantly, a company's success financially stands an important aspect in recruiting prospective clients like agents, policyholders, and investors. In the insurance industry, success is often measured by net premium generated, underwriting profitability, solvency margins, annual turnover, investment returns, asset returns, and return on equity (Murigu 2014).

ROA and ROE are commonly used financial performance measures in the insurance sector. ROA occurs as an important gauge of how adept an insurance firm is at using its assets to create profit, making it a significant metric of management efficiency. The higher the ROA is, the more efficient a corporation is at generating returns from its assets. It is a conventional and a relevant measure of performance since it normalises for variations in the size of the businesses within any particular industry (Ross, Westerfield & Jaffe, 2013). ROE assesses a company's viability through displaying the amount of profit its managers generate with the capital stakeholders have invested with a company (Ross, Westerfield, & Jaffe, 2013). Simply speaking, it is the net earnings ratio to shareholders' equity. Therefore, it is a benchmark for performance of managers (Brealey, Myers, & Allen, 2011). Investors rely on this metric to assess the attractiveness of an insurance firm as a potential investment.

Empirical Literature Review

Ikechukwu et al. (2015) investigated how cash flow elements affected the profits of a sample of Nigerian companies. The study was a survey of three Nigerian commercial banks. An ex-post facto research design was used. The annual reported data beginning in 2009 to 2013 was subjected to statistical analysis, more especially a multi linear regression analysis. The findings showed while investing cash flows had a primarily negative impact on profitability, cash flows from financing and operating operations had a considerable and favourable impression on the profitability of businesses in the Nigerian banking sector.

Using ROE as a financial performance metric, Karinga (2016) evaluated the sway of listing on the financial standing of publicly traded Kenyan Insurers. To test the impact of listing on insurance businesses' ROE, the investigation used an event study, with a ten-year event window that included five years before to and following listing. Since the event windows were not always concurrent, the industry-wide ROE was utilised as a moderating variable to grade the significance of market forces

during listing. The study concluded that an enhanced ROE shouldn't be the primary driver for public listing because different companies reported varying results, with some reporting improved ROE and others worse ROE.

Alslehat and Al-Nimer (2017) dissected the implication cash flow management activities, namely investing, financing and operating activities on the performance of Jordanian insurance firms using a quantitative descriptive analysis. The study employed ROA as the financial metric of interest and a population of 23 locally located insurance firms on the Amman stock market formed a basis for observation. An analysis of annual reports was conducted for each company, covering the period 2009-2013. The study indicated only net investing and operating cash flows had an impact on ROA. This study highlights a geographical gap as it was conducted in Jordan where investing cash flows vary immensely compared to Kenya. The current study focuses on Kenyan insurance companies. The research gap between this and proposed study lies primarily in their sectoral and geographical focus.

Ogbeide and Akanji (2017) explored connections surrounding Nigerian insurance companies' cash flow and finances. This study's particular goals were to discover the basis of the corporation's size on profitability, evaluate the connection within financing and profitability, and evaluate the interaction of cash flow from operations and profitability. In order to assure time series stability, the study used a combination of diagnostic tests and descriptive and inferential statistics to sample 27 listed companies in Nigeria starting from 2009 and 2014. The study finalised that when ROE was used as a performance proxy, operating cash flows greatly improved financial performance; financing cash flows improved financial performance but did not reach statistical significance, while the size of the company did not play any factor towards the profitability of the sampled firms.

Soet et al. (2018) directed focus to the effect operating cash flows had on mutual funds in Kenya with regard to profitability. The investigation was directed to the relationship between performance and operating cash flows using ROE and ROA as a metric for financial performance. Employing a causal research design, secondary panel data from the audited financial statements of the 22 mutual funds were chosen to be the sample. The financial reports ranged from 2011-2016. Additionally, descriptive and inferential statistics tested the significance of the association between the studied variables and worked to highlight the magnitude of causality. The investigation concluded that operating activities had a substantial and positive effect on ROA and an inconsequential and favourable bearing of on ROE.

The examination by Rahman and Sharma (2020) aimed at examining the effect of operating cash flows on companies in the manufacturing and insurance sectors listed on the Saudi securities exchange. ROA and ROE were considered as the financial metrics representing the dependent variables, size of the corporation and leverage as the regressors used. The periods of interest for

insurance companies were 2015-2018 and for manufacturing companies 2014-2018, sampling 5 companies from each sector totalling to 10. The results showed a significantly favourable association between operating cash flows and financial performance and a negative association with leverage and size of the firms.

Obure (2023) sought to determine how insurance firms in Kenya are affected by cash flow management. This research relied on descriptive research design and obtained secondary data on 49 insurance companies listed by the IRA for the period 2016 to 2020. A panel regression model was utilised to analyse cash flows (independent variable) and their consequence on performance. The study discovered investing cash flows had a negligible consequence on fiscal returns, operating flows had a favourable and statistically weighty effect on the financial performance on Kenyan insurance firms and identified that financing operations had a significantly favourable effect on Kenyan insurance firms.

Makau (2023) analysed how cash flow supervision affected the performance of publicly listed Kenyan insurance companies using a descriptive research design and secondary sources of data. The data was abstracted from audited financials of the listed companies for the period 2014-2019. As a proxy for financial performance (dependent variable), ROA, ROE and solvency margin were adopted. The results indicated a strong positive relationship between the study variables and the coefficient of determination (R^2); 43.3% between the cash flow components and ROA, 45.3% between the cash flow elements and ROE and 52.4% between the cash flow components and solvency margin. The analysis involved both descriptive and inferential statistics.

Summary of empirical literature review and literature gaps

There are differing opinions in the literature regarding how operating, finance, and investment activities affect financial performance. While some studies find a favourable association, others have found a negating relationship between fiscal returns as assessed by ROE and ROA and investment activities. The connection between financing operations and financial performance has also yielded conflicting results; although some studies have found a positive correlation, others suggest that financing cash flow management has a detrimental consequence on the reported financial performance by these firms. Furthermore, a number of gaps in the literature have been noted. Numerous studies that illustrate spatial disparities have been carried out in more industrialised nations and outside of Kenya. Additionally, a great deal of research has been done on several industries, including manufacturing, banking, small and medium-sized businesses, mutual funds creating contextual gaps.

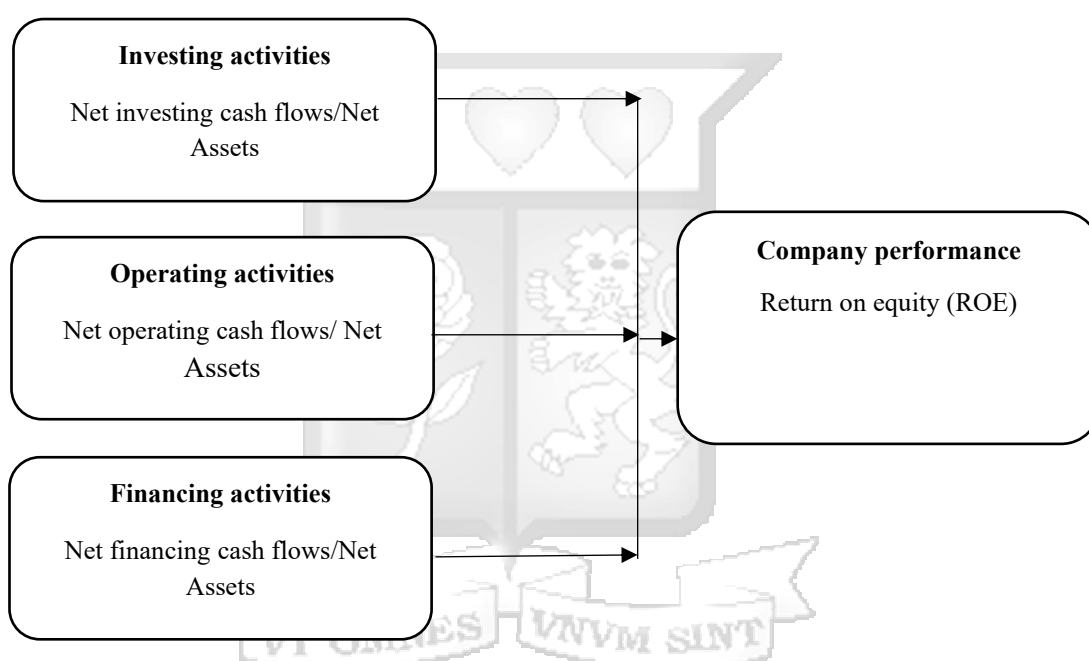
This research aims to tackle these gaps by focusing especially on the bearing of listing on the cash flow management practices and how it translates to profitability in insurance industry in Kenya.

Conceptual framework

A conceptual framework is a visualisation that depicts the research factors that are being studied. This framework may assist academics identify with the problems being examined since it showcases how the dependent and independent variables interplay. The study's desire is to assess the weight of cash flow management methods on the profitability of listed and non-listed Kenyan insurers, as well as whether listing contributes to financial performance.

Dependent variables

independent variables



Conceptual framework: Researcher 2024

CHAPTER THREE

METHODOLOGY

Research Design

The investigation used a descriptive design for the research. This design was preferable because it is sound in singling out trends within the investigation's target population (Cresswell & Cresswell, 2018). This research design is useful in projects aiming to test hypothesis, conducting correlation analysis and application of regression models as it provides a practical framework for analysis (Karinga, 2016). According to Creswell (2014), a descriptive design incorporates an allowance for the accurate depiction of each variable's profile, the results of which are also comprehensive and contextual. The design is appropriate to depict the relation existent between financial performance and management of cash flows (Soet et al., 2018).

As such, this design should be suitable for this study's purposes, to appraise the interaction between listing and profitability and additionally the bearing of cash flow management activities on performance financially.

Population and sampling of data

For this study, a focus was directed to Insurance companies in Kenya. Presently there are both licensed insurance firms and banks that offer insurance services in Kenya. However, these banks operate as agents of insurance selling to boost the insurance market standing and share, both sectors enjoying the benefit of an increased client base and increased revenues (Obure, 2023). As of 2023, twenty-one banks and microfinanciers were licensed to sell bancassurance products (KBA, 2023). To their exclusion, this leaves 54 licensed insurance firms.

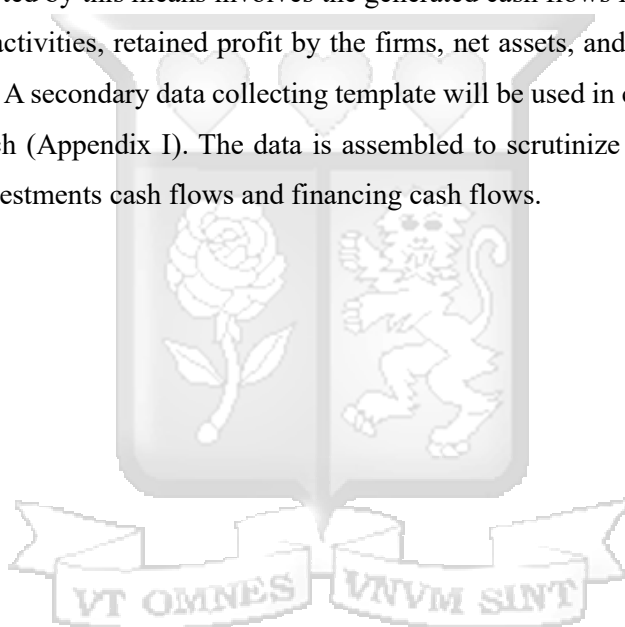
A census sampling design will be used for the current investigation with it being appropriate for relatively small research populations. The research accordingly encompassed all the 54 insurance firms in Kenya operational for the period 2010 to 2023. In this period, the region experienced robust economic growth periods driven by improvement in financial services, technological advancements and rampant urbanization which saw to a gradual growth in insurance penetration partly attributed to the rapid growth of digital and mobile insurance. With this increased activity, there was a consequent growth in the funds under management by insurance firms. Augmented product innovation such as microinsurance products were introduced in 2012 and in 2016 under the Insurance (Amendment) Act, regulation of the microinsurance sector was introduced. Additionally, the pandemic of 2020 caused a profound shock on Kenya's economy leading to increased claims across some of the products sold as well as a contraction in GDP of the country (IRA, 2021). The major reforms and increased

awareness of insurance as well as urbanisation and financial crimes regulation that occurred within this period influenced the choice.

Data collection procedure

The study mainly depends on secondary data published by the insurance companies and data held by regulators and major industry players like IRA, NSE and CMA. The data collection process mainly revolves around visits to pertinent websites, downloading and compiling audited annual reports and financial statements. As the objective of the study required thirteen years of data, the panel data is to be collected from 2010 to 2023 and comprising of the balance sheet statements, company income statements and cash flow statements together with attached notes following the financial statements.

The data collected by this means involves the generated cash flows from financing, operating and investing activities, retained profit by the firms, net assets, and total equity are some of these statistics. A secondary data collecting template will be used in collecting secondary data for this research (Appendix I). The data is assembled to scrutinize the bearing of operating cash flows, investments cash flows and financing cash flows.



Operationalization of study variables

Variables	Type	Operationalized definitions	Scale of measurement	Relevance/Literature
Company Performance (CP)	Dependent	ROE	Net earnings/ Shareholder's Capital (Natural logarithm)	Rhaman and Sharma (2020) depended on ROE and ROA to represent profitability of the insurance and manufacturing sectors in Saudi Arabia when investigating its effect on cashflow management
Operating activities	Independent	Operating activities cash flows	Net cashflow from operating activities (natural logarithm)	Soet et al. (2018) studied the impact operating cash flows had on the performance of Kenyan mutual funds concluding that it had a positive effect on ROA and small but favourable bearing on ROE.
Investing activities	Independent	Investing activities cash flows	Net cashflow from investing activities (natural logarithm)	Cash flows generated from investing activities was one of the independent variables used by Odhwa (2023) in effort to determine how the profitability of manufacturing firms in the NSE in the Kenyan context relate to cashflow activities.
Financing activities	Independent	Financing activities cash flows	Net cashflow from financing activities (natural logarithm)	As one of the three cash flow elements, Akanji and Ogbeide (2017) utilised financing activities in estimation of how these elements affect profitability of insurance firms in Nigeria establishing a positive however non-significant statistical effect.

Table 3. 1: Operationalization table

Analysis of the data and presentation

Firstly, a comparison of the performance of the two categories of firms will be made. The metrics of choice will be ROE, and the net profit margin measured as the ratio of revenue that is converted into profit. Afterwards, based on the generated values, statistical analysis will be applied to determine whether any differences in the financial ratios are statistically significant. The choice of this test will be informed by the normality of the data and the variance of the data sets. Welch's t-test would be the most appropriate test if the results are not influenced by unequal variances in the population data. Unequal variances are anticipated because of the different sample sizes, listed firms being fewer. The alternative method will be based on the data not exhibiting normality of the residuals requiring a non-parametric test to conduct the comparison of the two financial ratios with respect to the two categories of insurance firms. The Wilcoxon rank-sum test will serve this purpose. The variables under consideration will be used as they are without any numerical transformations.

Afterwards, the researcher intends to appraise the data using a panel multivariate regression model, specifically choosing from the options of a pooled OLS model, random effects model and fixed effects model to analyse the interaction between cash flows and financial performance based on the panel data. The data observed will be inspected utilising descriptive statistics, panel regression exploration and correlation analysis. Descriptive statistics illustrates the trends of the research variables for the period of interest by the researcher precisely mean, median, minimum, maximum and standard difference.

Simultaneously, a multivariate panel regression analysis will be engaged to indicate how much the regressor variables explain the dependent variables by use of the inferential statistics generated. Initially, we define the structure of the model as seen in (3.2) then prepare the collected panel data from downloaded annual reports spanning the thirteen years, 2010-2023. The data will be arranged into a panel structure, comprising a field for the firms being observed over the relevant years including a 'listing status' field representing a dummy variable as well as the other specified regressors in the models below. Panel data deals with omitted variables bias controlling for unavailable variables and those we cannot observe. The independent variables undergo a natural logarithm transformation in anticipation of the effects of heteroskedasticity.

Several diagnostic tests will be handled to ascertain the validity of the panel regression analysis. This way it could be determined if the data is adequate and precise for purposes of legitimacy. The tests include normality, heteroskedasticity, multicollinearity, autocorrelation and stationarity discussed below. Additionally, the Hausman test will be done to determine a need for adopting a pooled OLS model, random effect or a fixed effect model. The pooled

OLS method is curbed as it presumes no heterogeneity. The subsequent test will be based on the hypothesis that no correlation persists between the firm-specific effects and regressors. If we fail to reject, random effect (RE) model is preferred. If we reject, fixed effects (FE) model is the choice.

Influences by the results of these tests, the choice of an appropriate model will be made.

By use of STATA software, the panel regression should be possible.

Below are definitions of the regression model adopted for the study:

$$CP_{it} = \alpha + \beta X_{it} + \epsilon_{it} \dots \dots \dots (3.1)$$

Whereby:

CP_{it} = company performance at time t for firm i ;

α = the constant term (Y-intercept);

β = a vector of representing the parametric statistics of independent variables;

X_{it} = independent variables vector;

ϵ_{it} = the residual term.

Equations 3.2, which were adopted for the estimations, were created by expanding equation 3.1 as follows:

$$\ln_ROE_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it} \dots \dots \dots (3.2)$$

Whereby:

ROE_{it} = natural log of return of equity of firm i at time t defined as Net Income / Shareholders' Equity;

α = the constant term (Y-intercept);

X_{1it} = Cash flows from investing activities (Z scores generated from the Natural Log. of Net cashflow from investing activities) for firm i at time t ;

X_{2it} = Cash flows from operating activities (Z scores generated from the Natural Log. of Net cashflow from operating activities) for firm i at time t ;

X_{3it} = Cash flows from financing activities (Z scores generated from the Natural Log. of Net cashflow from financing activities) for firm i at time t ;

X_{4it} = public listing dummy variable for firm i at time t ;

β s= parametric determinants;

ϵ_{it} = the residual term.

Model specification

Hausman test: In order to consider a suitable model from the choices of pooled OLS, fixed effect or random effect models, the study will apply Hausman's test. This test aims to reveal whether the unobserved effects in a panel data model are correlated with the explanatory variables. Wooldridge (2010) discussed the limitations of the pooled OLS model. The model assumes a constant relation between the dependent and independent variables across time periods and the entities being observed as well as ignoring unobserved heterogeneity. This heterogeneity is developed from ignoring any entity-specific effects that might be present (Wooldridge J. M., 2010). Due to this limitation of the pooled OLS model, either the random effects or fixed effects model are applied. The random effects model contrasts the fixed effects model and are therefore substitutes of each other (Obure, 2023).

The FE model bases that corporations may have unique features that could influence the predictor variables and so we need to control for them. The model accomplishes this absorbing the time invariant elements in the intercept. This way the bearing of the predictors will not account for those unique characteristics. Within this model an assumption that the corporation's residual terms and the regressors are correlated is observed. Importantly, a company's fixed effects cannot relate to another company's individual effects.

The RE model follows that differences across firms are presumed to be random and uncorrelated with the regressors in the model. This model accounts for differences across companies that might influence the explained variable but are uncorrelated with the predictors. This creates an allowance for the specification of these firm-specific features to be defined as time invariant variables and act like regressors.

The process follows estimating the regression model using both the random effects and fixed effects models and making the ultimate choice between the models by observing whether the isolated effects are correlated with the explanatory variables. If the test indicates a significant interconnection between the unobserved effects and the regressing variables, the fixed effects model is taken up, otherwise we use a random effects model.

Model Diagnostic Tests

Heteroskedasticity test: Probably all introductions to the Ordinary Least Squares (OLS) regression model highlights its assumptions, with particular focus paid to the heteroskedasticity assumption. Observing this assumption, the regression model would result in biased parameter values. Heteroskedasticity is normally termed “non-constant error variance”. This is to mean having included the predictor variables in the model, any more residual changes that happen are as a function of something else not included in the model. One of the major indicators of heteroskedasticity is when the distribution of the dependent variable departs from a symmetric, bell-shaped distribution (Kaufman, 2013). As much as it does not impact the goodness of fit (R^2), it affects the uncertainty results generated by the model (F-test) (Hayes & Cai, 2007). One of the easily dependable tests is the Breusch–Pagan test by Breusch and Pagan (1979). This test will expressively assess whether there is an association involving the model errors and predictors based on the null hypothesis that the variance of the residuals ought to be homoscedastic (Astivia & Zumbo, 2019). In addition, depending on the results of the Hausman test, the Modified Wald test for groupwise heteroskedasticity will be used to test the FE model if it established to be the most appropriate model for the panel regression analysis.

Multicollinearity test: Multicollinearity occurs if significant correlation persists within the independent variables away from the correlation between the explained and independent variables that we aim to establish by this test (Young, 2017). In its presence, results of the regression analysis end up being skewed, that is the generated outcome may not be satisfactory (Hosmer, Lemeshow, & Sturdivant, 2013). To test for multicollinearity, we opt to use the variance inflation factor (VIF). It measures the dimension of the inflation of the variance of the measured regression coefficient in the presence of correlation between the independent variables. A VIF value > 5 shows there will be multicollinearity among the regressors in the model (Shrestha, 2020).

Autocorrelation test: Testing for autocorrelation helps determine any serial association within the data. The nature of panel data serves as a conjunction of both the time-series and cross-sectional data rendering positive or negative serial correlation possible. The null hypothesis being tested is that autocorrelation does not exist. To confirm the presence of autocorrelation amidst the explanatory variables, the Wooldridge autocorrelation test (Drukker, 2003; Wooldridge J. , 2002) was applied. If the test concluded that we reject the hypothesis, in the presence of autocorrelation it becomes possible to conduct the estimation using the Feasible Generalised Least Squares regression model (Nakale, Coetsee, Arashi, & Bekker, 2013).

Stationarity test: The statistical characteristics of a time series must not alter as time changes in order for the series to be deemed stationary. Because the evaluation of time series depends on stationarity, models that are run without taking non-stationarity into account may produce findings that are illegitimate. Unit roots are the source of non-stationarity; they are characterised as an unpredictable systemic pattern in which the value of the current observation is substantially dependent upon its preceding value (Hamilton, 1994). The unit root can be traced because the data under consideration is non-stationary, which is the null hypothesis being tested. Stationarity test was built on the Augmented Dickey-Fuller unit root (ADF) Test in order to make the assessment process easier. If we fail to accept the hypothesis, there is no unit root and therefore the panel data is stationary and possible to run a regression model with the stationarized data (Obure, 2023).



CHAPTER FOUR

DATA ANALYSIS AND RESEARCH FINDINGS

Introduction

This chapter illustrates the findings of the study based on the objectives of the investigation. The study objectives were to compare the financial performance of the listed and non-listed insurance firms in Kenya and to determine the bearing of cash flow management activities on the financial performance of listed and unlisted companies in Kenya. The analysis, presentation of the data and discussions are all covered in this chapter.

Descriptive statistics

This section gives the description and characteristics of the data collected for the study. The study intended on collecting data from all 56 insurance companies in Kenya for the period ranging from 2010 to 2023. After applying all reasonable effort to gather said data, the researcher could only access information from 33 companies of the intended population of 56 insurance companies.

The raw variables extracted from the available financial statements used for the investigation were return of equity which was defined as the ratio of the net profit to the shareholders' equity and cash flows from operating activities, investing activities and financing activities. An additional dummy variable was employed to distinguish between listed and non-listed insurance firms that formed the study's sample population. The summary statistics description of the data was set out as seen below:

Variable	Observations	Mean	Std. dev.	Min	Max
roe	298	0.0828	0.2666	-3.8161	0.5712
operating cf	282	7.54E+09	9.97E+10	-1.01E+12	8.10E+11
investing cf	282	9.09E+09	1.84E+11	-8.00E+11	1.84E+12
financing cf	282	7.89E+09	8.10E+10	-4.82E+11	9.36E+11
listed status	294	0.2857	0.4525	0.0000	1.0000

Table 4. 1 Summary statistics

By all reasonable means and effort, the total number of observations for the variables were; for ROE 298 observations were recorded with a mean of (0.0828) and standard variation of (0.2666). The minimum and maximum values were (-3.816) and (0.5712) respectively. All the cash flow elements had 282 observations. The operating cash flows generated a mean of (7.54e+09) and a standard deviation of (9.97e+10) with the minimum and maximum values being (-1.01e+12) and (8.10e+11).

For investing activities, cash flows generated had a mean of (9.09e+09) and a standard deviation of (1.84e+11) with the minimum and maximum values being (-8.00e+11) and (1.84e+12) respectively. The financing cash flows produced a mean of (7.89e+09) and a standard deviation of (8.10e+10). The minimum and maximum values respective to these cash flows were (-4.82e+11) and (9.36e+11) respectively.

The natural log of the dependent variable, ROE was generated to stabilise the variance and reduce the skewness. The transformation ensured ease of interpretation relying on elasticities with respect to the independent variables. The independent variables firstly underwent a natural log transformation then based on those obtained results; z scores were generated. When transforming the variable, the signs of the raw variables were preserved to maintain the relationship and directionality between all the variables. This provided clarity when interpreting results. Just like the dependent variable, this process was aimed at reducing skewness making the data more symmetric and addressing issues of heteroskedasticity. Additionally, the independent variables, after natural log transformation, were used to generate the z scores (centering) to deal with multicollinearity.

The z scores therefore measured how many standard deviations the observations were from the mean. The mean and the standard deviation of the natural log of operating cash flows, investing cash flows and financing cash flows were calculated to aid in this process. The 'overall' measure computed statistics across all observations regardless of panels. The 'between' measure computed statistics summarizing the standard deviations for each entity while the 'within' measure computed statistics for each entity over time, focused on the variation within each panel.

The descriptive statistics were as illustrated for all variables (between, within, and overall) as illustrated in table 4.2.

Variable		Mean	Std. Dev.	Min	Max	Observations
ln_ROE	overall	-1.600	1.224	-6.663	0.4400	N = 294
	between		0.7668	-3.3726	-0.4449	n = 33
	within		0.9581	-5.066	1.088	T-bar = 8.909
operating cf	overall	-5.38E-08	1.0000	-3.770	3.002	N = 280
	between		0.8347	-1.605	2.414	n = 32
	within		0.5418	-2.978	1.542	T-bar = 8.750
investing cf	overall	-9.11E-08	1.000	-2.887	3.752	N = 276
	between		0.8679	1.867	2.872	n = 32
	within		0.5371	-2.959	1.461	T-bar = 8.625
financing cf	overall	-2.47E-07	1.000	-2.051	3.927	N = 262
	between		0.8498	-1.479	3.324	n = 32
	within		0.4899	-2.007	1.410	T-bar = 8.188
listed status	overall	0.2857	0.4525	0.0000	1.0000	N = 294
	between		0.4352	0.0000	1.0000	n = 33
	within		0	0.2857	0.2857	T-bar = 8.909

Table 4. 2 Descriptive statistics

The overall and within statistics were calculated over 294 firms. The natural log of ROE produced an overall mean of (-1.600) and a standard deviation of (1.224). The average observed natural log of ROE lied between (-6.6626) and (0.4400). The average observed natural log of ROE by each firm was in the range of (-3.3726) to (-0.4449) with a standard deviation of (0.7668) around the mean. This illustrated that the difference in the mean the natural log of ROE of two randomly selected firms would be expected to contrast by (0.7668). The ‘within’ measure indicated a variation of (0.9581) from each firm’s average with the mean ranging between (-5.066) to (1.088). In the definition we would add back the global average of (-1.600) to the maximum value of the range. Therefore, some firm deviated from the average of another firm by (-0.512). The overall negative mean suggested that on average the entities represented in the dataset experienced shortfalls when considering ROE as a financial performance metric. The T-bar statistic illustrated the average time dimension (T) across the each of the panels indicating the degree of balance in the data. The closer the T-bar statistic is to T, the closer the data was to attaining a balanced status (StataCorp, 2023). The total number of observable years was 10 based on the term of the study 2010 to 2023. The T-bar statistic generated

respective of ROE was (8.909), close to T of (10.00) indicating that on average, we observed the firms for approximately 9 years.

The centered cash flows from natural log transformed operating, investing and financing cash flows generated 280, 276 and 262 observations respectively by which the “overall” and “within” statistics were calculated. The difference in observations was substantiated by the data obtained from the considered firms having missing values pertaining to the cash flows data. Some firms reported all cash flows for the observed period while others had varying explicitly provided extracts for different years. Additionally, some firms reported net zero cash flows which when converted using the natural log transformation, produced undefined numbers. As a result of these occurrences, we had the imbalances in the observations. The ‘overall’ mean for all the centered cash flows were substantially close to zero. The means of the centered cash flows from natural log transformed operating, investing and financing cash flows were (-5.38e-08), (-9.11e-08) and (-2.47e-07) respectively. The ‘overall’ standard deviations from the mean were (1.000) for each of the cashflow elements and the mean of the centered natural log transformed cash flows ranging between (-3.770) and (3.002) for operating cash flows, (-2.887) and (3.752) for investing cash flows and (-2.051) to (3.927) for financing cash flows.

Under the ‘between’ statistics, the standard deviation generated for centered cash flows from natural log transformed operating cash flows was (0.8347) with the observed mean respective of each firm ranging between (-1.605) to (2.414). This showed that between one firm and another, the expected standard deviation between their means was (0.8347). For the centered cash flows from natural log transformed investing cash flows, the standard deviation was (0.8679) with the means of each firm respective of investing cash flows ranging between (-1.867) to (2.872). This illustrated that between firms, the expected standard deviation between the means of the investing cash flows was (0.8679). The standard deviation between the means generated for centered cash flows from natural log transformed financing cash flows of each firm was (0.8498) with the observed mean falling between (-1.479) and (3.324).

The ‘within’ standard deviation generated for centered cash flows from natural log transformed operating cash flows was (0.5418) with the minimum-maximum range as (-2.978) to (1.542). For centered cash flows from natural log transformed investing cash flows, the ‘within’ standard deviation was (0.5371) with the minimum-maximum range as (-2.959) to (1.461). The ‘within’ standard deviation generated for centered cash flows from natural log transformed financing cash flows was (0.4899) with the minimum-maximum range as (-2.007) to (1.410).

The T-bar statistic generated respective to operating, investing and financing cash flows and the listed status dummy variable were (8.75), (8.625), (8.1875) and (8.9091) respectively. As observed, on average we observed the firms for approximately 8 years.

Stationarity test

Stationarity was analysed using the ADF test to determine whether the data exhibited any unit roots, the presence of which would suggest that the data is stationary. The null hypothesis that was tested states all panels contained a unit root. The results are displayed below in table 4.3.

Variable	Statistic		Value	P-value
ln_ROE	Inverse chi-squared (66)	P	267.1192	0.0000
	Inverse normal	Z	-7.4689	0.0000
	Inverse logit t (159)	L*	-11.5411	0.0000
	Modified inv. chi-squared	Pm	17.5052	0.0000
operating cf	Inverse chi-squared (64)	P	184.8756	0.0000
	Inverse normal	Z	-5.5855	0.0000
	Inverse logit t (154)	L*	-7.1752	0.0000
	Modified inv. chi-squared	Pm	10.684	0.0000
Investing cf	Inverse chi-squared (64)	P	205.5415	0.0000
	Inverse normal	Z	-6.0679	0.0000
	Inverse logit t (154)	L*	-8.8251	0.0000
	Modified inv. chi-squared	Pm	12.5106	0.0000
Financing cf	Inverse chi-squared (64)	P	105.4388	0.0009
	Inverse normal	Z	-1.6658	0.0479
	Inverse logit t (144)	L*	-2.5479	0.0059
	Modified inv. chi-squared	Pm	3.6627	0.0001

Table 4. 3 ADF unit root test

The results of the ADF test generated p-values alongside the statistic value column. The unit root test on the dependent and independent variables all bore p-values less than the (0.05) significance level threshold. As such, we rejected the null hypothesis that all the panels contained unit roots and observed the alternative hypothesis concluding that at least one panel was stationary in all the considered variables of the study.

Correlation analysis

Correlation analysis is useful for exploring the strength and direction of relationships between variables. It aimed at providing insights into whether changes in one or more variables were associated with changes in another. By analysing the natural log of ROE in conjunction with z-scores of the natural log transformed cash flow metrics, we explored how profitability related to liquidity, operational and financing efficiency. The sturdiness of the relationship between the independent variables and the dependent variables was investigated using a correlation analysis as in table 4.4

	ln_ROE	operating cf	investing cf	financing cf	listed status
ln_ROE	1.0000	-.0846	-.1376	-.2472	-.0397
operating cf	-.0846	1.0000	.6328	.6320	.2654
investing cf	-.1376	.6328	1.0000	.6856	.1221
financing cf	-.2472	.6320	.6856	1.0000	.1579
listed status	-.0397	.2654	.1221	.1579	1.0000

Table 4. 4 Correlation results

The natural log of ROE had a correlation coefficient of (-0.0846) with the centered operating cash flows, a correlation coefficient of (-0.1376) with the centered cash flows from investment activities, a correlation of (-0.2472) with the centered financing cash flows and (-0.0397) with the listed status dummy variable. Overall, the dependent variable had a negative correlation with the dependent variables suggesting that when the regressors increases, the explained variable decreased slightly.

Additionally, it was observed that cash flow elements had strong positive correlations among them, save for the listed status to suggest that as one of them increases, the others increased significantly. The centered operating cash flows had a positive correlation of (0.6328) and (0.6320) with the centered investing and financing cash flows respectively while a correlation of (0.2654) existed with the listed status. The centered investing cash flows had a correlation of (0.6856) with the centered financing activities cash flows and a positive correlation of (0.1221) with the listed status dummy variable. The correlation between the centered financing cash flows and the listed status was (0.1579).

Diagnostic tests

Heteroskedasticity test

The Modified Wald test for groupwise heteroskedasticity was used to establish if the residual variances were constant across the different panels in the dataset used. After regressing using the FE model, the test was run to check for heteroskedasticity. The results are below in table 4.5.

Modifies Wald test for groupwise heteroskedasticity in fixed effects regression model

$$H0: \sigma(i)^2 = \sigma^2 \text{ for all } i$$

$$\chi^2(32) = 26630.72$$

$$\text{Prob} > \chi^2 = 0.0000$$

Table 4. 5 Modified Wald test for groupwise heteroskedasticity

The chi-squared statistic generated was (26630.72). The statistic was large enough to indicate strong evidence against the null hypothesis of homoskedasticity. The p-value (0.0000) indicated the presence of heteroskedasticity as it was greater than the (0.05) significance level threshold.

As a result, the researcher opted to use clustered standard errors at the panel (group) level. This method corrected the standard errors while preserving the coefficient estimates.

Multicollinearity test

The VIF test which analyses the multicollinearity level generated the results below in table 4.6.

Variable	VIF	1/VIF
operating cf	2.16	0.461972
investing cf	2.15	0.464769
financing cf	2	0.500205
listed status	1.07	0.932681
Mean VIF	1.85	

Table 4. 6 VIF (collinearity) statistics

When a variable's VIF factor exceeds 10, the data may require further investigation because this indicates multicollinearity. As observed from the results above, the VIF for all the independent variables, (2.16), (2.15), (2.00) and (1.07) were all less than 10 implying there was no significant multicollinearity in the collected dataset.

Autocorrelation test

In this investigation, serial correlation was appraised using the Wooldridge test for autocorrelation. The null hypothesis of the test is that no first order autocorrelation exists. The table below summarises the results of this test.

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation
$F(1,30) = 2.211$
Prob > F = 0.1475

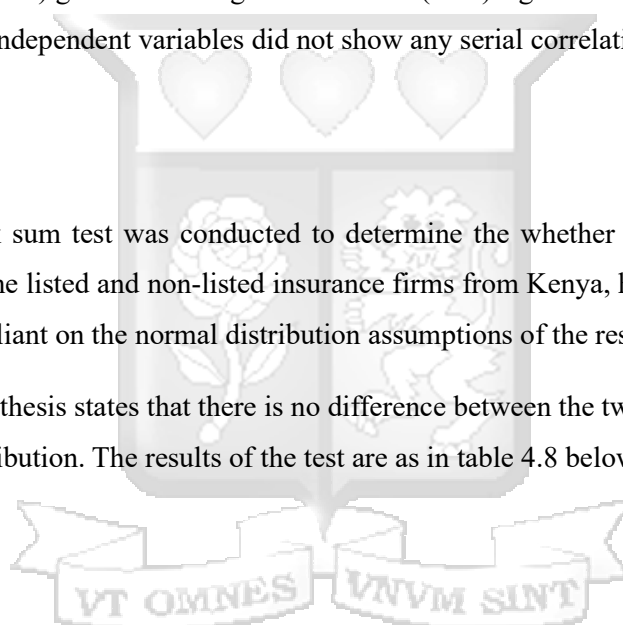
Table 4. 7 Wooldridge autocorrelation test.

The p-value of (0.1475) generated was greater than the (0.05) significance level as show in table 4.7 to suggest that the independent variables did not show any serial correlation.

Wilcoxon test

The Wilcoxon rank sum test was conducted to determine the whether the distribution of the two identified groups, the listed and non-listed insurance firms from Kenya, had a significant difference. This test was not reliant on the normal distribution assumptions of the residuals.

The test's null hypothesis states that there is no difference between the two groups, that is they came from the same distribution. The results of the test are as in table 4.8 below.



Two sample Wilcoxon rank-sum (Mann-Whitney) test

listed_status	Observations	ROE Rank sum	net profit margin Rank sum	Expected
0	210	31241	31845	30975
1	84	12124	11520	12390
combined	294	43365	43365	43365

Unadjusted variances 433650.00

Adjustment for ties 0.00

Adjusted variances 433650.00

ROE: H₀: roe (listed_status == 0) = roe (listed_status == 1)

z = 0.404

Prob > |z| = 0.6863

net_profit_margin: H₀: net profit marg. (listed status == 0) = net profit marg. (listed status == 1)

z = 1.321

Prob > |z| = 0.1865

Table 4. 8 Wilcoxon rank-sum test

The null hypothesis states that there is no difference between the financial performance metrics, ROE and net profit margin for listed and unlisted insurance firms. The p- values generated, (0.6863) and (0.1865) for ROE and net profit margin respectively were greater than the (0.05) significance level. Conclusively, we fail to reject the null hypothesis as we did not have enough evidence to suggest that the distributions and therefore the performances of the listed and unlisted insurance firms were statistically different.

Model Specification

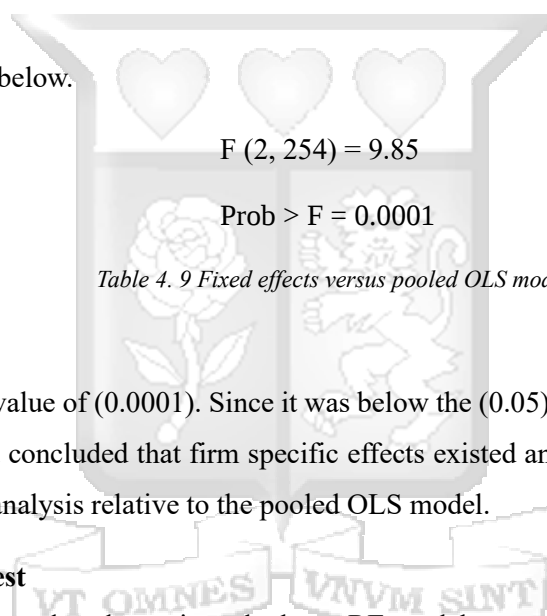
A comparison of the pooled OLS, RE model and FE model was conducted to discern the most appropriate model to employ for the investigation into the effects of cash flow management activities on the financial performance of listed and non-listed insurance firms in Kenya. The pooled OLS model assumed that the entirety of the observations could be pooled together overlooking the potential significance of individual-specific effects. The FE and RE model ignore this assumption of aggregating observations and acknowledges entity-specific effects. Specifically, the FE model

incorporates unobserved heterogeneity by accepting each specific observation has its own intercept managing time-invariant characteristics that could affect the final output (Wooldridge J. M., 2010). The RE model assumes that these individual-specific effects are random and uncorrelated with the regressor variables. To contrast the FE model and the pooled OLS model, we adopted the Chow Test whereas for the purposes of comparing the RE model and pooled OLS model, the researcher used the Breusch Pagan LM test.

Chow Test

The Chow test established whether there was a significant difference between the generated coefficients of the two regression models. The null hypothesis put across was that the coefficients of the two models were equal- the pooled OLS model was appropriate. The alternative hypothesis was that the coefficients generated would be different to mean the FE model would be more appropriate for the investigation.

The results are as seen below.



$F(2, 254) = 9.85$
$\text{Prob} > F = 0.0001$

Table 4. 9 Fixed effects versus pooled OLS model

The test generated a p-value of (0.0001). Since it was below the (0.05) significance level we rejected the null hypothesis and concluded that firm specific effects existed and therefore the FE model was more pertinent for the analysis relative to the pooled OLS model.

Breusch Pagan LM Test

This is a statistical test used to determine whether a RE model was more fitting than a pooled OLS model in the context of panel data analysis. The test assessed the presence of unobserved heterogeneity- if heteroskedasticity was detected the RE model was deemed more suitable as the pooled OLS model posited the variance of the error terms was constant. The null hypothesis assessed in this scenario was that there were no random effects all the residuals had the same variance making the pooled OLS more material for the panel regression analysis. The alternative hypothesis focused on the variance of the residuals varying across panels necessitating the RE model for the investigation. The test produced the following output below.

Breusch and Pagan Lagrangian multiplier test for random effects

$$\ln_ROE [\text{entity_id}, t] = Xb + u[\text{entity_id}] + e[\text{entity_id}, t]$$

Estimated results:

	Var	SD = sqrt (Var)

ln_ROE	1.494894	1.222659
e	.9429941	.9710789
u	.4377155	.6616007

Test: Var(u) = 0

chibar2(01) = 126.03

Prob > chibar2 = 0.0000

Table 4. 10 Random effects versus pooled OLS model

The test resulted in a p-value of (0.0000) which was below the (0.05) significance level suggesting we reject the null hypothesis. Decidedly, we concluded there were significant random effects when analysing the data and therefore the RE model was more apt over the pooled OLS model.

Hausman Test

When conducting a Hausman test, if the p-value is greater than the (0.05) significance level, the RE model is more suitable for the panel regression analysis. Alternatively, the p-value statistic is lesser than the significance level, the FE model is preferable for the regression analysis. The results of the test are as below.

<u>Coefficients</u>				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed_roe	random_roe	difference	Std. err.
centered_ln_operating cf	.52535	.35497	.17038	.05857
centered_ln_investing cf	.05468	-.00278	.05746	.04613
centered_ln_financing cf	-.20989	-.32536	.11547	.05979

Where:

b = Consistent under H0 and Ha; obtained from xtreg.

B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$$\chi^2(3) = (b-B)'[(V_b-V_B)^{-1}](b-B) \\ = 8.64$$

$$\text{Prob} > \chi^2 = 0.0344$$

Table 4. 11 Hausman Test

The null hypothesis of this test was that the RE model is preferable. The p-value generated (0.0344) was lesser than the (0.05) significance level suggesting that we reject the null hypothesis and opt for the alternative, that the FE model was more suitable for the regression analysis.

Panel Regression Analysis

Panel data, a combination of cross-sectional data and time series, refers to data extracted from several of the same groups and observed over time. The results of the Chow test, the Breusch-Pagan Lagrangian Multiplier (LM) test and the Hausman test advocated for the use of a FE model over the RE and pooled OLS for the panel regression analysis. The FE model results accounted for any unobserved heterogeneity allowing for more reliable estimates of the interaction between the modelled variables.

The results generated from the regression are shown and discussed below in table 4.12.

(1)	
VARIABLES	Fixed Effects model
centered_ln_operating cf	0.5254*** (0.1886)
centered_ln_investing cf	0.0547 (0.1111)
centered_ln_financing cf	-0.2099* (0.1292)
Listed status	- (omitted)
Constant	-1.6251*** (0.0085)
Observations	261
Number of entity_id	32
R-squared	0.0844

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4. 12 Panel Regression Results

The number of panels (entity_id) analysed were 32. The regression analysis relied on robust standard errors for the investigation to overcome the effects of heteroskedasticity. The overall R-squared was significantly low lying at (0.0844) indicating that the independent variables accounted for 8.44% of the dependent variable (financial performance). In this investigation, the F-test's p-value generated was (0.0020) well below the significance threshold of (0.05) surmising that the data and the model aligned well.

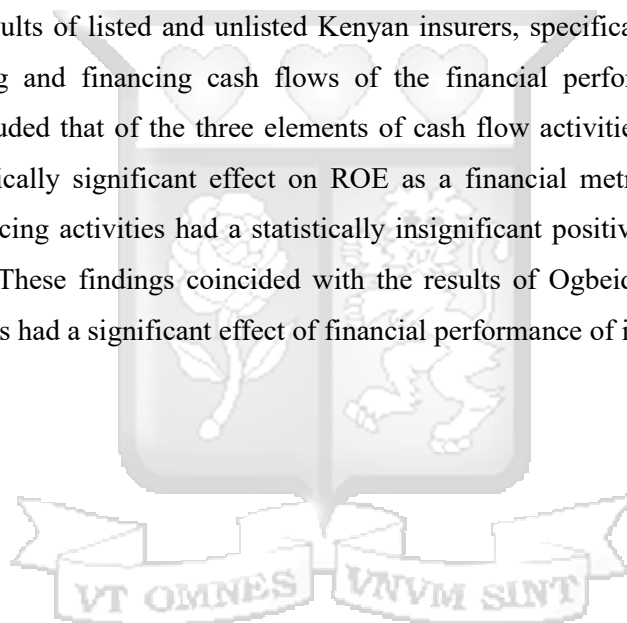
The centered operating cash flows had a coefficient of (0.5234) to mean that a 1 standard deviation increase in the natural log of operating cash flows was associated with an approximately 52.54% increase in ROE holding all other factors constant. The associated p-value was (0.009) which was below the (0.05) significance level threshold suggesting the relationship was statistically significant. The centered investing and financing cash flows had (0.0547) and (-0.2099) as their coefficients respectively. The relationship was taken to be that a 1 standard deviation increase in the natural log of investing and financing cash flows resulted in an approximately 5.47% increase in ROE and a 2.1% decrease in ROE respectively. However, the p-values generated, (0.626) and (0.114) were above

the (0.05) significance threshold rendering that we could not confidently conclude the relationship between investing cash flows, financing cash flows and the ROE financial metric were significant.

Summary of key findings

One of the researcher's objectives for conducting this investigation was to measure and compare the financial performance of the listed and unlisted insurance companies in Kenya and determine which category of firms outperformed the other. Relying on the Wilcoxon rank sum test, the ROE and the net profit margins of the firms were measured and the results generated illustrated that there was not enough evidence to suggest that the distribution of the two financial metrics for the relevant categories was different. We surmised that there was no contrast in the financial performance of the listed and unlisted insurance firms in Kenya.

The ensuing objectives of the study were to investigate the effect of cash flow management practices on the financial results of listed and unlisted Kenyan insurers, specifically analysing the effect of operating, investing and financing cash flows of the financial performance of the firms. The investigation concluded that of the three elements of cash flow activities, only the operating cash flows had a statistically significant effect on ROE as a financial metric while cash flows from investing and financing activities had a statistically insignificant positive and negative bearing on ROE respectively. These findings coincided with the results of Ogbeide and Akanji (2017), that operating cash flows had a significant effect of financial performance of insurance firms.



CHAPTER 5

FINDINGS SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

The chief purpose of the study was to analyse how the cash flows from operating activities, financing activities and investing activities affected the financial performance of listed and unlisted insurance companies. ROE was the employed proxy for financial performance. The specific goals of the investigation were to compare the financial performance of listed and unlisted insurance companies in Kenya, to determine the bearing of operating cash flows on the financial performance of insurance companies, to determine the effect of cash flows from investing activities on the financial performance of insurance firms in Kenya and to assess the relationship between financing cash flows and financial performance of Kenyan insurers. The investigation relied on a descriptive research design with the explained and explanatory variables. The study adopted secondary sources of data extracting relevant information from published financial statements of the companies.

The hypotheses tested by the investigation posited that publicly listed insurance companies outperformed unlisted insurance companies in Kenya and that operating, investing and financing cash flow activities have an insignificant impact on financial performance of insurance firms in Kenya.

The research employed panel data from the companies over the period 2010 to 2023. Descriptive and inferential statistics were used in the study alongside a panel regression model utilized in determining how the management of cash flows by insurance firms in Kenya affected their financial performance (dependent variable). The investigation also carried out various diagnostic tests: heteroskedasticity test, Wilcoxon rank-sum test, multicollinearity test and stationarity test to evaluate the goodness of the results.

The study's findings indicated that the financial performance of both listed and unlisted insurance companies was positively affected by cash flows from operating activities. The financial efficacy of Kenyan insurance firms can thus be enhanced by effective management of cash flows from operating activities. Operating activities revolve around income earned and expenses incurred by the business on their daily activities. The research also found that the investing and financing cash flows had statistically insignificant influence on the performance of insurance companies in Kenya. The study by Ogbeide and Akanji (2017) showed that operating cash flow activities boosted financial performance where ROE was used as a financial proxy, which financing cash flows did not reach statistical significance. Rahman and Sharma (2020) examined insurance firms alongside manufacturing firms in Saudi Arabia. The study suggested that operating cash flows activities had a positive and statistically significant effect on financial performance of the sampled firms and a negative effect on size and

leverage of firms. The conclusion reached by that study was congruent with the results of this investigation.

In contrast, Soet et al. (2018) investigated the effect of operating cash flows on Mutual funds in Kenya using ROA and ROE as the financial metrics of choice, reaching a conclusion that the cash flows had a significantly positive impact on ROA but an insignificant positive effect on ROE. This conclusion departed from the researcher's findings having observed operating cash flows positively affecting ROE. In addition, Obure (2023) found that operating and financing cash flows had a significantly positive bearing on ROA, while investing cash flows had a negligible impact. The study relied on a different financial metric for the purposes of the investigation thereby supporting the differing conclusions.

Additionally, the results of the Wilcoxon rank sum test showed that there was no statistically significant difference between the ROE of listed and unlisted insurance companies while there was a statistically significant difference between the net profit margins of the two groups. The study by Karinga (2016) evaluated the sway listing had on ROE of publicly listed insurers in Kenya. The study observed that different companies with the listing status showed improved ROE while others showed degrading ROE. The conclusion was that an enhanced ROE should not be the main driver of pursuing public listing. Under the current investigation, the researcher came to the same conclusion. Relying on ROE and net profit margin as the financial metrics, as no significant difference was observed between the two categories of firms, the first hypothesis that publicly listed insurance firms performed better than unlisted insurance firms was rejected.

Conclusion

The investigation concluded that the cash flows from operating activities had a statistically substantial bearing on financial performance of insurance companies in Kenya therefore efficient distribution and management of operating activities cash flows by Kenyan insurance firms would boost the financial standing of these firms. The impact of insurance companies' financing cash flows and investing cash flows were not particularly significant in relation to the financial performance of Kenyan insurers under this investigation. These observations concluded that the cash flow management activities from financing and investments of these firms are not chief crucial factors when evaluating the financial performance of insurance firms in Kenya.

Contrasting the insurance firms in Kenya based on listing status, the rank sum test concluded that there was no difference in term of financial performance based on ROE, of listed and unlisted firms. This result substantiated the study by Karinga (2016) that public listing was not a primary driver for improved an improved ROE. Similarly, in relation to the net profit margin, the rank sum test concluded there was no material difference between the two categories of firms reaching a similar conclusion to the aforementioned test.

Recommendations

The study recommends that insurance firms, regardless of status of listing, adhere to cash flows generated from operating activities by intensifying their day-to-day workings and limiting their downside to achieve operational and consequential financial performance efficiency. With much regard paid to listing status, listed insurance firms need to boost their constituting elements that go into net profit margins to gain an edge in their profitability status.

Further comparable studies should be undertaken in other industries to discern the bearing of management of cash flows on the financial performance metrics. Additional variables with bearing could be considered such as the size of firms and the leverage. As this study was focused on Kenya, the scope could be extended to other regions, discerning the effect of external factors such as global financial and policy trends on the interaction between cash flow management activities and financial performance. Lastly, other research designs that depart from the researcher's choice could be used to conduct similar investigations



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APPENDICES

APPENDIX I

Firm	Year	Net income	Total Assets	Shareholders' Equity	Total operating cash flows	Total Investment Cash flows	Total financing Cash flows
1	2010						
	2011						
	2012						
	2013						
	2014						
	2015						
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
2	2010						
	2011						
	2012						
	2013						
	2014						
	2015						
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						