

**ASSET DIVERSIFICATION, MANAGERIAL EFFICIENCY AND FINANCIAL
STABILITY OF INSURANCE COMPANIES IN KENYA: MODERATING ROLE
OF MANAGERIAL EFFICIENCY**

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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ABSTRACT

Where insurance companies are stable, the stability of entire financial system is robust as there is an interlink between insurance business and prowess of other sectors in the financial system such as banks and financial markets. However, in Kenya, a number of insurance companies have collapsed, put under receivership or are under liquidation. Studies done to provide the nexus between asset diversification and stability of companies and more so in insurance industry are not exhaustive. The general objective of the study was to assess asset diversification and stability of insurance companies in Kenya. The study's specific objectives were: to determine the effect of government securities on stability of insurance companies in Kenya, to find out the effect of investment property on stability of insurance companies in Kenya, to find out the effect of term deposits on stability of insurance companies in Kenya, to determine the effect of ordinary shares securities on stability of insurance companies in Kenya and to evaluate the moderating effect of managerial efficiency on the relationship between asset diversification and stability of insurance companies in Kenya. The study was based on three theories: modern portfolio theory, efficiency theory and prospect theory. The study adopted descriptive research design. The study population comprised all 34 general insurance companies in Kenya. Secondary data was collected from annual reports of the companies and panel data regression was used. The data and output were examined for existence of multicollinearity, heteroscedasticity and first order serial correlation. Model specification was done using Hausman test. The software that was used was STATA version 16. Results showed that asset diversification significantly accounted for variations in financial stability of insurance companies ($R^2=.566$, $X^2=116.329$, $p<0.005$). The study found that there was a positive significant effect of government securities on financial stability ($\beta=12.206$, $p=0.000$). Investment property also had positive significant effect on financial stability ($\beta=7.22$, $p<0.05$). Additionally, results indicated that there was a positive and significant effect on term deposits on financial stability ($\beta=15.220$, $p<0.05$) Lastly, the findings show that there was positive effect of ordinary share investments on financial stability of insurance companies ($\beta=57.64$, $p<0.05$). The study found that managerial efficiency moderated the relationship between investment property and ordinary shares securities and financial stability but did not moderate the link between both government securities and term deposits. The study recommended that insurance companies need to diversify more in order to create an optimum portfolio that may improve financial returns and boost financial stability of insurance companies in Kenya.

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ACRONYMS AND ABBREVIATIONS

AKI-	Association of Kenyan Insurers
COVID-	Coronavirus disease
FE-	Fixed Effects
FOSA-	Front Office S
IRA-	Insurance Regulatory Authority
MPT-	Modern Portfolio Theory
NSE-	Nairobi Securities Exchange
OLS-	Ordinary Least Squares
PCF-	Policy Holders Compensation Fund
RE-	Random Effects
SACCOs-	Savings and Credit Cooperatives Societies
STATA-	Statistics and Data
VIF-	Variance Inflation Factor

TERMS AND DEFINITIONS

Asset diversification- this is a technique that companies employ in order to avoid risks that are prevalent where all capital is invested in one class of asset

(Chen & Liang, 2018)

Government securities- these are government debt tools such as treasury bonds and bills

(Chen & Liang, 2018).

Investment properties- these are real estate properties for rent or for sale

(Smit, Botha, & Maria, 2022)

Managerial efficiency- this is the competency of management in achieving goals of companies (Chang & Ma, 2019)

Ordinary shares investment- this refers to stocks investments (Khurramov, 2020)

Stability of companies- it refers to ability of a company to continue with operations even when there are disturbances from internal and external environments in both short and long term (Yerdavletova, et al., 2020).

Term deposits- are interest earning bank deposits held for a specified time period

(Parimalakanthi & Kumar, 2015)

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Stability of insurance companies is important to economic growth and development of both developed and developing countries. For instance, where insurance companies are stable, the stability of entire financial system is robust as there is an interlink between insurance business and prowess of other sectors in the financial system such as banks and financial markets (Chiaramonte et al., 2020). In the event that a majority of insurance companies are unstable, a given economy is bound to face turbulence. According to Kramarić et al. (2019) insurance firms are vital financial intermediaries that improve financial markets even though they face critical systemic risks.

In addition, stable insurance companies are able to support other companies in undertaking risky ventures through covering risks. Therefore, stability of an insurance company is essential to stability of other businesses. Kuzheliev and Zhytar (2016) opined that economic development is mainly driven by stable economic sectors. Lastly, a stable insurance company is able to navigate financial distresses. Financial stability of an insurance companies offers it an opportunity to grow and develop in the sector (Abernikhina et al., 2021).

Even though stability of insurance companies is crucial, around the globe, literature shows that most insurers are unstable. For instance, Pulawska (2021) noted that insurers in the European region have faced stability challenges which was exacerbated by emergence of COVID-19 pandemic leading to poor asset returns.

Insurance companies earn revenue from underwriting business. The premium income from underwriting business is then utilized in various investments for returns. Hence, the returns from assets are essential in supplementing profits that are generated from underwriting business. Moreover, underwriting business is turbulent and unpredictable thus presenting risks to insurance companies. Abernikhina et al. (2021) note that in absence of non-underwriting income, most insurance companies could face significant challenges remaining stable.

Considering the dynamics of current world business environment, most insurance companies have not been able to achieve good stability. In the United States of America, the ever-changing insurance market has seen some insurers face uncertain financial stability (Garavito et al., 2024). This evidences that firm stability for insurers is not in good shape and this has been attributed to a wide array of factors. Moreover, insurers face strict regulations as they focus on public interests. In most countries, asset investments are sanctioned by regulators so as not to expose cover holders. In Uzbekistan, insurance companies are relatively unstable and this has made it a requirement for rational investments decisions in order for the firms to sustainably remain in business (Nosirov, 2022).

In Africa, stability of insurance companies is low and this has been attributed to various significant challenges. For instance, Ogege and Tarila (2021) noted that inadequate supervision, low premium growth, loss ratio, expense ratio, underwriting profits are key drivers of financial stability of insurance companies in Nigeria. Similarly, Oscar et al. (2013) noted that Ghanaian insurers experience poor profits and weak returns due to large underwriting losses, price undercutting, low investment income and overtrading.

In absence of sustainable underwriting business, firms are unable to invest into various assets that supplement underwriting profits. Abor and Andoh (2022) cite that investment efficiency, market share and firm size dynamics are subtle drivers of firm performance in the insurance sector in Ghana. In the East Africa region, there has an increase in insurance uptake but this has not impacted sectoral stability in a significant manner. Insurers face stability challenges due to critical volatilities in inflation, political environment and asset returns (KPMG, 2024).

Stability of insurance companies in Kenya is similarly not in appealing state just it is for other regions around the world. A report by Policy Holders Compensation Fund (PCF) shows that several insurance companies have collapsed or under receivership. For instance, Standard Assurance Kenya Ltd, Concord Insurance Co. ltd and United Insurance company are under liquidation while Invesco Assurance Company Ltd are under statutory management (PCF, 2024). Notably, insurance penetration in Kenya stands at a paltry 2.3 percent which is significantly below the global standards.

Whilst there have some remarkable developments in economic growth in Kenya, the insurance sector stability has still shown hazardous scales. A report on insurance sector by Cytonn (2023) indicated that in 2023 even though insurance companies have adopted robust strategies in underwriting business such as adoption of alternative channels of product distribution, new product innovations, use of apt technology and diversification of investments, the sector still has not yielded the expected benefits. The stability of companies describes the likelihood of companies remaining as going concerns. It refers to ability of a company to continue with operations even when there are disturbances from internal and external environments in both short and long term (Yerdavletova et al., 2020).

Most companies operate in dynamic sectors that are prone to changes which could have adverse effects of their stabilities. However, there are potentials and opportunities in the business environment that a stable company can exploit to sustainably remain in business, grow and achieve its goals. Gorczyńska et al. (2016) noted that stable companies are seldom disrupted in their business activities as they are able to navigate through unforeseen events.

Primarily, stability of companies is expressed in terms of financial stability which depict ability to meet financial obligations (Darmawan & Saragih, 2017). This is crucial as a company operates by acquiring resources from external and internal parties. For instance, a company has creditors whose financial dues are payable as stipulated in contracts and also has employees whose salaries and wages are payable. In this aspect, financial stability is subtle as it ensures that all liabilities are paid as agreed upon. A firm's stability is a key concern as it shows long term leverage for companies as it shows the much debt that can be sustained in a balanced ratio. This is profound as stable firms have low financial risks (Chernyakov, 2021).

Company stability can be measured in several ratios. For instance, company stability can be measured in terms of capital structure; debt-equity ratio, leverage ratio and net debt (Ramlall, 2018). In this study, the Z-score was used to proxy stability as it shows how balanced capital structure of a company is. It is a favorable ratio for insurance companies considering that insurers are financial entities whose that are prone to financial risks of having a geared balance sheet. Moreover, debt-equity ratio is used to examine long term solvency for firms (Henock, 2019).

Other measures of stability include the Z-score that measures the level of distress for companies. This study measured stability using the Z-score as it is a comprehensive score for chances of financial distress. The Z-score was expressed as:

$$z-score(Bstab)_{it} = \frac{ROA_{it} + (E / TA)_{it}}{\sigma(ROA_{it})}$$

Where ROA is return on assets which is obtained by dividing income over total assets, E/TA is equity to total assets ratio and σ ROA standard deviation of return on assets at different time point. Where the Z-score is high, a company is considered stable and if low the stability of the company is in jeopardy.

Whilst stability of insurance companies is vital, reports show that most insurers around the globe are unstable. For example, Indonesian insurance companies face systemic risks in asset allocations which it lowers stability of the firms (Guruh & Harjanti, 2021). This is a revelation that asset diversification may provide opportunities for insurers to improve stability. A report by Fitch Ratings (2024) documents that Chinese companies, are exposed to solvency risks due to real estate related risks as most have significantly invested in real estate properties that are illiquid in nature.

1.1.1 Asset Diversification

Simply put, asset diversification is method used to boost returns from assets while decreasing overall risk. It is a technique that companies employ in order to avoid risks that are prevalent where all capital is invested in one class of asset (Chen & Liang, 2018). In other words, it focuses on creation of a portfolio of assets or investments across sectors in the economy so that risks are evenly spread out and returns maximized.

To benefit from asset diversification, investing companies must consider the aspect of complementarity of assets which in essence is the way assets react differently in response to economic shocks. Therefore, a robust asset diversification technique is that whose returns from assets have varying degrees of responses to certain economic environments (Zhou & Li, 2019; Hambel, Kraft, & Ploeg, 2024).

There are various strategies that are employed in asset diversification based on complementarity. According to Havard Business School (2024) there are three typical asset diversification that can be adopted: individual asset diversification, international market diversification and asset class diversification. Individual assets diversification is a technique where a portfolio of assets is derived from the same class of assets. For example, an insurer can purchase stocks from a telecommunication company and those from an agricultural company. In overall the susceptibility of risks is low as the assets are drawn from different industries that are not correlated in risks. International market diversification entails acquisition of assets across the borders of a country. This helps mitigate risks where assets or investments are poorly performing in the domestic market (Mihalache et al., 2021; Arte & Larimo, 2022).

In addition, asset class diversification is a strategy that entails acquisition of assets of different classes. For instance, a company can acquire stocks, treasury bonds, commercial papers, term deposits and properties so as to lower return volatilities. This helps reduce return variability as unsystematic risks are significantly mitigated (Jayeola et al., 2017). Insurance companies operate in a challenging economic sector which then calls for robust asset diversification to avoid systemic risks.

The overarching need for asset diversification is to navigate through risks by spreading assets in various assets. Thus, it is a mechanism for having different pies in different baskets as opposed to having all in one. As noted by Obaro et al. (2022) ensures that investments are not prone to similar results at the same time. For this reason, a robust asset diversification strategy must be based on the concept of correlation variability. This means that assets should be invested in markets that do not correlate in terms of risks and returns. For example, rather than trying to earn the best returns in a given market, that could be currently performing well, investors establish a combination of assets so that the overall risk is minimal and returns maximized (Shabir et al., 2024; Rahman & Abbas, 2025).

In setting up an astute diversification strategy, different assets in different markets are sought for. Thus, a near perfect asset portfolio is achieved when lower risks assets and combined with higher risks assets so that gains and losses are management (Wan et al., 2016). Considering that market dynamics are inherently present, and that it is virtually impossible to clearly predict risks and returns, investors who are risk averse tend to mix and match assets, in respect to perceived risk profiles. At the same time, investors combine long term with short term assets to manage headwinds in asset markets. By doing so, investors are able to enjoy reliable returns that are reliable as opposed to investing in highly risk assets that have higher returns which if things go wrong, only fewer losses are incurred (Knapp et al., 2021; Suleiman & Gunu, 2021).

According to Dull et al. (2017) asset diversification in the insurance sector aids in dealing with risks that are inherent in investing by ensuring that a portfolio is imperfectly correlated. This in essence indicates that risk and returns in the assets in the portfolio do not move in the same direction if asset diversification efforts are to yield results.

Moreover, Sheehan et al. (2023) note that diversification is a mechanism of dealing with uncertain markets. This, asset diversification in the insurance sector seeks to reduce return volatilities as returns are smoothened by having a portfolio.

This study focused on asset diversification as it is common for insurance companies. For instance, insurers in Kenya have their portfolio derived from dictates of Insurance Regulatory Authority. The IRA requires insurers in Kenya to have balanced asset portfolio with a variety of assets that do not expose the companies to risks (IRA, 2024). For instance, the authority requires insurers to hold assets that are liquid and illiquid so that returns are spread out thus enabling the companies to pay claims and meet other managerial expenses. Therefore, an insurance company has to have an apt investment framework that resonates with its financial stability goals.

1.1.2 Asset Diversification and Financial Stability of Firms

In theory, asset diversification aims at reducing volatilities of returns from those assets. This is such considering that diversification significantly reduces the unsystematic risks thereby improving overall risk-return trade off of a given portfolio. Moreover, asset diversification makes companies competitive. Nguyen (2018) notes that asset diversification significantly betters cost efficiency and profitability and hence stability of entities in the financial sector. This is because for companies to be financially stable, their returns must be optimum and cost efficient. As such, where profits are high and cost efficiency is achieved, a company is likely to exhibit sound financial stability. Duy et al. (2021) notes that the underlying aim of diversification is to lower returns volatilities improving stability of companies.

However, Ahanaf et al. (2023) argue that asset diversification remains elusive in that its actual outcome on returns remains largely unsupported and therefore unknown. In addition, Adem (2022) views that the role of diversification on stability is still debatable in as much as it is considered a good strategy of mitigating risks. For example, companies can over diversify leading to an imbalance between liquid and illiquid assets compromising on liquidity and solvency.

On the other hand, Shabir et al. (2024) indicate that asset diversification is a major driver of firm stability for banks. Although insurance companies are in the same financial sector with banks, the effect of asset diversification cannot be construed to behave as it is the case for banks. In view of the conflicting literature, it is imperative that more studies are undertaken in this field. The current study did examine asset diversification and stability of companies in Kenya; case of insurance companies. Insurance companies invest in various assets such as stocks, bonds, commercial papers, term deposits and properties.

1.1.3 Asset Diversification, Managerial Efficiency and Financial Stability

Whilst theoretical literature points that asset diversification affects financial stability, it is true to suffice that managerial decisions influence a wide range of firm outcomes. According to Cho and Lee (2017) management decisions can lead to efficiency of processes or otherwise which would determine firm stability.

Therefore, managerial efficiency can affect the relationship between asset diversification and financial stability. In essence managerial efficiency characterizes how resources are used to achieve goals. It therefore entails overall competency of management in resource allocation to achieve expected results (Naushad et al., 2020).

As part of management role, management of insurance companies allocate financial resources to various investments. Thus, effective management is subtle as it has a bearing on how well a portfolio of assets is achieved (Rao et al., 2010). Considering this, managerial efficiency can significantly determine how well asset diversification impacts financial stability of insurance companies in Kenya. For instance, managers are the ones who decide where to invest and in what proportions to invest. Additionally, for apt results to be realized on asset diversification, management must be efficient in mix and matching investments and control of them so as to achieve good returns (Luhova, 2021).

The insurance sector is dynamic due to risk insuring business. Insurance companies underwrite various risks for premiums. Therefore, management of insurance companies are concerned with how much risks they can hold internally, co-insure or reinsure. This risk management does not yield must returns and therefore leaving management to also consider non-premium income such as interest from term deposits, capital gains from sale of stocks, revenue from investment properties and so forth (Septina, 2022). These incomes are complements net premium, which then makes managerial efficiency an important aspect in stability of firms.

1.1.4 Insurance companies in Kenya

In Kenya, insurance business is carried out as per the Insurance Act Cap.487 whose prime aim is to offer effective administration of insurance and reinsurance business. Insurance companies are categorized into two; general and life. Most of insurance business in Kenya is general accounting to over 60 percent of gross written premiums (KPMG, 2024). In the year 2014, there were 5 reinsurance companies, 35 general insurers and 23 life assurance companies licensed as per Section 184 of the Insurance Act by the IRA to operate in Kenya (IRA, 2024).

Insurance companies derive their income from two sources. First, from underwriting profits which is the residual of gross written premium less claims paid and other expenses. Second, returns on various assets such as bonds, term deposits and commercial papers.

In most cases, underwriting profits are not as envisioned due to poor risk and underwriting strategies thereby making returns from various assets an important source of revenue (Liebenberg & Che, 2017; Sood & Seth, 2022). Considering that asset diversification is practiced by most insurance companies in Kenya, as inferred by their balance sheets, there is a need to succinctly examine whether asset diversification improves stability of the insurers.

1.2 Statement of the Problem

Stability of insurance companies is important for a number of reasons. First, it enables insurers to carry on business of covering risks for other corporates and individuals, generates returns to shareholders and enables the companies to navigate disruptions (Abernikhina et al., 2021). Stable insurance companies experience sustainable growth and profitability that leads to not only individual company's growth but also for the entire insurance sector.

In Kenya, a number of insurance companies have collapsed, put under receivership or are under liquidation. For instance, the United Insurance Company Limited is liquidation due to its failure sustain operations, meet its financial obligations and realize income from its assets amounting to Ksh. 475 million against debts of Ksh. 2 billion (Business Daily, 2024). Additionally, the Standard Assurance Company Kenya Ltd, Resolution Insurance Company Concord Insurance Company Ltd and Invesco assurance Company are under statutory management due to persistent instability (PCF, 2024). Moreover, the largest public service vehicle insurer, Directline Insurance Company has been placed under statutory observation by the Insurance Regulatory Authority.

On January 2024, the IRA fined 20 insurance companies Ksh. 94.85 million for regulatory breaches including failure to publish financial records leaving the regulator in the dark in respect to stability of the firms (Alushula, 2024). All these cited cases evidence that insurance companies in Kenya are unstable and should be investigated to ascertain what bedevils them. Optimal assets diversification has been touted as a critical intervention to enhance stability of banks (IRA, 2024; Sheehan et al., 2023). Insurance companies earn most of their returns from investments as a good percent of premiums goes towards servicing claims. The extra premiums are invested in assets in different markets. In Kenya, financial stability of insurance companies is in jeopardy. For instance, a report by Cytonn (2025) shows that insurers remain unprofitable as the combined ratio stood at 130.5% and 182.6% for the year 2024 and 2023 respectively. Combined ratio provides information on likelihood of an insurance company to remain afloat in its current business settings. Without income from assets, insurance companies seldom make profits (Abor, 2022). This manifests that there is a need for insurance companies invest in robust ways.

Investment income sustains insurance companies, and if it is poorly performing, stability can be in jeopardy (Poufinas & Siopi, 2024). The Modern Portfolio theory advocates for asset diversification to lower returns volatilities. However, asset diversification for most underwriters in Kenya is not optimum (Kiboi & Bosire, 2021). At the same time, the insurance sector is dynamic in that the environment changes fast which then makes managerial efficiency an important consideration.

According to Naushad et al. (2020) managerial efficiency ensures that optimal decisions are made in respect to underwriting and investment decisions steering firms to stability. Moreover, the issue of managerial efficiency is critical for insurance companies as efficient managers are able to improve cost saving by making product administrative decisions, return on investments through allocative efficiency that relates to asset diversification (Rao et al., 2010). This in effect implies that whilst asset diversification is a concern for insurers, how the management decides on various issues remains an equal factor. Therefore, the study adopted managerial efficiency as a moderating variable.

Studies done to provide the nexus between asset diversification and stability of companies and more so in insurance industry are not exhaustive. For example, Susac (2022) found out that asset diversification improved risk-return balance for the insurers in Croatia, Serbia, Slovenia and Bosnia and Herzegovina. In contrast, Dull et al. (2017) did a study to assess portfolio investments for insurance companies in the European Union and found out that investing in sovereign bonds contributed to higher risks and put financial stability of insurers in jeopardy. Ngware et al. (2019) focused on credit diversification among banks and results showed that diversification in primary, household, secondary and tertiary sector improved return on equity and return on assets.

Nevertheless, the study was not done among insurers. Equally, Ndungu and Muturi (2019) revealed that income diversification, geographical diversification and product diversification improved performance of banks. The study too was not among insurers. In consideration of the research gaps the current study assessed asset diversification and stability of insurance companies in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to assess asset diversification and financial stability of insurance companies in Kenya.

1.3.2 Specific Objectives

The study's specific objectives are:

- i. To determine the effect of government securities on financial stability of insurance companies in Kenya
- ii. To find out the effect of investment property on financial stability of insurance companies in Kenya
- iii. To find out the effect of term deposits on financial stability of insurance companies in Kenya
- iv. To determine the effect of ordinary shares securities on financial stability of insurance companies in Kenya
- v. To evaluate the moderating effect of managerial efficiency on the relationship between asset diversification and financial stability of insurance companies in Kenya.

1.4 Research Hypotheses

The study's hypotheses are outlined as follows:

H₀₁: There is no significant effect of government securities on financial stability of insurance companies in Kenya

H₀₂: There is no significant effect of investment property on financial stability of insurance companies in Kenya

H₀₃: There is no significant effect of term deposits on financial stability of insurance companies in Kenya

H₀₄: There is no significant effect of ordinary shares securities on financial stability of insurance companies in Kenya

H₀₅: There is no moderating effect of managerial efficiency on the relationship between asset diversification and financial stability of insurance companies in Kenya.

1.5 Significance of the Study

The study's results benefits insurance companies, policy and may be used by other scholars.

1.5.1 Insurance companies

The results of this study provide sound information that can be used by management of insurance companies in asset diversification. This is because, the study reports on the role of asset diversification in company stability. In essence, they study provides evidence as to whether diversification betters firm stability or not and further recommends on remedial actions as the case may be.

1.5.2 Policy Makers in the Insurance Sector

The study's results may be used by IRA in policy derivation. Notably, the IRA is mandated to spearhead robust regulations in the insurance sector that ensures stability of firms. Thus, the results provide evidence on asset diversification and stability that can be used in policy formulation.

1.5.3 Other scholars

In the Sub-Saharan region, research is scant and more so in the insurance sector whose penetration rate is low. Therefore, this study provides extant literature and statistical results on asset diversification of which both can be used by other scholars and researchers in the region.

1.6 Scope of the Study

This study delves into stability of insurance companies as a function of asset diversification. The population of the study was derived from a list of general insurers registered and licensed in Kenya. Secondary data was extracted from balance sheets of the companies for a period of seven years, from the year 2017 to 2023. The study was carried out in Kenya for a period of six months from November 2024 to May 2025.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter delves into review of literature on related works in order to reinforce the issues introduced in the first chapter. In terms of content, this chapter focuses on theories of study, empirical review, decomposes the literature to identify research gaps and ends with a conceptual framework.

2.2 Theoretical Review

Simply, theories attempt to explain things. In research theories are used to describe variables so that expected relationship between variables can be thought of in the process of undertaking research. Moreover, theories offer insights on behavior and facts about things thus offering key lenses of observing and measuring variables. This study has been anchored on a number of theories as discussed in this part.

2.2.1 Modern Portfolio Theory

Portfolio optimization is the overarching concern of Modern Portfolio Theory (MTP) as proposed by Markowitz (1952) who sought to provide a technical method of improving returns. Traditionally, making accurate decisions on asset returns has been a menace for many investors. For instance, without a deeper understanding of risk and returns volatilities, it is difficult to make sound investment decision. According to Jang and Seong (2023) MTP alleviates these challenges by presenting a mathematical equation to optimize portfolio returns. Thus, the theory offers an appropriate method of lowering asset losses through robust review of historical returns in asset allocation.

Additionally, the modern portfolio theory framework ensures that assets are efficiently allocated in the best covariance matrix this enabling prediction of risks and returns. In this aspect, an efficient frontier is achieved where risks are at the lowest and returns at the maximum. More importantly, the theory advocates that efficient asset allocation entails asset combination where risks move in opposite direction (Cui & Cheng, 2022; Verma & Tapsi, 2024). Modern Portfolio theory recommends that asset allocation should be done in a careful process where different asset classes are adopted.

According to Tomar and Chauhan (2020) asset allocation can be done to include securities such as bonds, stocks and real estate in proportions that optimizes portfolio returns. Thus, an efficient portfolio must exhibit varying risks and returns correlations. For this reason, MPT is a theory that appreciates the role of asset diversification (Chen, 2023). Typically, asset diversification entails allocating resources to various assets that have different risks and return correlations such that a poor-performing asset is covered by another asset that is well performing. As per this theory, asset concentration is not a prudent way of investments. Mittal and Mandal (2022) view that a well-diversified portfolio has less risks in contrast to one that is not. In practice, investors have several investment platforms they can chose largely categorized into passive or active investment.

Although the modern portfolio theory has some benefits; it also suffers from some weaknesses that cripple its use. Foremost, it assumes that all investors are risk averse and that they are able to evaluate the notion of risk-return management. At times, investors are not privy to the complex expressions of risks and returns (Akkaya, 2021; Rodriquez, Gomez, & Contreras, 2021). Thus, the theory makes sense to individuals who can examine, compute and predict risks and returns with some certain degree of accuracy.

Furthermore, the theory is envisioned on the premise that there are investments or assets whose returns do not correlate and that investors know about this bit of information and make decisions in light of it (Letho et al., 2022). However, getting this information is not easy to all people and this the theory may not fit all situations. Lastly, the theory does not specify the exact number of assets that lead to perfect portfolio through diversification. For this reason, diversification can be an ever-ongoing process thus becoming costly process and this can outweigh the benefits of trying to achieve an optimum portfolio.

The MPT is a crucial theory in this study as it directly expounds on the independent variable: asset diversification. The theory is a method of asset allocation that seeks to maximize returns by optimizing portfolio through robust asset diversification. Insurers in Kenya have used the proposition of this theory in asset diversification. For instance, insurers in Kenya invest in stocks, commercial papers, bonds and bills, term deposits and real estate among other assets as advocated by the theory. The theory advocates for asset diversification to better returns and reduce risks. Li (2024) notes that the modern portfolio theory is one of the best strategies used by firms in making investment decisions as it offers guidance on asset portfolio optimization, market efficiency, risk management across different economies helping entities better financial stability.

2.2.2 Efficiency Structure Theory

Commonly referred to as the efficient structure hypothesis, the theory posits that efficient firms are able to withstand market competition and grow and was proposed by (Demsetz, 1973). It further asserts that, efficient firms obtain larger market and earn more profits. It therefore means that firms achieve growth and stability if they are able to mitigate competition and outgrow their competitors to be market leaders.

Moreover, the theory views that firm efficiency is a major driver of efficiency and market performance (Khan et al., 2017; Blankson et al., 2022). Considering that industries have new entrants and existing firms that have inherent rivalry, there is a need for firms to structure their operations in order to better their competitiveness.

The efficiency structure hypothesis further adds that various efficiencies must be sought simultaneously in order to achieve stability. For instance, firms need to consider economic efficiency which entails allocating inputs to the best utilities in production of goods or services. At the same time, firms should consider allocative efficiency which entails distributing resources to assets that significantly create the best satisfaction in form of goods or services as required by the market. Yahaya and Awen (2020) view that operational efficiency improves wellness of firms. Lastly, productive efficiency entails allocating resources to the most cost-effective production processes so as to lower cost of production.

In as much as the Efficiency structure hypothesis has been used to explain a firm growth, competition dynamics and stability, it has a few weaknesses. First, the theory does not consider firms that are in monopoly as it only suggests that better profits and stability is achieved after surviving competition. This means that the theory works where the market has many companies. Again, the theory does not explain what happens during periods of dynamism where there are fluctuations in market prices (Metescu, 2022). Lastly, the theory is biased in terms of information as it assumes that not all firms are able to grow. This is not always the case, because in some instances, all firms grow and therefore compete fairly in the market.

This theory is relevant in this study as it explains about efficiency of firms. The theory points that firms that are efficient withstand competition and grow to earn higher profits than firms that are less efficient. Additionally, firms with higher earnings are able to cut down on costs due to operational efficiency leading to them serving larger market share. According to Segun and Akinlo (2022) efficiency contributes to market concentration culminating to firm stability. The study examined the role of managerial efficiency in moderating or otherwise the relationship between asset diversification and firm stability among insurers in Kenya.

2.2.3 Prospect Theory

The prospect theory emerged from scholarly works of Kahneman and Tversky (1979) who sought to characterize how investors make investments decisions. The major proposition of this theory of the study is that people are risk averse and are constantly trying to avoid losses. It is a theory that looks into making of decisions where there are risks. As such the theory delves into actual doings of people or investors in making investment decisions. For example, investors commit their financial resources to assets they consider as profitable and rarely invest in loss making investments unless there are key prospects for the gains (Gregoriou, et al., 2019). In other words, spending on investments is a certain cash outflow while the expected gain is only a prospect. To deal with this uncertainty, agents consider to rather centralize at the reference point which is where potential gains and losses originate, from which all decisions are referenced (Consigli & Hitaj, 2019).

According to Wan (2018) prospect theory is useful where decisions are made in light of risk, probability and uncertainty. Considering that people commit resources to assets in reference to their chances of making losses or gains. Thus, in circumstance where the investor is faced with similar probability and outcome, the investor is more inclined to making a decision that would lead to a gain, avoiding losses at all times. For this reason, some investors keep money in the banks rather than invest it for more gains. In this aspect therefore, certainty is an important facet in making asset diversification decisions (Gou et al., 2021).

The use of prospect theory in this study is because it relates to various asset outcomes. For example, an insurance company can purchase ordinary shares or stock of other entities in the hope of earning gains in forms of dividends and capital gains upon disposal of such stocks. However, the stock acquisition cost is a sure loss while the company stands to gain or lose more in future. Moreover, the theory provides insights on the issue of relative differences which is a guiding principle in investment decisions as risk averse people make decisions based on relative differences as opposed to absolute similarities. In other words, investors spend more on assets they can ascertain gains or losses rather than those that are uncertain.

2.3 Empirical Review

This section contains a review of relevant studies in respect to the specific objectives of the study. The review entails a synthesis of studies to derive the research gaps that were filled by the study.

2.3.1 Government Securities and Financial Stability of Companies

Government securities are considered low-risk investments as governments are highly credit worthy. According to Egesa (2015) it is rare for government to default in its debt obligations and this makes government securities such as treasury bonds, bills and infrastructure bonds good investments. Moreover, government securities pay higher interests in comparison to other securities in the market. For this reason, it is expected that investing in government securities is key towards improving stability of firms. Chen (2024) notes that government securities have different maturity periods and this ensures that investors have steady flow of returns from the securities. Therefore, in a theoretical perspective, government securities are expected to boost firm stability.

Bezo and Bezo (2023) delved into investment portfolio and firm performance of insurance companies in Albania. The study assessed the effect of government securities, bank deposits, land and buildings and subsidiary investments on firm performance. In this study, firm performance was expressed in terms of return on assets and return on equity. Findings portrayed that government securities, bank deposits and investments in subsidiaries had negative effect on firm performance. On the other hand, it was noted that bank deposits were the most important drivers of good financial performance for the insurers.

Teixeira et al. (2021) analysed the effect of government bonds on liquidity and profitability of banks in Cape Verde. The study obtained secondary data from financial reports of banking entities for period 2000-2017 which was subjected to panel regression procedure. The outcome of the study was that government securities had no effect on liquidity but had negative effect profitability of banking entities leading to low profits and shaky stability among some banks in Cape Verde.

Adhiambo et al. (2023) studied portfolio diversification and financial performance of firms in Kisumu County. The study purposed to determine role of stock and bonds (government securities) on firm returns among large firms. By use of regression analysis, the study results indicated that government securities and stock investments had strong positive effect on firm returns and in overall portfolio diversification improved firm returns. The study also noted that investments in different classes enabled firms to lower risks leading to optimization of portfolio.

Jepkemoi and Ngahu (2023) were motivated to evaluate role of government securities on firm performance in Kenya. This study was informed by the downward spiral of firm returns for most underwriters in Kenya. By using data from thirty one companies, the study utilized regression analysis to ascertain whether government securities bettered firm results. In its findings, the study reported that government securities had positive and strong role on firm performance. This is because it was noted that government securities treasury bills, bonds and notes) all had positive coefficient that was statistically significant.

Kiboi and Bosire (2021) sought to link government securities among other variables and firm performance of firms in Kenya. The study used secondary data from insurers in general underwriting activities. The period of data was from year 2013-2019 where a total of 54 companies were targeted. Findings from regression showed that government securities had a positive effect on firm performance. It was noted that government securities accounted for a total of 8.5% of variations in firm performance. Moreover, this contribution of government securities to performance was statistically significant.

Muema et al. (2021) sought to link investments in government bonds by collective investment schemes in Kenya. The study sourced data from seventeen firms and collated a panel data set that was analysed in form of correlational and regression analysis. The outcome of data analysis showed that both equity investments and bonds investments does not significantly play a role on returns of the firms. This was because, the results indicated that bonds investments and equity investments had insignificant positive and negative effect on returns respectively.

2.3.2 Investment Property and Financial Stability of Companies

Investment property is acquired or built for two reasons: to earn rental income or for profits on resale. Equally, an investment property can earn rental income as it waits for buyers which then makes it a crucial investment that attracts both short and long term returns (Smit et al., (2022) opined that investment property increases in value thus improving the balance sheet of entities.

Therefore investment property is a key income generating assets that can be considered by insurance as it serves both long term financial goals as well as short term goals. Moreover, firms can construct investment properties by acquiring long term mortgages as opposed to use of traditional loans which makes it affordable. In these aspects, investment property is expected to better stability for firms.

Widarwati et al. (2023) studied corporate investement and corporate performance in Indonesia. The focus of the study was two hundred and forty three non-financial entities listed in Indonesia. The study assessed the role of various investment such as industrial, agriculture, property and real estate, consumer goods among others. Results of panel regression showed that company investemnts positively impactec corporate performance. In respect to property and real estate assets, results showed that these forms of investments improved corporate performance of the non-financial entities listed at the Indonesia Stock Exchange.

Song (2023) studied firm performance in China. The study had two objectives; to establish the effect of ownership property and Information Technology investments on firm performance. The data used in the study was extracted from published financial reports of listed entities in China. The seven-year data was subjected to panel data analysis where results were reported using the fixed effects model. It emerged that IT investments strongly enhanced performance as the relationship was positive and significant. In contrast, ownership property had negative moderating effect on firm performance as a function of IT investments.

Sultan et al. (2023) evaluated the nexus between real estate investment and firm outcomes in Pakistan. The study utilised data from three hundred non-financial listed entities and subjected data through various data analysis methods. The study revealed that there was a negative effect of real estate investment on firm performance. This depicts that investments in real estate properties does not enhance firm wellness. Moreover, financially constrained firms faced stunted growth even after committing funds to corporate real estate investments.

Inuwa and Said (2024) evaluated real estate investment of insurance companies in Nigeria. The motivation of the study was to establish whether insurance companies improved their wellness by channeling funds to real estate investment properties considering that the demand for real estate product was high. The study sourced primary and secondary data from insurers for the period 2014-2019. The outcome of the study was that real estate investments did not improve financial wellness of insurance companies in Nigeria.

Grozdic et al. (2020) studied capital investments and firm performance. The study measured capital investments in terms of property investments done in the short run and in the long run. The study sourced panel data from manufacturing firms in Serbia. Results of panel data analysis evidenced that capital investments had negative effect on firm performance. This results were considered a clear manifestation of the expectation as capital investments were capital intensive and this utilized a lot of cash which was difficult to recoup in a volatile economic environment.

Kioko and Ochieng (2020) studied portfolio diversification and firm performance. The study specifically targeted listed investment companies in Kenya from which secondary data was sourced for a time period of six years. Data analysis was done in regression methods where results shown that diversification contributed to firm wellness. It also emerged that bonds and mutual fund investments impaired investment returns while stocks improved investment returns and real estate property had positive significant effect on firm returns.

Cheruiyot et al. (2024) studied portfolio composition and performance of insurance companies in Kenya. The study reviewed performance of listed investment companies at the NSE. The study aimed at establishing the effect of bonds, real estate property and mutual funds on financial returns of insurers. The study adopted regression analysis where the results showed that the model that linked portfolio composition and firm performance was significant. Further results showed that equity significantly improved firm performance while bonds and investment property did not improve firm financial performance of firms in Kenya.

2.3.3 Term Deposits and Financial Stability of Companies

Term deposits are bank facilities that investors earn interest at predetermined rates for a fixed period of time. Thus, the bank deposits are investments that mature at given time periods where the investors receives both the amount invested and interest at once. Term deposits are thus good savings plan for individuals and companies. Considering that these are passive sources of income without operation costs, the association between term deposits and stability is expected to be positive. In addition, term deposits have minimum amounts that can be invested which makes it an attractive facility for banks and also for the investors.

Parimalakanthi and Kumar (2015) delved into investment priorities and behavior of investors. The study reviewed investment behavior of individual investors in relation to how it is affected by savings, deposits, corporate bonds, government securities, gold and silver, shares, real estate and insurance policies. The findings evidenced that bank deposits were most preferred by individuals as risk and returns were safer investments. In this aspect, the financial stability of individual investors was better off when they invested in bank deposits rather than other forms of assets that had higher risks.

Kebiro (2024) studied investment decisions of SACCOs in Kenya and how the decisions affected efficiency. The study's specific aims were to; establish role of investment in real estate, government securities, fixed deposits, shares, liquidity, firm size and liquidity. The study used data that was collected from published reports of the financial entities. The five-year data was processed via use of regression methods. The outcome manifested that fixed deposits, firm size and liquidity had weak positive effect on firm efficiency. In contrast real estate, government securities and shares had strong positive effect on firm efficiency for the SACCOs.

Ogendi (2022) evaluated firm performance in Kenya. The study was a focus of insurance companies in Kenya where the independent variables that were examined were: government securities, term deposits, stocks and real estate property and other variables such as leverage and liquidity. Using correlational research design, results of OLS regression indicated that government securities, stocks, term deposits had positive significant effect on firm performance. In contrast, real estate and leverage had insignificant negative effect on firm performance. Lastly, liquidity had positive insignificant effect on firm performance of insurance companies.

Kiboi and Bosire (2021) reviewed investment choices and firm performance of insurance companies in Kenya. The study utilized secondary data from thirty-seven licensed insurers in Kenya. The study sought to link government securities, real estate property, quoted shares and money market deposits. The output from regression evidenced that the four-investment led to better performance as in all cases, the coefficients were positive and significant in relation to firm wellness.

Morwabe and Muturi (2019) looked into investment decisions and firm performance of deposit taking SACCOs in Nairobi. The study assessed the effect of government securities, bank fixed deposits, shares investments and FOSA services. The secondary data that was sourced from all deposit taking SACCOs was analysed using time series analysis. The outcome evidenced that fixed deposit accounts had positive but weak role on firm performance. However, government securities and FOSA had strong positive effect on firm performance.

Thuo (2019) delved into investment choices of insurance companies. The study dealt with insurers in Kenya from which secondary data was sourced. In achieving the findings, regression analysis was done where results showed that bank term deposits, real estate, government securities and corporate bonds improved profits significantly. In contrast, stock had minimal effect on firm profits for the insurers.

2.3.4 Ordinary Shares Securities and Financial Stability of Companies

Ordinary shares are investments in form of stocks. Stocks are shares of other companies that investors purchase in the securities market. Shares are good investments as they are passive sources of income with minimal operational costs. However, shares may not yield good returns if economy is doing poorly. For this reason, shares can either positively or negatively impact stability of companies in Kenya.

Khurramov (2020) undertook to assess investment activities of insurance companies and how this influenced profits and stability. The study was a desktop study where data was mined by looking at various articles and past researches. The results evidenced that most insurers had invested in various assets such as government securities, bank deposits, investment in shares, bonds and real estate investments.

Fwamba and Makokha (2019) looked into investment practices and firm performance for firms in South Sudan. The study sought to establish the effect of portfolio management, equity investment and long term investments on firm financial returns. The study focused on insurance companies in Juba. Results of regression analysis showed that portfolio management bettered firm performance, innovative long term investments too improved performance while equity investments impaired financial returns of firms in a significant manner.

Muriuki and Musau (2024) examined revenue diversification by commercial banks in Kenya. Specifically, the study endeavored to relate fees and commissions, transaction fees, dividend income and foreign currency exchange earnings. Data was sourced from all licensed banks in Kenya and was processed in regression and correlation analysis.

The outcomes showed that dividend income from stocks had positive and strong effect on firm returns, fees and commissions improved returns significantly. Equally, both transaction fees and forex fees significantly improved firm performance.

By considering four hundred and twenty one pension schemes in Kenya, Kenga and Banafa (2024) delved into establishing the nexus between investments in equities and firm performance. The study used data from pension schemes in Kenya and the data was processed by undertaking regression analysis. The outcome of the study was that investments in equities had strong positive association with firm returns. Moreover, participating in foreign currency exchange business moderated the nexus between investments in stocks and firm returns.

Ombima and Njiru (2018) studied life assurance companies in Kenya. The study sought to examine the nexus between bond investments (government securities), equity investments (ordinary shares) and mortgage investments. The study used primary data that was sourced from senior managers of life insurance companies. The collected data was subjected to descriptive and inferential statistics which revealed that all investments namely bond, equity and mortgage had strong positive link with financial returns of firm performance.

Adhiambo et al. (2023) studied portfolio diversification and financial performance of firms in Kisumu County. The study purposed to determine role of stock and bonds (government securities) on firm returns among large firms. By use of regression analysis, the study results indicated that government securities and stock investments had strong positive effect on firm returns and in overall portfolio diversification improved firm returns. The study also noted that investments in different classes enabled firms to better financial results.

2.3.5 Managerial Efficiency and Financial Stability of Companies

Managerial efficiency depicts competency of managers in using available resources to generate revenue. In this aspect, managers are efficient if they are able to improve cost savings, maximize returns and minimize wastage. For this reason, managerial efficiency is an integral aspect that can moderate other factors to influence different firm outcomes. In regards to stability of companies, managerial efficiency ensures that resources are utilized well. Moreover, managerial efficiency is an important quality of managers as it aids in achievement of goals of companies (Seong & Lee, 2019).

Chang and Ma (2019) explored managerial efficiency, firm life cycle and financial flexibility in relation to how these factors influence firm wellness of Chinese firms. The study sourced data from listed entities in China. In respect to outcomes, it emerged that most of the firms had financial flexibility and exhibited good performance. Moreover, the study revealed that managerial efficiency for most of the listed firms was good and led to better firm wellness including enhanced firm performance and stability.

Seong and Lee (2019) studied managerial efficiency, corporate social performance and financial performance of firms. The study used both primary and secondary data that was analysed using inferential statistics. The study found out that managerial efficiency has a positive effect on social and financial performance of entities. Moreover, it emerged that efficient managers were noted to be innovative and this translated to better performance.

Habib and Hasan (2017) studied managerial ability and firm-level efficiency. By using firm-level data from a sample of firms for the period 1987 to 2012, the researchers collated a panel data set. In this study, managerial ability was proxied by reputational assessment. The study's findings showed that managerial efficiency, financial reporting quality had a positive effect on firm efficiency. Moreover, it emerged that managerial efficiency led to better investment decisions thus leading to improved organizational outcomes.

Ongoro et al. (2023) looked into managerial efficiency proxied by management ability and how this affected investment efficiency. The study utilized data from listed firms at the NSE. The data was sourced from financial reports of listed firms for a period 2008-2012. The specific aims were to establish effect of firm size, leverage, profitability and managerial efficiency on investment efficiency. Results showed that managerial ability had strong negative association with investment efficiency of firms listed at the NSE.

Barus et al. (2017) delved into managerial efficiency and firm performance of SACCOs. In this study, managerial efficiency was operationalized in terms of expenditure to income and ratio of business per employee. The study adopted both primary and secondary data from a sample of deposit taking cooperatives and was collected for a five-year period. The study's findings evidenced that managerial efficiency did not have any effect on performance of deposit taking SACCOs in Kenya.

2.4 Summary of Literature Review and Gaps

Although literature review has shown that there are studies undertaken on asset diversification, there still exist some gaps, particularly relating to how asset diversification affect firm stability. Widarwati et al. (2023) found out that real estate bettered firm wellness in Indonesia. However, the study was not done in Kenya and also did not consider more investment choices as the current study does by including term deposits, shares and government securities. Moreover, the current study seeks to establish if managerial efficiency moderates the association between asset diversification and firm stability. Sultan et al. (2023) found out that real estate invetsemnts improved firm wellness in Pakistan. However, the study focused on one predictor while the current study has more predictors and further looks at managerial efficiency's moderating power.

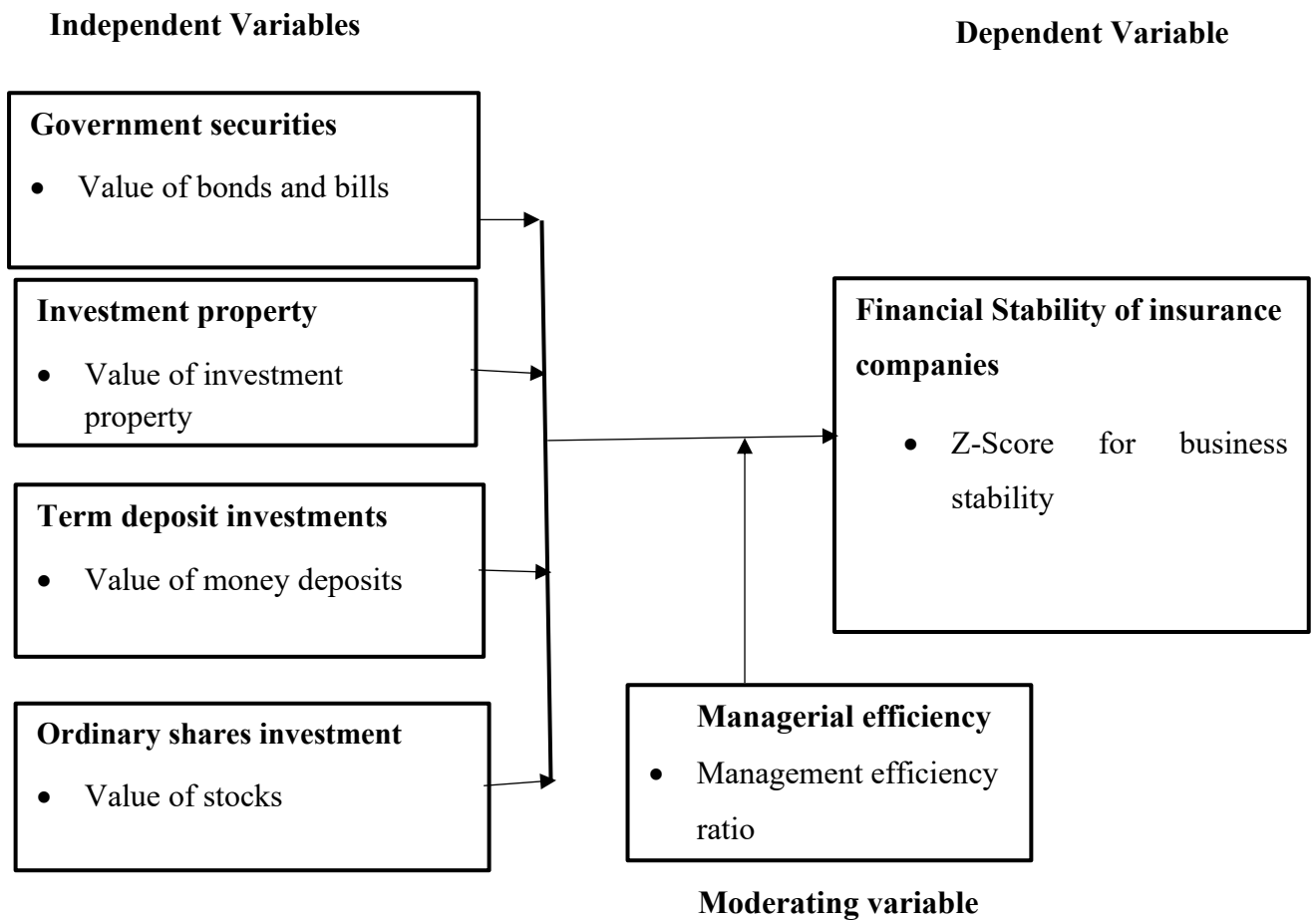
Teixeira et al. (2021) found out that government securities affect firm stability in Cape Verde but did not look into other assets such as term deposits, real estate propoerty and ordinary stocks investments. Inuwa and Said (2024) found out that real estate investment properties did not improve firm wellness in Nigeria. Moreover, the study was not done in the Kenyan insurance sector as the current study. Adhiambo et al. (2023) found out that firm performance of large firms was affected by governemnt securities and stocks investments. However, the study was not done among insurers as the current study.

Muema et al. (2021) found out that equity and bonds investments affected returns of collective investment schemes in Kenya. However, the study was not done among insurers as the current study. The current study is different from past studies in two main ways. First, it looks into moderating effect of managerial efficiency on the relationship between asset diversification and stability of insurance companies in Kenya. Second, the study used robust method in processing data as it used firm-level data to collate a panel data set which provides more variability.

2.5 Conceptual Framework

This study has four predictors; government securities, investment property, term deposits and ordinary shares investments. The moderating variable is managerial efficiency and the dependent variable is stability of insurance companies.

FIGURE 1
Conceptual Framework



2.6 Operationalization Framework

The study variables are operationalization as shown on Table 1

TABLE 1
Operationalization Framework

Nature of variable	Variable name	Measurement	Scale
Dependent variable	Financial stability of companies	$z - score(Bstab)_{it} = \frac{ROA_{it} + (E/TA)_{it}}{\partial(ROA_{it})}$	Interval
Independent Variables	Government securities	Government securities/ Total assets ratio	Interval
	Investment properties	Investment property/ Total assets ratio	Interval
	Term deposits	Term deposits/ Total assets ratio	Interval
	Ordinary shares investment	Ordinary shares investment/ Total assets ratio	Interval
Moderating Variable	Managerial efficiency	Management expense/ net earned premium ratio	Interval

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains various procedures and methods that covers issues of data collection and analysis so that the research questions are answered. The chapter starts with research design, study population and data collection procedures. Equally, the data analysis technique was discussed in details covering type of statistics and diagnostic tests together with model specification.

3.2 Research Design

Research design describes a strategy whose main purpose is to show how a research problem is addressing majorly by showing how research questions are responded to. It typically combines aspects of research questions into a single action plan embedded in theories and further shows how data is collected and output synthesized (Khanday & Khanam, 2019). In so far as research design is concerned, key points need to be considered in selection of appropriate research designs. For instance, Pandey and Pandey (2015) note that how data is collected, be it in natural settings or experimental that significantly influence the choice of research design. For example, a descriptive research design is a natural phenomenon is under investigation. Moreover, in research design selection, it is vital to consider the research problem at hand. For example, an experimental research design is used where cause-effect relationship is sought.

This study adopted the descriptive research design which typically aims at offering information on situations in a natural set. Thus, this design is non-experimental as it purely uses data as is in the natural environment (Erickson, 2017).

It does not entail performance of experiments or data or environment manipulation but rather entails systematic sourcing of data without any interventions (Doyle, et al., 2020). This design fits in this study as the study sourced data on asset diversification and stability of insurance companies in Kenya. These data from insurers were not manipulated as the researcher aimed at describing the nature of relationship between selected assets and company stability.

3.3 Study Population

A study population represents total units that are considered in data collection for the purpose of addressing the research questions. Thus, study population is definite number of units that can be reached for data collection and must have some overlapping common feature (Willie, 2024). Study population is therefore the specific group of things that the results of the study are for. Additionally, in defining the study population, its unifying characteristic must be put to light so that is clearly identifiable and distinguishable from other groups. Hence, a study population ought to have a unique variable feature that is common to all units that are included in the study (Shukla, 2020).

The study population in this study was general insurance companies in Kenya that are licensed pursuant to Section 184 of the Insurance Act. The entities are licensed by the Insurance Regulatory Authority. As of 2024, there were 34 registered general insurance companies in Kenya (IRA, 2024). According to (Association of Insurers in Kenya (AKI), 2024) as extracted from Insurance Act, a general insurance company in Kenya is one that is registered under the Act and has duly raised minimum paid up capital of Kenya shilling 600 million and is licensed to undertake insurance business other than life insurance.

This type of insurance business is more often short term and is mainly done in private or commercial forms depending on the nature of the insured. General insurers in Kenya are mandated to cover risks that emanate from various economic fronts. There are 14 classes of general insurance risks that are covered: aviation, engineering, fire domestic, fire industrial, public liability, marine, micro insurance, medical insurance, work injury benefits, theft, personal accident, motor private and miscellaneous insurance (AKI, 2024).

This study focused on general insurance companies for a number of reasons. Foremost, general insurance companies are the predominant in the economy as they insure a wide range of risks in contrast to life assurance companies. Hence, studying them is important as it provides information to improve their stability. Secondly, data on general insurance companies is available from annual reports prepared by Insurance Regulatory Authority (IRA). Lastly, general insurance companies' instability can cause widespread negative effects in the entire financial sector. Therefore, studying their stability is vital as it offers insights on policies that can be implemented to boost stability of the entire financial sector in Kenya.

3.4 Data Collection Procedure

This study used secondary data that was collected in a systematic procedure to ensure valid data is obtained. The data was collected from audited financial statements of insurance companies. The period of data collection was from the year 2017-2023. All the 34 general insurance companies were used in data collection. This means that the data was in a panel as individual-company data was collected in an 8-year period.

According to Sock et al. (2020) a panel data contains data from research units that has been collected periodically in a time span. This provides higher statistical validity outputs as it contains repeated measurements for variables in a time span allowing for more variability in data. The values for the variables were summarized on Excel sheet where observations for all variables were captured to realize a balanced panel dataset.

3.5 Data Analysis Technique

This study used panel data analysis to obtain results that offered statistical insights for this study that aimed to assess asset diversification and stability of insurance companies in Kenya. The study used panel data analysis and therefore the time aspect in the data was considered in specifying the multiple regression model as specified on Equation 1

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + u_i + v_{it} \dots \text{Equation 1}$$

The moderated regression model was specified on Equation 2

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 ME_{it} + \beta_6 X_{1it} * ME_{it} + \beta_7 X_{2it} * ME_{it} \\ + \beta_8 X_{3it} * ME_{it} + \beta_9 X_{4it} * ME_{it} + u_i + v_{it} \dots \dots \dots \text{Equation 2}$$

In which Y was stability of insurance company, X_1 was government securities, X_3 was investment property, X_3 was term deposits and X_4 was ordinary shares. The u_i was time constant observable or unobservable individual specific effects, v_{it} was the idiosyncratic error term, t was time and i was the insurance company. ME was managerial efficiency. The use of time constant observable effect ensures that results are unbiased and consistent. Data analysis was done by use of STATA and the output was presented in various methods such as graphs and tables.

3.5.1 Panel Regression Model Specification Test

Panel data either takes the form of Pooled OLS, Fixed Effects or Random Effects Model. In, pooled OLS the assumption is that individual effects are not there and thus the coefficients are same for all companies, as the slope is constant. In other words, pooled OLS is used where there are reasons to believe that there are time invariant variables (Collischon & Eberl, 2020). However, use of pooled OLS has a major limitation in that where the error term is correlated with a predictor due to individual endogeneity, biased estimators are realized.

Fixed effects model assumes that there are individual characteristics whose role in predicted response variable is negligent and thus non-random (Ellen & Bengt, 2020). In this aspect, the fixed effects model takes into account of all time-invariant differences between units (in this case companies) ensuring that estimates are not biased. This further means that time invariance characteristics is constant for each company. Random effects model views that the variation across companies is random and therefore uncorrelated with predictors (Hill et al., 2020). In other words, random effects model is used where are time invariant variables and that differences across companies influence response variable without necessarily being correlated with input variables.

Thus, RE model view that the error term has no correlation with predictors thereby permitting for time-invariant variables. This is because the u_{it} are uncorrelated with predictor variables. The study used Hausman- test to examine the individual characteristics correlation with predictors. The Hausman-test was set as:

Test of H_0 : Difference in coefficients not systematic (random effects)

Where is $P > \chi^2$ is < 0.05 use fixed effects model (Patrick, 2020)

3.5.2 Diagnostics

The data and results of regression analysis was examined to tell whether the classical assumptions of regression analysis are violated. The findings on these tests are documented on chapter four.

Serial Correlation

Serial correlation is condition where residuals are correlated with each other. It implies that the residuals of one observation are dependent on residuals of other observations (Lee & Park, 2016). This study examined first order serial correlation which checks whether residuals are correlated in adjacent periods. The study used Wooldridge test in panel data to examine existence of serial correlation. The model is void of serial correlation where p-value for the Wooldridge test is greater than 0.05 (Bai et al., 2021).

Multicollinearity

Where predictors have high correlation with each other, the condition is known as multicollinearity (Kalnins, 2018). This means that predictors are not independent which is a key quality of data that is subjected to regression analysis. The study used variance inflation factor to look into existence of multicollinearity. A data set is void of multicollinearity problem where the VIF are less than 10 (Marcoulides & Raykov, 2019).

Heteroskedasticity

The condition where regression residuals do not have constant variances, the dataset is said to have heteroscedasticity (Halunga, et al., 2017). This contradicts the expectation that variances for residuals should be constant across a range of observations for predictors. This study used the Breusch-Pagan/Cook-Weisberg test for Heteroskedasticity that assumes normal error terms.

Where the p-value for the test is less than 0.05, the dataset has heteroscedasticity problem. This problem can be dealt with by use Generalized Least Squares regression, robust standard errors, first differencing or converting observations into logarithms.

Normality of Residuals

Residuals are considered normally distributed if they closely exhibit normal distribution which is bell-shaped. It is a key assumption in regression as its violation negates model significance and reliability of estimates (Alejo & Galvao, 2015). Moreover, non-normality of residuals is an indication of presence of outliers that may distort panel regression estimates. The study used visual inspection by running a quartile-quartile plots in which if the line of best fit for residuals is straight or near straight it evidences normality of residuals (Knief & Forstmeier, 2021).

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

Chapter four delves on presentation of data analysis output. In terms of contents, descriptive statistics are presented first followed by exploratory data analysis and then panel regression output. At the end of the chapter, a discussion of the findings is made so as to provide inferences on the study that sought to assess asset diversification and financial stability of insurance companies in Kenya.

4.2 Descriptive Statistics

The study had four predictor variables: government securities (GSec), investment property (InvPr), term deposits (TDep) and ordinary shares securities (ShareSec). Moreover, the study had a moderating variable that was managerial efficiency. The predictors were measured in terms of interval scale. For instance, observations for government securities were expressed in terms of government securities over total assets and so on. Management efficiency was a ratio of management expenses over gross written premium. The dependent variable was financial stability, which was proxied by Z-score.

The moderating variable was managerial efficiency. Managerial efficiency is a composite term that can refer to various skills that those in management possess in reference to how they generate income for companies. Therefore, it is a measure of proficiency in resource usage, achievement of cost cutting objectives and ability to initiate lean processes. In this aspect, managerial efficiency entails making of decisions that aid in boosting of revenue, profitability and stability of companies.

The study sourced data from audited financial statements of insurance companies and IRA annual reports for a period of seven years, from 2017 to 2023. The panel was unbalanced since some companies closed down during the period, and others did not present financial statements. For example, Xplico Insurance Company was placed under receivership and licensed withdrawn by IRA in 2023. Invesco Insurance, too, did not operate in 2020, while Metropolitan Canon Insurance did not report during the years 2022 and 2023.

Output on Table 2 indicated that the overall Z- score, for business stability was good showing that most insurance companies were stable ($M=4.95$, $SD=5.803$). The Z- score is an indicative matrix that shows the likelihood of a company going bankrupt. The safe zone is where the Z-score is greater than 2.99, and gray zone is where the Z- score is between 1.81-2.99 while the distress zone is where the Z-score is less than 1.81. Therefore, the financial stability of insurance companies during the period between the years 2017-2023 was favorable and thus there was a low probability of running into financial distress. Nevertheless, some insurers were in distress as evidenced by the lowest score of -4.382. On the far positive side, the most financially stable insurance recorded a Z-score of 26.7067. In conclusion, most insurance companies were stable, and thus not prone to risks of facing financial distress.

The output Table 2 also shows that the most common form of investment was government securities ($M=0.283$, $SD=0.1917$). The minimum government securities investment was 0.005 and the maximum ratio was 0.816. This reveals that some insurance companies had invested in government securities to a large extent while. Government securities include treasury bonds and bills and are considered safer investments due to low risks. Additionally, the second most common investment was investment property ($M=0.191$, $SD=0.150$). Further results showed that term deposits investment was low ($M=0.105$, $SD=0.096$). Also, it was noted that highest term deposit to total assets ratio was 0.691 although some insurers did not have any term deposits. Results also showed that investments in ordinary shares or stocks were the least ($M=0.020$, $SD=0.0284$).

The findings revealed that insurance companies had diversified in several investments as a mechanism of dealing with systematic risks. The insurance sector is dynamic and robust investment diversification is practiced, as far as the output evidences. Foremost, asset diversification deals with risk-returns volatilities that is imminent in sectors of the economy. This works because diversification spreads in different assets with different risk profiles. Secondly, asset diversification is a strategic mechanism of managing investment risks. In absence of asset diversification, investment risks are high due to inefficient allocation.

Managerial efficiency (ManEff) had a moderate mean ($M=0.391$, $SD=0.1997$). Considering that management efficiency was measured in terms of management expenses over net written premium, the mean manifests that management of most insurance companies could utilize resources in moderate efficiency in the pursuit of company goals and objectives.

Moreover, the highest management efficiency ratio was 1.30 and the least was 0.1997 showing that while some insurers had good efficiency some struggled in resource optimization. The output for the descriptive statistics for the variables that have been discussed are presented on Table 2

TABLE 2
Descriptive Statistics for Variables

Variable		Mean	Std. Dev.	Min	Max	Observations
Z_Score	Overall	4.959157	5.803293	-4.382065	26.7069	N = 226
	Between		5.477668	-.812839	24.67295	n = 34
	Within		1.847521	.672992	8.907648	T-bar = 6.64706
Gsec	Overall	.283139	.1917237	.0052383	.8165732	N = 226
	Between		.1788503	.0193081	.6382343	n = 34
	Within		.0733012	.004728	.5177107	T -bar= 6.64706
InvPr	Overall	.191147	.1501879	0	.6086617	N = 225
	Between		.1474673	0	.4896435	n = 34
	Within		.0481032	.0472722	.4702754	T-bar = 6.61765
TDep	Overall	.1047744	.096004	0	.6914536	N = 226
	Between		.0742568	.0128157	.2863282	n = 34
	Within		.0611531	-.149198	.5098998	T-bar = 6.64706
ShareSec	Overall	.0202392	.0283988	0	.1410546	N = 226
	Between		.0240887	0	.0767033	n = 34
	Within		.0149998	-.0229172	.1207942	T-bar = 6.64706
ManEff	Overall	.3911381	.1997307	.1140275	1.302584	N = 228
	Between		.1792007	.1432668	1.025851	n = 34
	Within		.0949578	.0115731	.8054173	T-bar = 6.70588

Source: Data Analysis Output (2025)

4.3 Exploratory Data Analysis

Panel data is tested to validate which model is fit. In this study, graphical methods were used. Figure 2 and Figure 3 are output illustration for single graph and overlay graph respectively. In both graphs, the variation in the response variable (financial stability) is almost across the firms over the period. Where there are outliers in observations for variables, pooled OLS is preferred against panel data. In the case of this study, there were no outliers and therefore panel regression was adopted. This is because, in absence of significant outliers, panel data regression can be used as it accounts for any unobserved heterogeneity across the insurance companies.

FIGURE 2
Single Line Graph (Z-Score)

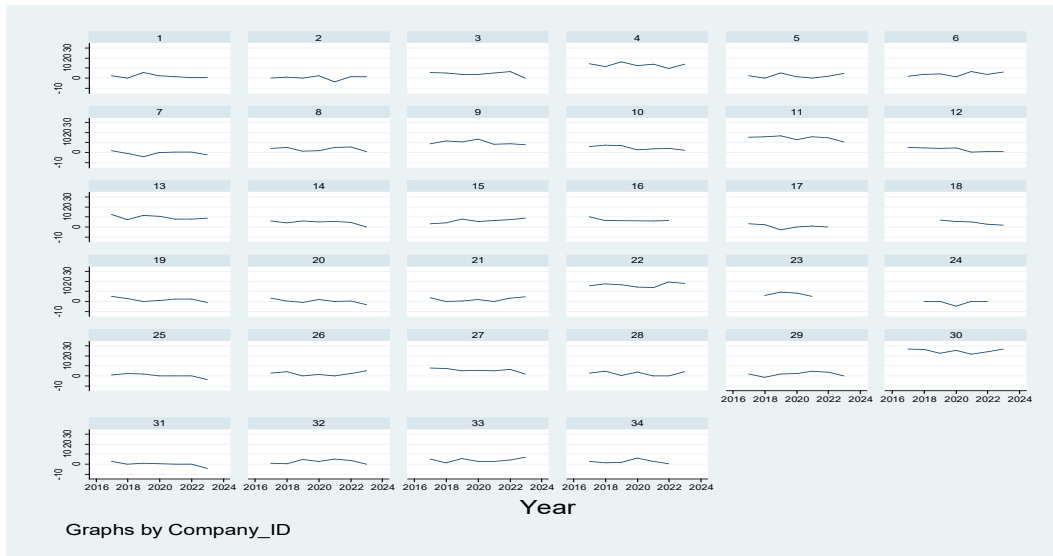
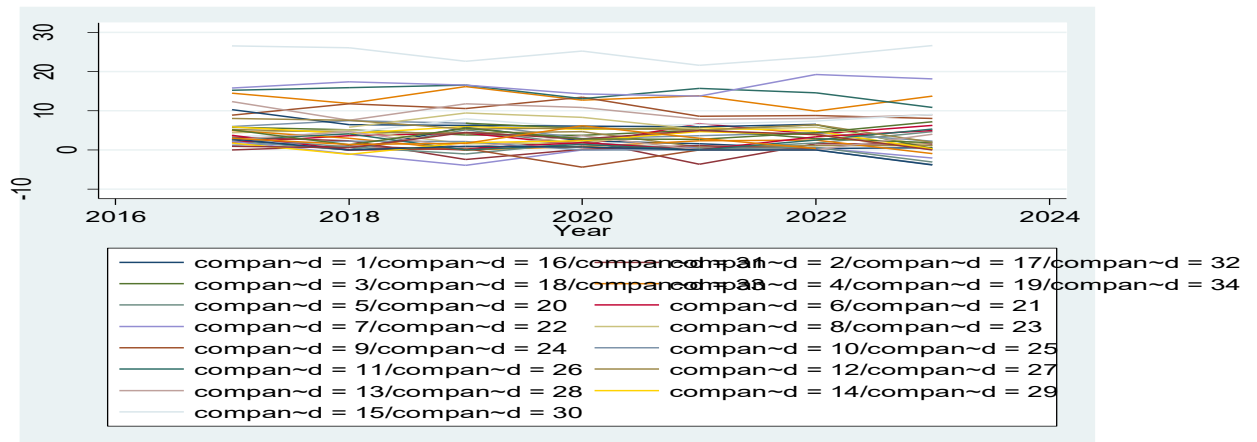


FIGURE 3
Overlay Graph



4.4 Panel Data Analysis

In retrospect, the study sought to assess asset diversification and financial stability of insurance companies in Kenya. The study had four independent variables: government securities, investment properties, term deposits and ordinary shares investments.

The variables were measured in terms of interval scale as ratios of value of each variable over total assets. The moderating variable was managerial efficiency which was measured as a ratio of management expense over net earned premium. The dependent variable was financial stability that was measured in terms of Z-score (for business stability). A panel data was obtained from the audited financial statements of insurance companies and from annual reports of insurance companies from Insurance Regulatory Authority. The data and output were examined for various diagnostic tests that validate outcome of regression analysis. These are discussed in this section.

4.4.1 First Order Serial Correlation

First order serial correlation is a condition that exist where residuals are correlated with each other. This was examined by use of Wooldridge test. In reference to the output on Table 4.2, that were obtained after regressing the variables, it was concluded that serial order correlation was not present, $F(1,32) = 2.107$, $p=0.1563$. Wooldridge test evaluates whether the idiosyncratic error term has serial correlation and therefore, the null hypothesis is no first order serial correlation. Where the p-value is < 0.05 , the null hypothesis is rejected. It therefore infers that the null hypothesis in this case failed to be rejected and it was concluded that the error term did not have serial correlation. The model is void of serial correlation where p-value for the Wooldridge test is greater than 0.05 (Bai, et al., 2021). The outcome is presented on Table 3

TABLE 3
Wooldridge Test

Wooldridge test for autocorrelation in panel data	
H0: no first-order autocorrelation	
F(1, 32) =	2.107
Prob > F =	0.1563

Source: Data Analysis (2025)

4.4.2 Multicollinearity

The problem of multicollinearity arises where input variables are highly correlated. The study examined multicollinearity by using variance inflation factors whose output is presented on Table 4. The Variance Inflation Factors depicts the severity of coefficients being inflated or exaggerated due to variables being correlated. The VIF values are often diverse depending on the level of inflation in which a VIF of 1 show absence of multicollinearity, above 1 shows little correlation, 5-10 high correlation and above 10 is not acceptable. The VIF for all variables were therefore within acceptable limits and this the four input variables (investment property, government securities, term deposits and ordinary shares securities) do not exhibit alarming correlations. A data set is void of multicollinearity problem where the VIF are less than 10 (Marcoulides & Raykov, 2019).

TABLE 4
Variance Inflation Factor

	VIF	1/VIF
Investment Property	2.102	.476
Government Securities	1.939	.516
Term deposits	1.377	.726
Ord Share Securities	1.104	.906
Mean VIF	1.631	.

Source: Data Analysis (2025)

4.4.3 Heteroskedasticity

Heteroskedasticity is a problem that is present where error terms do not have constant variances across observations. It is a problem because it affects standard errors occasioning invalid conclusions in respect to hypothesis testing. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is null hypothesis of homoscedasticity (errors having constant variances) and therefore it is rejected if the p-value is less than significance level.

Output on Table 5 shows that the null hypothesis was rejected and therefore it was concluded that heteroskedasticity was present. In turn, results for regression analysis were obtained by using robust standard errors regression. By use of the robust standard errors regression, any errors for are adjusted to account for any variance in errors. The study used Breusch-Pagan/Cook-Weisberg test whose outcome is on Table 5

TABLE 5
Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of Z_Score	
chi2(1)	= 51.13
Prob > chi2	= 0.0000

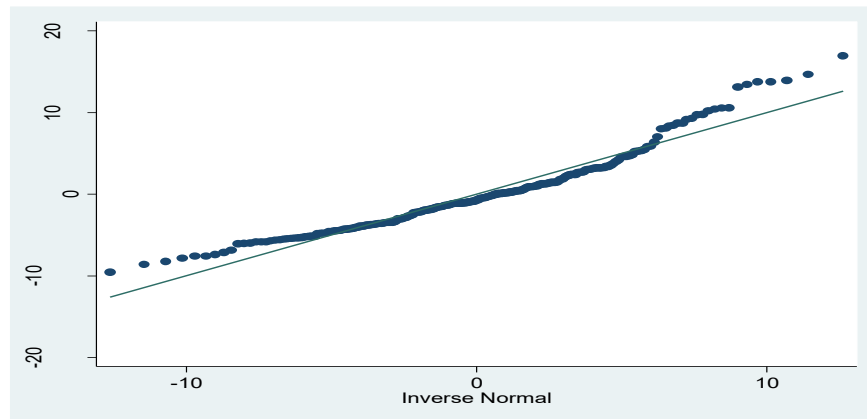
Source: Data Analysis (2025)

4.4.4 Residual's Normality Test

Residuals are normally distributed where variability in data is reasonably well meaning that any unobserved variation is basically random. It is a critical assumption in regression analysis as it shows that model is fit and that the variations in response variable is explained by the random changes in the predictors. In this study, residual normality was done by use of visual inspection and the graph is presented on Figure 4.

The residuals plot nears the line of best fit and therefore it was concluded that the residuals showed normal distributed. Where the line of best fit for residuals is straight or near straight it evidences normality of residuals (Knief & Forstmeier, 2021).

FIGURE 4
Q_Q plot for Residuals Normality



4.4.5 Hausman Model Specification Test

The Hausman test was used to establish which model was best suited for the data, that is whether RE, FE or Pooled OLS. The Hausman-test is set as: *Test of H_0 : Difference in coefficients not systematic (random effects)* Where is $P > \chi^2$ is < 0.05 use fixed effects model (Patrick, 2020). In this case, as per the results on Table 6, the null hypothesis was rejected and it was concluded that the fixed effects model was the most appropriate. Notwithstanding this conclusion, it was not used to report findings due to the problem of heteroskedasticity. Instead, the robust standard errors regression model was adopted. The Outcome for the test is presented on Table 6

TABLE 6
Hausman (1978) specification test

	Coef.
Chi-square test value	18.072
P-value	.001

Source: Data Analysis (2025)

4.4.6 Regression Analysis

The study had four predictors. The robust standard errors regression yielded the output as shown on Table 7. Drawing from the results on Table 7, the regression indicated that government securities, investment property, term deposits and ordinary share investments significantly predicted variations in financial stability of insurance companies, ($R^2=.566$, $X^2=116.329$, $p=.000$). This indicated that the asset diversification accounted for 55.6 % of variations in financial stability of insurance companies in Kenya.

In addition, the results indicated that there was positive and link between government securities and financial stability. This meant that an increase in 1 unit in government securities had a corresponding increase of 12.206 in financial stability ($\beta=12.206$, $p=0.000$). Similarly, there was a positive link between investment property and financial stability ($\beta=7.22$, $p<0.05$) indicating that for every increase in 1 unit in investment property increased financial stability by 7.22 units.

Additionally, results indicated that there was a positive and significant effect on term deposits on financial stability ($\beta=15.220$, $p<0.05$) Lastly, the findings show that there was positive effect of ordinary share investments on financial stability of insurance companies ($\beta=57.64$, $p<0.05$). Thus, there was a positive relationship between asset diversification and financial stability of insurances companies in Kenya.

TABLE 7**Prais-Winsten regression, heteroskedastic panels corrected standard errors**

Z Score	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Gsec	12.206	1.599	7.64	.000	9.073 15.339	***
InvPr	7.223	2.476	2.92	.004	2.371 12.075	***
TDep	15.22	2.47	6.16	.000	10.378 20.062	***
ShareSec	57.636	11.403	5.05	.000	35.285 79.986	***
Constant	-2.664	.981	-2.72	.007	-4.587 -.742	***
Mean dependent var		4.951	SD dependent var		5.815	
R-squared		0.566	Number of obs		225	
Chi-square		116.329	Prob > chi2		0.000	

*** $p < .01$, ** $p < .05$, * $p < .1$

$$Y_{it} = -2.664 + 12.206X_{1it} + 7.223 X_{2it} + 15.22X_{3it} + 57.636 X_{4it}$$

4.4.7 Analysis of Moderating Effect

The fourth objective of the study was to establish whether managerial efficiency moderated the relation between asset diversification and financial stability. To begin with the predictors were centered and interaction variables obtained. The output from the regression is presented on Table 8. Results on the coefficient of determination, indicated that asset diversification predictors and the interaction terms accounted for 54.6 % variations in financial stability ($R^2=0.546$, $X^2=165.97$, $p<0.05$). This indicated that asset diversification had significant influence on changes in financial stability. In reference to the coefficients on the equation, there is a positive of government securities, ($\beta=11.587$, $p<0.05$). Also, investment property had positive and significant effect on financial stability ($\beta=6.119$, $p<0.05$). Same occurrence was noted for term deposits ($\beta=13.075$, $p<0.05$) However, ordinary shares securities had non-significant effect on financial stability of insurance companies ($\beta=27.883$, $p=0.075$). On the other hand, managerial efficiency had negative non-significant effect on financial stability ($\beta=-2.937$, $p=0.145$).

The interaction terms also showed that government securities interacted with managerial efficiency (Govnt_ME) had positive significant effect on financial stability ($\beta=11.554$, $p<0.05$). However, investment property interacted with management efficiency (IP_ME) had negative insignificant effect on financial stability ($\beta=-2.154$, $p=0.797$). Term deposits variable interacted with managerial efficiency had positive significant effect on financial stability of insurance companies in Kenya ($\beta=22.888$, $p<0.05$). Lastly, ordinary share securities interacted with managerial efficiency had negative insignificant effect on financial stability ($\beta=-108.657$, $p=0.258$). This outcome evidences that managerial efficiency had moderating effect on the nexus between asset diversification and financial stability of insurers in Kenya.

TABLE 8

Moderated Prais Winsten regression, heteroskedastic panels corrected standard errors

Z_Score	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gsec	11.587	1.75	6.62	.000	8.156	15.017	***
InvPr	6.119	2.593	2.36	.018	1.037	11.201	**
TDdep	13.075	2.375	5.51	.000	8.421	17.729	***
ShareSec	27.883	15.654	1.78	.075	-2.798	58.565	*
ManEff	-2.937	2.014	-1.46	.145	-6.884	1.009	
GSec_ME	11.554	5.457	2.12	.034	.858	22.251	**
InvPr_ME	-2.154	8.377	-0.26	.797	-18.572	14.264	
TDdep_ME	22.888	10.955	2.09	.037	1.417	44.359	**
ShareSec_ME	-108.657	96.035	-1.13	.258	-296.883	79.568	
Constant	-.507	1.298	-0.39	.696	-3.051	2.037	
Mean dependent var		4.951	SD dependent var		5.815		
R-squared		0.546	Number of obs		225		
Chi-square		165.967	Prob > chi2		0.000		

*** $p<.01$, ** $p<.05$, * $p<.1$

The moderated equation was specified as follows:

$$\begin{aligned}
 Y_{it} = & -0.507 + 11.587X_{1it} + 6.119X_{2it} + 13.075X_{3it} + 27.883X_{4it} - 2.937ME_{it} \\
 & + 11.554X_{1it} * ME_{it} - 2.154X_{2it} * ME_{it} \\
 & + 22.888X_{3it} * ME_{it} - 108.657X_{4it} * ME_{it}
 \end{aligned}$$

4.5 Testing Hypothesis and Discussion of Findings

This section of the study report contains the outcome of testing the null hypothesis that were set on chapter one. Hypothesis, **H₀₁**, **H₀₃**, **H₀₃** were based on asset diversification components, that is government securities, investment property, term deposits and ordinary shares securities respectively while **H₀₄** sought to examine the moderating effect of managerial efficiency on the relationship between asset diversification and financial stability. The basis of the testing was by obtaining a multiple panel regression, with alpha (α)=0.05. The results of data analysis are presented on Table 4.7

The first hypothesis **H₀₁**: There is no significant effect of government securities on financial stability of insurance companies in Kenya was rejected ($\beta=12.206$, $p<0.000$). This meant that government securities had a significant positive effect on financial stability of insurance companies. The positive coefficient of 12.206 indicated that an increase in government securities led to an increase in financial stability by 12.206 units. Therefore, government securities improve stability of insurers.

Government securities include treasury bills and bonds that at coupon rates. These are assets that are preferred by risk-averse as government debt instruments are considered risk free. In Kenya, government securities are attractive as they earn interests to investors and risk of default by government is generally low. In this aspect, government securities provide insurance companies with regular and periodic income that can be used to supplement premium profits improving financial stability.

This finding is in congruent with the finding from the study done by Chen (2024) who established that government securities have different maturity periods and this ensures that investors have steady flow of returns from the securities improving on firm stability. However, Teixeira et al. (2021) noted that government bonds negatively impacted liquidity and financial stability of banks in Cape Verde. The study concluded that since government securities provided steady income but lower than investing on other assets such as real estates.

The second hypothesis ***H₀₂***: There is no significant effect of investment property on financial stability of insurance companies in Kenya was equally rejected ($\beta=7.223$, $p<0.000$). This indicated that investment property better financial stability. It also meant that a rise in investment property by 1 unit led to an increase in financial stability in 7.223 units. Investment property include land for resale and property for leasing. These assets earn good income when economy flourishes. The findings are in agreement with those of (Widarwati et al., 2023; Sultan et al., 2023; Grozdic et al., 2020) who found that investment property improved firm wellness including stability. However, the results do not agree with those of Inuwa and Said (2024) who found out that investment property did not better firm stability among insurance companies in Nigeria. They argued that the cost of buying or constructing investment property was too high thus leading to losses.

The third hypothesis ***H₀₃***: There is no significant effect of term deposits on financial stability of insurance companies in Kenya was rejected ($\beta=15.22$, $p<0.000$). This implied that there were a positive and significant effect of term deposits in financial stability of insurance companies. Term deposits are money deposits held to maturity in financial institutions. These deposits earn interests.

This result is in agreement with the results of (Parimalakanthi & Kumar, 2015: Kebiro, 2024 Ogendi, 2022: Thuo, 2019) who equally found that term deposits improved stability of investors. However, the findings do not agree with those of Morwabe and Muturi (2019) found that fixed deposit accounts had weak effect on SACCO's performance. They argued that term deposits earned less interests due to the fact that they invested with banks that were also in the same industry.

The fourth hypothesis ***H₀₄***: There is no significant effect of ordinary shares securities on financial stability of insurance companies in Kenya was rejected ($\beta=57.636$, $p<0.000$). This implied that ordinary shares securities or stocks improved stability of insurance companies in Kenya. Investing in shares earns the investors dividends and capital gains when such shares are liquidated in the stock market. In Kenya, stocks are traded in the Nairobi Securities Exchange where investors buy and sell stocks for gains. Insurance companies are prohibited in haphazard investing actions as guided by the Insurance Regulatory Authority and therefore they invest in companies with reputation of stability. The findings are in agreement with those of (Khurramov, 2020: Fwamba and Makokha, 2019: Muriuki and Musau, 2024: Kenga and Banafa, 2024: Adhiambo et al., 2023) who found that stocks are a good form of investemnts as they boost firm performance and stability.

The fourth hypothesis ***H₀₅***: There is no moderating effect of managerial efficiency on the relationship between asset diversification and financial stability of insurance companies in Kenya was rejected. Results on Table 4.7 indicates moderate moderation considering that the moderated panel regression model was statistically significant ($\chi^2=165.967$, $p=0.000<0.05$).

Further, the strength of association between the interaction terms for some variables was significant. For instance, managerial efficiency interacted with government securities had positive and significant effect on financial stability ($\beta=11.554$, $p=0.034 < 0.05$).

Similar results were found for the interaction term between term deposits and managerial efficiency ($\beta=22.888$, $p=0.037 < 0.05$). This means that managerial efficiency did not moderate the relationship between government securities and term deposits and financial stability. This can be due to these investments being dependent on macro-economic factors such as political and economic stability that affect the entire country.

Investment property interacted with managerial efficiency had positive non-significant effect on financial stability of insurance companies ($\beta=-2.154$, $p=0.797$). Equally, investments in ordinary shares or stocks were moderated by managerial efficiency as the positive effect was non-significant upon moderation ($\beta=-108.657$, $p=0.258$). This could be due reason that investment property and ordinary shares are within quick action by management. The Kenyan stock and real estate markets have been turbulent and poses a difficult decision to management. As such, it likely causes the input from managerial efficiency less significant. These results are in tandem with those of (Chang and Ma, 2019; Seong & Lee, 2019; Habib & Hasan, 2017). However, Barus, et al., (2017) found out that managerial efficiency managerial efficiency did not have any effect on performance of deposit taking SACCOs in Kenya. They argued that managerial efficiency focused more on cost savings instead of business expansion leading to poor firm performance among the societies. The margins plot results are shown on Table 9

TABLE 9**Average Marginal effects**

Average marginal effects		Number of obs =		225		
Model VCE : Het-corrected						
Expression : Fitted values, predict()						
dy/dx w.r.t. : Govnt_ME IP_ME TD_ME Ordshare_C_ME						
Delta-method						
	dy/dx	Std.Err.	z	P>z	[95%Conf.	Interval]
Govnt_ME	14.543	5.213	2.790	0.005	4.325	24.760
IP_ME	3.341	7.625	0.440	0.661	-11.605	18.287
TD_ME	30.330	10.008	3.030	0.002	10.715	49.944
Ordshare_C_ME	-11.596	67.258	-0.170	0.863	-143.419	120.226

Source (Data analysis, 2025)

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter five contains the conclusions that were drawn from the findings that are detailed in the previous chapter. The chapter too has recommendations, limitations and suggestions for further studies. In retrospect, the study sought to assess asset diversification and financial stability of insurance companies in Kenya.

5.2 Summary of Findings

The specific objectives were: to determine the effect of government securities on financial stability of insurance companies in Kenya, find out the effect of investment property on financial stability of insurance companies in Kenya, to find out the effect of term deposits on financial stability of insurance companies in Kenya and to determine the effect of ordinary shares securities on financial stability of insurance companies in Kenya and to evaluate the moderating effect of managerial efficiency on the relationship between asset diversification and financial stability of insurance companies in Kenya.

5.2.1 *Government Securities and Financial Stability*

The study found out that there was a positive relationship between government securities and financial stability of insurance companies in Kenya. The study found out that government securities significantly improved financial stability of insurers.

This indicated that a rise in investments in government securities bettered financial stability of the insurance companies in Kenya. Further, there was no moderating effect on the relationship between government securities and financial stability

5.2.2 *Investment Property and Financial Stability*

The study found out that investment property had positive and significant effect on stability of insurance companies in Kenya. Investment property therefore improves financial stability. However, there was no moderating effect by managerial efficiency on the relationship between investment property and financial stability.

5.2.3 *Term Deposits and Financial Stability*

The study found out that term deposits and financial stability had a positive and significant relationship. This indicated that investing in terms deposits improved financial stability. Further, the results showed that there was no moderating effect by managerial efficiency on the positive link between term deposits and financial stability.

5.2.4 *Ordinary Shares Securities and Financial Stability*

The study found out that ordinary share securities had a positive and significant effect on financial stability of insurance companies in Kenya. This indicated that a rise in investments in stocks improved financial stability. Further, it was noted that managerial efficiency moderates the relationship between ordinary shares securities and the financial stability of insurance companies in Kenya.

5.3 Conclusions

The study concluded that asset diversification is an important driver towards favorable financial stability of insurance companies in Kenya. This is because, it was noted that the regression model linking various components of asset diversification and financial stability was statistically significant. In addition, the study found out that there were positive and significant effect of government securities, investment property, term deposits and ordinary shares securities on financial stability.

It therefore implies that, insurance companies should keep investing in government securities, investment property, term posits and stocks as this significantly improved financial stability. Furthermore, diversifying investments ensure that risks and returns are managed in a robust manner lowering returns volatilities. At the same time, asset diversification is plausible where assets in different market segment are invested in so that risks are spread across different sectors in the economy.

The study further concluded that managerial efficiency had positive moderating effect on the relationship between asset diversification and financial stability of insurance companies in Kenya. Findings showed that moderating effect by managerial efficiency on the relationship between government securities and term deposits and financial stability of insurance companies in Kenya. However, it was noted that managerial efficiency did not moderate the relationship between investment property and ordinary shares securities.

5.4 Recommendations

The study makes the following recommendations:

5.4.1 Recommendations for insurance companies

In cognizant that the results of the study revealed that asset diversification boosted financial stability, the study recommends that insurance companies should diversify investments in order to lower returns volatilities and ultimately better financial stability. Financial stability is a measure of how well companies are able to avoid failure or collapse due to poor financial returns. The study revealed that all assets: government securities, investment property, term deposits and ordinary share securities better financial stability.

Management of insurers need to carefully mix and match assets to achieve optimum asset portfolio that yield best results thereby enhancing financial stability. Equally, management need to adopt robust managerial techniques and strategies so that they can better results and financial stability of companies. This is because, it was found out that there was partial moderation by managerial efficiency on relationship between asset diversification and financial stability of insurance companies.

5.4.2 Recommendations to policymakers

The Insurance Regulatory Authority (IRA) which is the principal policymaker in the insurance sector can draw some insights from the study. First, IRA need to prepare a guideline in respect to asset diversification. The results showed that ordinary shares securities are the best investments with the highest positive effect, followed by term deposits, then government securities and finally investment property. Therefore, the IRA can align the investment guideline in line with the results of the study.

Secondly, the IRA need to train management of insurance companies on how to better managerial efficiency. Results showed that managerial efficiency negated the positive effect of investment property and ordinary share securities. This is a manifestation of poor managerial decisions. Lastly, the IRA need to regularly review the investment guideline to align with empirical evidence presented in researches done in Kenya.

5.5 Limitations of the Study

The major limitation of the study could emanate from the data that was used. The study used secondary data that was sourced from Insurance Regulatory Authority annual reports and published annual reports.

Secondary data could be prone to possible errors and biases especially where such financial statements are restated without the knowledge of the researcher. However, all efforts were made to use correct and up to date data to reduce possible biases and errors.

5.6 Suggestions for Further Research

The study focused on insurance companies in Kenya. It is recommended that another study be done among commercial banks, SACCOs or microfinance institutions to measure the effect of asset diversification and financial stability of insurance companies in Kenya. This would make significant contribution to role of asset diversification in different financial entities. Additionally, considering that the study used secondary data from a panel of insurance companies, it is suggested that another study be done using primary data. This would provide comparison in results of the study.

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APPENDICES

Appendix I: Data Sheet

ASSET DIVERSIFICATION AND STABILITY OF INSURANCE COMPANIES IN KENYA

Insurance company (values in Kenya shillings)	2016	2017	2018	2019	2020	2021	2022
Government securities							
Investment property							
Term deposits							
Ordinary shares/ stocks							
Managerial expenses							
Net Written premium							
Current assets							
Current liabilities							
Earnings before interest and taxes							
Book value of equity							
Total assets							

Appendix II: General Insurance Companies

- 1 AAR INSURANCE KENYA
- 2 AFRICAN MERCHANT ASSURANCE
- 3 AIG INSURANCE COMPANY
- 4 APA INSURANCE COMPANY
- 5 BRITAM GENERAL INSURANCE
CANNON GENERAL INSURANCE (K)
- 6 LIMITED
- 7 CIC GENERAL INSURANCE COMPANY
- 8 CORPORATE INSURANCE COMPANY
- 9 DIRECTLINE ASSURANCE COMPANY
- 10 FIDELITY SHIELD INSURANCE
- 11 FIRST ASSURANCE COMPANY
- 12 GA INSURANCE COMPANY
- 13 GEMINIA INSURANCE COMPANY
- 14 HERITAGE INSURANCE COMPANY
- 15 ICEA LION GENERAL INSURANCE
- 16 INTRA-AFRICA ASSURANCE
- 17 INVESCO ASSURANCE COMPANY
- 18 JUBILEE GENERAL INSURANCE
- 19 JUBILEE HEALTH INSURANCE
- 20 KENINDIA ASSURANCE COMPANY
- 21 KENYA ORIENT INSURANCE
- 22 MADISON INSURANCE COMPANY
- 23 MAYFAIR INSURANCE COMPANY
- 24 MUA INSURANCE COMPANY
- 25 OCCIDENTAL INSURANCE COMPANY
- 26 OLD MUTUAL GENERAL INSURANCE
- 27 PACIS INSURANCE COMPANY
- 28 PIONEER GENERAL INSURANCE COMPANY
- 29 SANLAM INSURANCE COMPANY
- 30 TAKAFUL INSURANCE OF AFRICA
- 31 TAUSI ASSURANCE COMPANY
- 32 THE KENYAN ALLIANCE INSURANCE
- 33 TRIDENT INSURANCE COMPANY
- 34 XPLICO INSURANCE COMPANY

Appendix III: Research Budget

ITEM	Amount to spend
Internet data	15,000
STATA purchase and training	10,000
Printing report	5,000
Miscellaneous	3,000
Total Research Budget	33,000

Appendix D: Workplan

Task	4 weeks	12 weeks	2 weeks	2 weeks	3 weeks	4 weeks	3 weeks
Choosing topic and objectives							
Writing chapter one to three							
Proposal defense							
Working on panel recommendations							
Field work, data mining from annual reports							
Data analysis and final report writing and defense							
Submission of thesis report							