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ABSTRACT

The main objective was to analyze the influence of foreign investment risk on financial performance of pension fund firms in Kenya. The study was guided by shiftability theory of liquidity, efficient market hypothesis theory, the portfolio balance hypothesis and enterprise risk management theory. These theories explained the effect of foreign investment risk (liquidity risk, market risk, foreign exchange risk and operational risk) on financial performance of pension fund firms in Kenya. This study comprised of 29 registered administrators, 24 registered pension fund managers and 16 actuaries/ fund scheme advisors as at 31st Jan 2022 classified by RBA (2022). The sample size for this study was obtained using the stratified random sampling method. This study used primary data was collected through the use of questionnaires. This study also utilized secondary data from published reports and financial statements of the pension funds collected from the PFAIs' Website, RBA, and pension schemes. The researcher used self-introduction letters to gain entry into the sample organizations. A pilot study was also conducted in order to establish the validity and reliability of the questionnaire. In this study, the Cronbach's alpha was used to test the reliability of all the measures in the questionnaire. This study used both construct validity and content validity. Data analysis was guided by the aims and objectives of the research and the measurement of the data that was collected. Quantitative data were analysed using SPSS version 28 where the relationships between variables were assessed using correlation and regression analysis. The findings were in the form of tables, percentages and tabulations. The research results indicated that liquidity risk, market risk, foreign exchange risk and operational risk negatively influenced financial performance of pension fund firms in Kenya. Therefore, the study concluded that foreign investment risks negatively affected financial performance of pension fund firms in Kenya. The study recommended that pension fund managers should adopt foreign exchange management practices to protect earning fluctuations and also put in place conventional risk management where they should adopt proactive practices and forewarned by market risk management division with the scale and nature of business and its risk profile.

Key Words: *liquidity, market, foreign exchange, operational risk*

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INTRODUCTION

An investment is an asset that's acquired with an aim of multiplying income additionally as value increase. Asset appreciation is a rise within the value of an asset overtime when a private purchases an honest as an investment, the intent to not consume the great but rather to use it within the future to form wealth. An investment requires putting capital to figure, within the types of time, money and energy so on multiply income within the future (Kagai, 2018). As for foreign investment it is when a domestic investor decides to get ownership of an asset in an exceedingly foreign country. It involves cash flows moving from one country to a different to execute the transaction. If the ownership stake is large enough, the foreign investor is also ready to influence the entity's business strategy. (Maniagi, 2018) Foreign investments are often made by larger financial institutions hoping to diversify their portfolio or expand operations for one amongst their current companies internationally. It's often considered a move for scaling purposes or a catalyst to spur in economic process. (Onsongo et al., 2020).

Locally, in Kenya, Omwaka & Malenya, (2020) investigated financial risk and financial performance of pension schemes in Kenya pointed out that market risk, credit risk, operational risk and liquidity risk have a significant negative influence on performance of pension schemes in Kenya. This study showed that all financial risk constructs had significant negative effect on the performance. The results showed that market risk had contributed the highest significant contribution to the model, a unit increase in market risk would result to a significant decrease in performance by 40%. Then, the study showed that they are cases where debtors fail to make payment as expected, making pension schemes to suffer losses. Also an increase in operational risks such as deviations of operating cost from the planned costs would result into significant decrease in performance of pension schemes in Kenya. Increase in interest rate volatility and exposure to liquidity risk has been associated with reduction in financial performance as organization is unable to meet their financial obligation as they arise. The study recommended that more attention to be paid to market risk as it has negative influence on performance. Thus managers should also put in place conventional risk management where they should adopt proactive approaches and be forewarned by developing regulatory insight to avoid legal risks.

Most of the studies have been carried on financial risk and financial performance, they included; Influence of risk management practices on financial performance of life assurance firms in Kenya: A survey study of Kisii County (Amaya & Memba, 2015); Effect of Enterprise Financial Risk Management on Performance in Kenya Commercial Bank, Western Region (Angote, Malenya & Musiega, 2017); Relationship between risk management practices and the profitability of Kenyan insurance companies (Muraguri, 2015); Ngari (2018) researched on listed firms' exposure to exchange rate risk for the ten-year period 2007 to 2017. The findings were that major hard currencies of international transaction were sources of foreign exchange risk for firms on NSE. The US dollar was the most dominant source of exchange rate risk at both the firm and sector levels. Financial risk can lead to bankruptcies of banks this can cause damage to the entire economy hence justifying necessity to regulate the entire banking system. It is also necessary to regulate and supervise the financial sector by checking information asymmetry (Ong'olo & Odhiambo, 2016).

The closest research to the current study was from Kombo et al., (2015) who asserted that strategic risk, credit risk and liquidity risk as the most frequent risks, whereas reputation and subsidy dependence risks occur at a very low incidence for Micro Finance Institutions (MFIs) located in Kisii area. The authors argue that to tone down these risks, the Micro Finance Institutions (MFIs) employ various management strategies, which include risk avoidance, transferring of risk and mitigating risks

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and also regard mitigation of risks as the most effective risk management strategy.

Statement of the Problem

According to the Kenya Financial Stability Report (2020), the pensions industry recorded a strong growth of 11.3% in total assets in 2019 compared to 2018, supported by improved monthly contributions. The government securities, immovable property, quoted equities and guaranteed funds formed the core of assets portfolio. But pension funds have been recording poor performance according to Muriithi and Wamari (2013). Such performance is reflected in the investment survey conducted by Actuarial Services East Africa (2020) whereby it demonstrated a decline of fund value to 716 billion in the second quarter of 2020 from 790 billion in the fourth quarter of 2019.In addition, the overall return decreased from 11.3% in the fourth quarter of 2019 to 4.1% in the second quarter of 2020.

Awino (2013) states that pension fund management and regulation limits the early withdrawal of funds by beneficiaries, resulting in pension funds having long-term liabilities, allowing holding of high risk and high return instruments. Also according to the Kenya Financial Stability Report (2020) the pension Industry has been relatively stable with the overall risk score at 3.09 in 2019, but below the desired risk score of 2.88. The Financial Stability Report (2020) also revealed the main foreign investment risks facing the pension industry include market risk, interest rate risk, currency risk and operational risk. In Kenya, according to Kenya Social Protection Sector Review Report (2017), the risks facing pension schemes resulted into unallocated suspense account of approximately 2.4 billion Kenya Shillings and also resulted to embezzlement of scheme funds that lead to ultimate loss to the beneficiaries. Crose, Kaminker, and Stewart (2017) allege and affirms that such results are attributed to the associated risks. It is therefore, evident that foreign investment risk contributes to poor financial performance in the industry.

Previous studies related to the Kenyan pension system have shown that the Kenyan pension system is exposed to a variety of financial risks (Awino, 2013). Other studies focused on risk management practices. For example, Kipkogei (2016) investigated the determinants that influence the likelihood that pension schemes will adopt risk management strategies in Kenya. Murithi and Waweru (2017) investigated the effect of financial risk on the financial performance of commercial banks in Kenya, where credit, market, liquidity, and operational risks have a significant negative impact on the equity margin of commercial banks in Kenya. On the contrary, Lake (2017) investigated the impact of financial risk on the profitability of Ethiopian commercial banks and showed that the relationship between interest rate risk and foreign exchange risk on profitability was not statistically significant. This implies that little is known on the subject that foreign investment risk and the financial performance of pension fund firms and therefore remains contradictory and inconclusive hence a knowledge gap. Therefore, it is against this background that this study was undertaken to fill the missing knowledge gap in literature by investigating foreign investment risk and financial performance of pension fund firms in Kenya.

Research Objectives

The objective of this study was to analyze the influence of foreign investment risk on financial performance of pension fund firms in Kenya. The specific objectives were;

- To determine the effect of foreign exchange risk on financial performance of pension fund firms in Kenya.
- To establish the effect of operational risk on financial performance of pension funds firms in Kenya.
- To assess the effect of market risk on financial performance of pension fund firms in Kenya.
- To find out the effect of liquidity risk on financial performance of pension fund firms in Kenya.

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The study was guided by the following null hypothesis

- **H_{01}:** Foreign exchange risk has no significant effect on financial performance of pension funds firms in Kenya.
- **H_{02}:** Operational risk has no significant effect on financial performance of pension funds firms in Kenya.
- **H_{03}:** Market risk has no significant effect on financial performance of pension funds firms in Kenya.
- **H_{04}:** Liquidity risk has no significant effect on financial performance of pension funds firms in Kenya.

LITERATURE REVIEW

Theoretical Framework

Shiftability Theory of Liquidity

Shiftability theory was developed by Mouton in 1918 and published on his article named Commercial banking and capital formation (Tayari, 2019). The theory revolves around the following central themes: Pension fund firms must arrange portfolio in such a way that it can have desired liquidity; Most investment is made in secondary money market securities so that liquidity can be achieved at a little/very insignificant amount of loss of value; Here investment money market securities includes, treasury bill, commercial paper and securities issued by reputed companies; Banks can also get cash from central bank in case of difficulty simply by keeping the instruments as security (Muguongo, 2018)

Efficient Market Hypothesis Theory

According to Liman and Mohammed (2018) the theory of efficient market hypothesis was first conceptualized in 1900 by a French mathematician called Lous Bachelier on his dissertation. The study sought to establish the movements of stock prices as to whether the expectations of the speculators can be based of the past movements. He established that the zero expectations condition on the past movements (Rehman, et al., 2018).

Oyier (2017) asserts that the work of Lous Bachelier was later refined in 1970 by Eugine Fama, a university professor of the Graduate school of business at Chicago university. In his conclusion, Fama established that in general, an efficient market contends that asset prices will always reflect available information. Onchong'a et al., (2016) argue that although an investor can make riskless profits by buying undervalued stocks at lower prices and sell at higher prices, he cannot beat the overall market position which will always be prefects where all participants have equal information. The theory was anchored on the assumption that investors are rational, information gest into the market independently and randomly and prices perfectly adjust to all new and available information. The state of efficiency was defined under three different form. The weak form, the semi-strong and the strong form of market efficiency. He later published this evidence of theory and hypothesis that generally all the to what up to now is a highly-regarded theory of finance (Okeyo, 2017).

The Portfolio Balance Hypothesis

The Portfolio Balance (PB) approach of exchange rate determination stems from the work on portfolio theory by Markowitz in 1952 and the demand for money (Nikpour, Bakhshinejad & Ajdar, 2017). The theory postulates that exchange rate determination occurs in the process of balancing demand and supply of financial assets in each country. Under this approach therefore, people will hold diversified portfolios of securities in all countries taking into account demand and supply conditions in those countries, implying that all markets must clear with equations setting money and bond demand equaling money and bond supplies (Nikpour, Bakhshinejad & Ajdar, 2017). The PB model allows one to distinguish between short run equilibrium and the dynamic adjustment to long run equilibrium. It also allows for the full interaction between the exchange rate, the balance of payments, the level of wealth and stock equilibrium (MacDonald & Taylor, 2019).

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Enterprise Risk Management Theory

The Enterprise risk management theory was propounded by Angote et al., 2017. Enterprise Risk Management (ERM) is a framework that focuses on adopting a systematic and consistent approach to managing all of the risks confronting an organization. Operational risk is attached in all the core risks since it is the risk of human error in executing the business strategy (Mwaurah, 2019).

Gordon et al., (2019) on the other hand define ERM as the overall process of managing pension fund firm's exposure to uncertainty with particular emphasis on identifying and managing the events that could potentially prevent the organization from achieving its objective. ERM is an organizational concept that applies to all levels of the organization". In conducting ERM, the following are listed as some of the areas or aspects of the organization that a risk manager need to look into namely: the people, intellectual assets, brand values, business expertise and skills, principle source of profit stream and the regulatory environment (Baxter, Megone, Dempsey & Lee, 2018).

Conceptual Framework

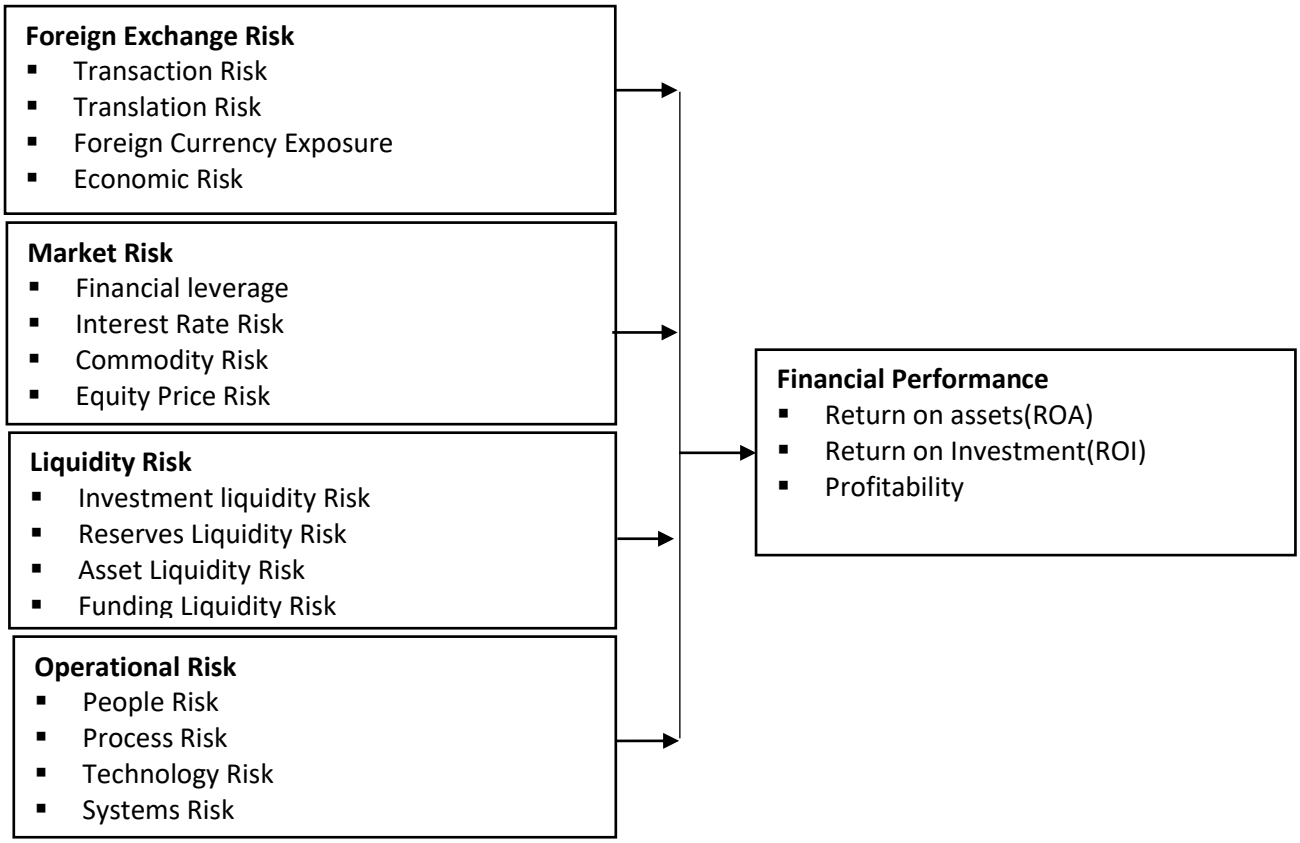

Figure 1: Conceptual Framework

Empirical Literature Review

Tayari (2019) carried out a study on the influence of pension schemes financing structure on the performance of pension funds in Kenya. The study determined the influence of retained earnings, amount of contributions, accruals and share capital on the performance of pension funds in Kenya with adherence to regulations as the moderating variable. The study employed casual research design. The target population was 1308 pension schemes registered with the RBA from which a sample of 79 pension funds was selected. Data was collected from the annual financial statements of

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the pension funds filed with RBA. The study findings revealed that retained earnings and performance (ROA) are positively and significantly related; amount of contributions and performance (ROA) are positively and significantly related; share capital and performance (ROA) are positively and significantly related; accruals and performance (ROA) are positively and significantly related and adherence to regulation and performance (ROA) are positively and significantly related. Further the study findings revealed a statistically significant moderation effect of adherence to regulations on the influence of independent variables (retained earnings, amount of contributions and accruals) on performance.

Ngugi and Njuguna (2018) assessed the nexus between pension fund size, design and investment strategy: a review of occupational retirement benefits schemes in Kenya. The funding risk borne by sponsors of defined benefit pension funds and the residual risk borne by members of defined contribution pension funds have necessitated focus on the investment strategies employed by pension funds. We use secondary data from 206 pension funds in Kenya, to determine the nexus between the investment strategy, size and design. Focused group discussions with industry experts were used to validate the results. Results from the regression models indicate that larger schemes adopted a riskier investment strategies compared to their smaller counterparts. However, the investment strategies are not informed by the fund designs. Trustees of retirement benefit schemes are therefore advised to focus their investment strategies to avoid exposing the residual claimants to excessive risk.

Nduruhu (2019) analyzed the influence of financial management practices on sustainability of pension funds administrative institutions in Kenya. The study was guided by four specific objectives which were: to assess the influence of funding management, investment management, financial control and financial reporting practices on the sustainability of PFAIs in Kenya. The findings of the study shows that funding management, investment management, financial control, and financial reporting practices had a positive and statistically significant influence on the sustainability of PFAIs in Kenya. The study recommends that pension funds trustees should regularly review financing policies that enhance the annual distribution of investment returns and cost management policies on annual budgets. Further, trustees should always comply with investment guidelines. Pension funds management should regularly review financial reporting policies that enhance preparations of proper accounting records and financial report. Trustees should always ensure that financial reporting practices are in compliance with the financial reporting framework and regularly review polices on communication strategies to all stakeholders. The Kenyan Government through the Retirement Benefits Authority should set and regularly review guidelines that strategically promote good financial management practices of pension funds by all stakeholders.

Ichingwa and Mbithi (2017) surveyed the effect of total contribution on the financial performance of pension schemes in Kenya. The target population for this study was all the registered occupational pension schemes in Kenya which according to the Retirement Benefits Authority report are 818 by the end of the year 2016. Random sampling method was applied to come up with the sample size of 261 registered occupational retirement benefits schemes. The study used secondary data which was analyzed using inferential and descriptive statistics. The study findings established that total contribution has a positive and significant effect on financial performance of pension schemes. The study recommended that Pension Schemes in Kenya should invest more in systems to recruit more members to increase the total contributions as it positively affects financial performance.

Mutula and Kagiri (2018) did a study on the determinants influencing pension fund investment performance in Kenya. The study concluded that diversification decisions, management competency,

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investment strategies, and regulation compliance have a positive and significant association with the investment performance of pension funds. Based on the findings, the study recommended that pension funds management should be composed of people with high managerial competence. Further, the study recommended that pension funds should incorporate investment literacy and capability programs in their organizations. Additionally, the study recommended that pension funds should continue adhering to the set regulations. The study had very strong and comprehensive recommendations on investment management matters for pension funds but did not investigate the influence of other financial management practices on sustainability of pension funds administrators.

METHODOLOGY

This study adopted a descriptive survey design. This study comprised of 29 registered administrators, 24 registered pension fund managers and 16 actuaries/ fund scheme advisors registered by RBA (2022) from which the target and accessible population was drawn. This study used primary data which was collected through the use of questionnaires**.** The study also utilized secondary data from published reports and financial statements of the pension funds collected from the PFAIs' Website, RBA, and pension schemes. Information was sorted, coded and input into the statistical package for social sciences (SPSS) version 28 for production of tables, descriptive statistics and inferential statistics. A multiple linear regression model was also used to test the significance of the effect of the independent variables on the dependent variable. The multiple linear regression model was as laid in Equation 3.1 as follows.

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

Where:

Y =Financial Performance of Pension Fund Firms

β0 =Constant (Intercept)

β1….β4=Regression coefficient of four variables.

X_1 = Foreign Exchange Risk

X_2 = Operational Risk

X_3 =Market Risk

X_4 = Liquidity Risk

ϵ =Error term which captures the unexplained variations in the model.

RESULTS AND DISCUSSIONS

Analysis of Objectives

In the research analysis the researcher used likert scale of 5 to 1; where 5 were the highest and 1 the lowest. Opinions given by the respondents were rated as follows,5=Strongly Agree,4=Agree,3=Uncertain,2=Disagree and 1=Strongly Disagree. The analysis for mean, was based on the rating scale that showed interval lengths between lower limit and upper limit. Therefore, a mean of 3.5 and above means respondents agreed on the statements.

Foreign Exchange Risk

The study sought to determine the effect of foreign exchange risk on financial performance of pension fund firms in Kenya. Table 1 summarized respondents' level of agreement on how foreign exchange risk affects financial performance of pension fund firms in Kenya. Most of the respondents agreed with the statement that currency fluctuation reduces the return on investment of these pension fund firms as shown by a mean of 3.90. Respondents agreed to the fact that the pension fund firms cash flows have been increasing with low currency changes shown by a mean of 3.61. Respondents agreed that Value at Risk has reduced exposure to foreign exchange risks of these pension fund firm as shown by a mean of 3.71. Respondents showed neutrality that chances of currency risk exposures at the pension schemes are generally as shown by a mean of 3.33. Respondents also agreed that the cash ratio of these pension fund firms has remained relatively high as shown by a mean of 3.76. Lastly, respondents agreed that the pension fund firms cash flows are highly exposed to currency risks as a shown by a mean of 3.96

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This finding concurs with Maniagi et, al., (2017) who assert that foreign exchange risk is a major concern for investors and managers alike. One of the difficulties in managing foreign exchange risk, whether from an investors' or a manager's point of view is measuring the extent to which companies are exposed to the risk. Fundamentally addressing the problem of measuring exchange rate operating exposure involves analysing the competitive position of the specific company, the dynamics of that company, as well as the dynamics of the markets in which the company is involved.

Table 1: Foreign Exchange Risk

Statements	N	Mean	Std. Dev.
Chances of currency risk exposures at the pension schemes are generally low	49	3.33	1.477
The pension fund firms cash flows have been increasing with low currency changes.	49	3.61	1.304
Value at Risk has reduced exposure to foreign exchange risks of these pension fund firms.	49	3.71	0.957
Currency fluctuations reduces the return on investment of these pension fund firms.	49	3.90	1.327
The cash ratio of these pension fund firms has remained relatively high.	49	3.76	1.234
The pension fund firms cash flows are highly exposed to currency risks.	49	3.96	0.978
Valid N (listwise)	49		

Source: Research findings (2022)

Operational Risk

The study sought to determine the effect of operational risk on financial performance of pension fund firms in Kenya. Table 2 summarizes respondents' level of agreement on how operational risk affects financial performance of pension fund firms in Kenya. Respondents showed neutrality with the statement that chances of operational risk exposures at the pension schemes are generally low as shown by a mean of 3.04. Respondents were also neutral to the statement that pension fund firms should create well-outlined policies & procedures to minimize potential operational risks as shown by a mean of 3.14, but agreed to the operating cost to total income ratio of the pension fund firms has remained relatively high as shown by a mean of 4.02. Respondents agreed that they have been deviations of operating cost from the planned cost in the pension fund firms as shown by a mean of 3.57. Most of the respondents also agreed that operating costs in pension fund firms are always regulated to ensure that they do not surpass the total income as shown by a mean of 3.94 But respondents were neutral to the statement that deviations from the planned costs have been reducing profitability in the pension funds as shown by a mean of 3.18.

This finding concurs with Pandey and Sahu (2017) who showed that operational risk management have a positive effect on the financial development and growth in the financial sector. In conclusion, Managing Operation Risk is emerging as an important element of sound risk management practice in modern day pension fund firms in the wake of high degree of structural changes and complex technological support systems. Liman and Mohammed (2018) elucidate that Retirement Benefits Advisory expects all the pension fund firms to strengthen their operation risk management system and to be in readiness to more sophisticated approaches of operational risk management under Basel norms, in order to drive maximum gains. Pension fund firms need to gear up efforts for speedy and effective implementation of comprehensive operational risk management frameworks and thereby bring more efficiency, transparency, profitability and sustainability into their operations, thus this will result in growth (Epetimehin & Fatoki, 2021).

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Table 2: Operational Risk

Statements	N	Mean	Std. Dev.
Chances of operational risk exposures at the pension schemes are generally low.	49	3.04	1.732
They have been less deviations of operating cost from the planned cost in the pension fund firms.	49	3.18	1.811
Pension fund firms should create well-outlined policies & procedures to minimize potential operational risks	49	3.14	1.646
The operating cost to total income ratio of the pension fund firms has remained relatively high.	49	4.02	0.946
Operating costs in pension fund firms are always regulated to ensure that they do not surpass the total income.	49	3.94	1.107
Deviations from the planned operating costs have been reducing profitability in the pension fund firms.	49	3.57	1.258
Valid N (listwise)	49		

Source: Research findings (2022)

Market Risk

The study sought to determine the effect of market risk on financial performance of pension fund firms in Kenya. Table 3 summarizes respondents' level of agreement on how market risk affects financial performance of pension fund firms in Kenya. Respondents agreed with the statement that cash ratio has been reducing therefore struggling to meet profitability as shown by a mean of 3.92. Respondents showed neutrality to the fact high commodity prices is a minor factor of low asset value in the pension fund firms as shown by a mean of 3.12. Respondents agreed to that chances of market risk exposures to the fund firms are generally high as shown by a mean of 4.08. Respondents also agreed that the value of assets owned by pension fund firms has been rising with rise in interest prices as shown by a mean of 3.37. Respondents also agreed that the degree of financial leverage has been rising in these pension fund firms as shown by a mean of 3.49. Respondents showed neutrality on the statement that interest rate volatility in the country has increased the returns on investment of pension fund firms as shown by a mean of 3.16.

These findings concur with Baxter et al. (2018) who assert that there are various types of market risk factors associated with the asset such a change in interest rates, inflation and productivity that affects expected returns of an asset. Basu (2020) rejected relevance of beta in measuring market risk. In his study to establish relationship between portfolio performance of pension funds scheme and their P/E ratios. He established an inverse relationship of low beta depicting low variability of stock returns thus attracting higher returns which was an unrealistic finding. However, the study established that omitted risk variables which he hypothesized to include P/E ratios significantly influence investment performance.

Table 3: Market Risk

Statements	N	Mean	Std. Dev.
The value of assets owned by pension fund firms has been rising with rise in interest prices.	49	3.37	1.149
Cash ratio has been reducing therefore struggling to meet profitability.	49	3.92	1.272
The degree of financial leverage has been rising in these pension fund firms	49	3.49	1.325
High commodity prices is a minor factor of low asset value in pension fund firms	49	3.12	1.394
Chances of market risk exposures to the fund firms are generally high.	49	4.08	0.909
Interest rate volatility in the country has increased the returns on investment of pension fund firms.	49	3.16	1.405
Valid N (listwise)	49		

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Liquidity Risk

The study sought to determine the effect of liquidity risk on financial performance of pension fund firms in Kenya. Table 4 summarizes respondents' level of agreement on how liquidity risk affects financial performance of pension fund firms in Kenya. Respondents agreed that reducing liquidity risks increases the profitability of these pension fund firms as shown by a mean of 3.61. Respondents showed neutrality that current ratio whereby the current assets relative to current liabilities increases over time as shown by a mean of 3.24. Respondents also agreed that the extent to which trustees decide to invest in illiquid assets should be determined by their scheme characteristics as shown by a mean of 3.88. Respondents showed neutrality that the pension fund firms keep sufficient cash reserves as shown by a mean of 3.39. Respondents also agreed that liquidity stress testing should be at individual investment option level and not just whole of fund as shown by a mean of 3.98. However, respondents showed neutrality to the statements that the cash ratio has been high enabling pension firms to meet immediate payments obligations when demanded as shown by a mean of 3.24

The results are in agreement with the study by Muriithi and Waweru (2017) who investigated the effect of liquidity on stock returns. The study defined liquidity from a market perspective as the ability of stocks to be traded in the stock market with minimum bid-ask spread. The study established that the wider the spread implied existence of liquidity risk in the market thus affecting tradability of the stocks and consequently reduced trading implied less stock returns due to investors.

Table 4: Liquidity Risk

Statements	N	Mean	Std. Dev.
The cash ratio has been high enabling pension firms to meet immediate payments obligations when demanded.	49	3.24	1.422
Reducing liquidity risks increases the profitability of these pension fund firms	49	3.61	1.382
The pension fund firms keep sufficient cash reserves.	49	3.39	1.858
The current ratio whereby the current assets relative to current liabilities increases over time.	49	3.24	1.422
The extent to which trustees decide to invest in illiquid assets should be determined by their scheme characteristics.	49	3.88	1.317
Liquidity stress testing should be at individual investment option level and not just whole of fund	49	3.98	1.250
Valid N (listwise)	49		

Source: Research findings (2022)

Financial Performance

A number of questions were asked to rate the financial performance of pension fund firms in Kenya. As shown in table 5, the statement that the return on asset has been increasing over the past five years had a mean score of 3.43. The statement that return on equity has been increasing over the past five years had a mean score of 3.33. Also profitability has been increasing over the past five years had a mean score of 3.33. The statement that return on investment has been increasing over the past five years had a mean score of 3.65. The statement that the firm budget outrun ratio is low (meaning the firm always spent less than it had budgeted) had a mean of 3.43. The statement that future projections for Return on Equity indicate that it will increase in the next five years had a mean score of 3.98

These findings are in agreement with the Raheman and Nasr (2017) stresses that return on assets as the ultimate measure of managerial effectiveness and provides a levelled playing field when

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comparing financial performance of firms of varying sizes within an industry or sector since it normalizes profits with assets which are likely to vary with firm size. Schmukler and Vesporani (2018) argue that many authors treat return on asset as an indicator of firm's financial performance whatever their objective may be. ROA is a key index of business success as it was one of the most popular indicators of financial performance with a widespread use in the empirical research.

In addition, quantitative measures of firm performance include profitability measures such as gross margin, net margin for example return on sales, return on equity, economic value added, return on equity less cost of equity and return on capital employed. Net income refers to the amount an individual or business makes after deducting costs, allowances and taxes. While return on investment (ROI) is a performance measure used to evaluate the efficiency or profitability of an investment or compare the efficiency of a number of different investments. ROI tries to directly measure the amount of return on a particular investment, relative to the investment's cost. (Aguirre & McFarland, 2017). Other measures of performance include cash flow measures such as free cash flow over sales and growth measures for example historical revenue growth. Ideally, forward-looking measures such as expected profitability, cash flow and growth should be used to measure a firm's performance (Aguirre & McFarland, 2017).

Table 5: Financial Performance

Statements	N	Mean	Std. Dev.
Return On Asset has been increasing over the past five years	49	3.43	1.399
Return On Equity has been increasing over the past five years	49	3.33	1.375
The Firm budget outrun ratio is low	49	3.43	1.399
Return On Investment has been increasing over the past five years	49	3.65	1.165
Profitability has been increasing over the past years	49	3.33	1.463
Future projections for Return on Equity indicate that it will increase in the next five years	49	3.98	0.750
Valid N (listwise)	49		

Source: Research findings (2022)

Correlation Analysis

To establish the relationship between the independent variables and the dependent variable the study conducted correlation analysis which involved coefficient of correlation and coefficient of determination.

Coefficient of correlation

Pearson Bivariate correlation coefficient was carried out to detect the relationship between the dependent variable (financial performance) and the independent variables of liquidity risk, market risk, foreign exchange risk and operational risk. As stated by Kothari, (2019) the correlation is assumed to be linear with correlation coefficient ranging from -1.0 (perfect negative correlation) to +1.0 (perfect positive relationship). The correlation coefficient was computed to establish the strength of the relationship between dependent and independent variables (Kothari, 2019).

This is shown in Table 6 that liquidity risk had a significant and negative association with financial performance of pension fund firms in Kenya ($r=-0.639$; $p< 0.05$). This finding suggests that increase in liquidity risk is expected to be associated with a decrease in financial performance. Results also indicated market risk had a negative and significant relationship with financial performance of pension fund firms in Kenya ($r =-0.608$; $p<0.05$). This finding suggests that increase in market risk is expected to be associated with a decrease in financial performance. Additionally, foreign exchange risk had a significant and negative association with

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financial performance of pension fund firms in Kenya (r=-0.649; p<0.05). This finding suggests that increase in foreign exchange risk is expected to be associated with a decrease in financial performance. Lastly, operational risk also shown a significant and negative association with financial performance of pension fund firms in Kenya (r=-0.586; p<0.05). This finding suggests that increase in operational risk is expected to be associated with a decrease in financial performance. This correlation results are consistent with prior study investigating financial risk and performance of pension schemes, a survey of pension schemes in Kenya (Omwaka & Malenya, 2020).

Table 6: Pearson Correlations

		Financial Performance	Liquidity Risk	Market Risk	Foreign Exchange Risk	Operational Risk
Financial Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	49				
Foreign Exchange Risk	Pearson Correlation	-.649**	1			
	Sig. (2-tailed)	.000				
	N	49	49			
Operational Risk	Pearson Correlation	-.586**	-.632**	1		
	Sig. (2-tailed)	.000	.000			
	N	49	49	49		
Market Risk	Pearson Correlation	-.608**	.497**	.473**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	49	49	49	49	
Liquidity Risk	Pearson Correlation	-.639**	.538**	.386**	.545**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	49	49	49	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Research findings (2022)

Coefficient of Determination (R^2)

To assess the research model, a confirmatory factors analysis was conducted. The four factors were then subjected to linear regression analysis in order to measure the success of the model and predict causal relationship between independent variables (liquidity risk, market risk, foreign exchange risk and operational risk) and the dependent variable (financial performance).

Table 7: Coefficient of Determination (R^2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779[a]	.606	.570	1.11425

a. Predictors: (Constant), Operational Risk, Liquidity Risk, Market Risk, Foreign Exchange Risk

Source: Research findings (2022)

The model explains 60.6% of the variance (Adjusted R Square=0.570) on financial performance. Clearly, there are factors other than the four proposed in this model which can be used to predict financial performance. However, this is still a good model as Bryman and Bell, (2018) pointed out that as much as lower value R Square 0.10-0.20 is acceptable in social science research. This means that 60.6% of the relationship is explained by the identified four factors namely operational risk, liquidity risk, market risk and foreign exchange risk. The rest 39.4% is explained by other factors in the financial performance not studied in this research.

Regression Results

Analysis of Variance(ANOVA)

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model was as per Table 8 below with P-value of 0.00 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors of financial performance. Basing the confidence level at 95% the analysis indicates high reliability of the results obtained. The overall Anova results indicates that the model was significant at F=16.938, p=0.00.

Table 8: Analysis of Variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84.117	4	21.029	16.938	.000[b]
	Residual	54.628	44	1.242		
	Total	138.745	48			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Operational Risk, Liquidity Risk, Market Risk, Foreign Exchange Risk

Source: Research findings (2022)

Coefficients

The researcher conducted a multiple regression analysis as shown in Table 8 below so as to determine the relationship between financial performance of pension fund firms in Kenya and the four variables investigated in this study.

Table 8: Coefficients

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.289	.372		16.919	.000
	Foreign Exchange Risk	-.263	.064	-.398	-4.130	.000
	Operational Risk	-.022	.006	-.331	-3.481	.001
	Market Risk	-.146	.038	-.367	-3.821	.000
	Liquidity Risk	-.163	.043	-.364	-3.820	.000

a. Dependent Variable: Financial Performance

Source: Research findings (2022)

The regression equation was:

$Y = 6.289 - 0.263X_1 - 0.022X_2 - 0.146X_3 - 0.163 X_4 + ei.$

Where:

Y = Financial performance of pension fund firms (measured by return on assets (ROA))

β_0= Constant

X_1= Foreign Exchange Risk (measured by value at risk)

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X_2= Operational Risk (measured by operating cost to net operating income)
X_3= Market Risk (measured by degree of financial leverage)
X_4= Liquidity Risk (measured by cash ratio)
e_i= Stochastic term

From the findings, we looked at the model results and scan down through the unstandardized coefficients B column. All foreign investment risks had significant negative effect on the financial performance. The regression equation above established the taking all factors into account constant at foreign investment risk to financial performance of pension fund firms in Kenya would be 6.289.The findings revealed that foreign exchange risk had unique significant contribution to the model with β=-0.263, p=0.000 suggesting that controlling of other variables in the model, a unit increase in foreign exchange risk would result to a significant decrease in financial performance by 0.263 units; a unit increase in liquidity risk with β=-0.163, p=0.000 would lead to 0.163 decrease in the scores of financial performance of pension fund firms in Kenya; a unit increase in market risk where β=-0.146, p=0.000 would lead to a 0.146 decrease in the scores of financial performance of pension fund firms in Kenya and a unit increase in operational risk where β=-0.022, p=0.001 would lead to a 0.022 decrease in scores of financial performance of pension fund firms in Kenya.

Hypothesis Testing

The study was based on the premise that foreign investment risk influenced financial performance. Accordingly, four relevant hypotheses had been set to guide the study as highlighted in the conceptual framework in chapter two. In order to establish the statistical significance of respective hypotheses, simple and multiple linear regression analysis were conducted as appropriate at 95 percent confidence level (α=0.05). According to Creswell (2017), multiple linear regression is a powerful model to apply in testing hypothesis with many independent variables and one dependent variable.

Hypothesis 1: H01: Foreign Exchange Risk has no significant effect on financial performance of pension funds firms in Kenya.

Multiple regression results indicated that Foreign Exchange Risk measured by value at risk has a negative significant influence on financial performance of pension fund firms in Kenya (β=-0.263, p<0.05). This study rejected null hypothesis at 95% level of significance which is less than 0.05. The results indicated that a single increase in foreign exchange risk will lead to 0.263 units decrease in performance of pension fund firms in Kenya. These results also agree with (Kagai, 2018). Therefore, the study results show that foreign exchange risk has a significant effect on financial performance of pension fund firms in Kenya.

Hypothesis 2: H02: Operational risk has no significant effect on financial performance of pension funds firms in Kenya.

Multiple regression results indicated that operational risk measured by operating cost to net operating income has a negative significant influence on financial performance of pension fund firms in Kenya (β=-0.022, p<0.05). This study rejected null hypothesis at 95% level of significance which is less than 0.05. The results indicated that a single increase in operational risk will lead to 0.022 units decrease in performance of pension fund firms in Kenya. These results agree with (Omwaka & Malenya, 2020). Therefore, the study results show that operational risk has a significant effect on financial performance of pension fund firms in Kenya.

Hypothesis 3: H03: Market Risk has no significant effect on financial performance of pension funds firms in Kenya.

Multiple regression results indicated that Market Risk measured by degree of financial leverage has a negative significant influence on financial performance of pension fund firms in Kenya (β=-0.146, p<0.05). This study rejected null hypothesis at 95% level of significance which is less than 0.05. The results indicated that a single increase in

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market risk will lead to 0.146 units decrease in performance of pension fund firms in Kenya. These results agree with (Angote, Malenya & Musiega, 2017). Therefore, the study results show that market risk has a significant effect on financial performance of pension fund firms in Kenya.

Hypothesis 4: H04: Liquidity risk has no significant effect on financial performance of pension funds firms in Kenya.

Multiple regression results indicated that liquidity risk measured by cash ratio has a negative significant influence on financial performance of pension fund firms in Kenya (β=-0.163, p<0.05). This study rejected null hypothesis at 95% level of significance which is less than 0.05. The results indicated that a single increase in liquidity risk will lead to 0.163 units decrease in performance of pension fund firms in Kenya. These results agree with (Mugi A & Okiro K, 2021). Therefore, the study results show that liquidity risk has a significant effect on financial performance of pension fund firms in Kenya.

Table 9: Summary of Hypothesis Testing Results

Hypothesis Statement	Regression Results	Comments
H01: Foreign exchange risk has no significant effect on financial performance of pension funds firms in Kenya	β=-0.263 p= 0.000	Reject H01
H02: Operational risk has no significant effect on financial performance of pension funds firms in Kenya	β=-0.022 p= 0.001	Reject H02
H03:Market risk has no significant effect on financial performance of pension funds firms in Kenya	β=-0.146 p= 0.000	Reject H03
H04: Liquidity risk has no significant effect on financial performance of pension funds firms in Kenya	t =-0.163 p= 0.000	Reject H04

Source: Research findings (2022)

Summary of Key Findings

Based on market risk findings established, that there is a strong and significant negative influence on financial performance of pension fund firms in Kenya.(r=-0.608,p<0.05). Standard multiple regression was conducted and there was a negative and statistically significant effect of liquidity risk on financial performance of pension fund firms in Kenya (β = -0.146; p < 0.05). These findings show that a positive change in market risk would result to a negative change in financial performance of the pension fund firms in Kenya. These findings coincide with prior research on market risk and performance in EU countries for liquidity risk significant and positively related to net interest margins. (Chortareas, Girardone & Ventouri, 2017)

Regarding operational risk, the findings reveal that operational risk had a negative and significant influence on financial performance (r=-0.586, p<0.05). Standard multiple regression was conducted and there was negative and statistically significant effect of operational risk on financial performance of pension fund firms in Kenya (β =-0.022 p < 0.05).These findings show that a positive change in operational risk would result to a negative change in financial performance of pension fund firms in Kenya. These findings coincide with Maniagi (2018) who investigated the influence of market risk on financial performance of commercial banks in Kenya. The study demonstrated that from the regression and correlation results with market risk were negatively correlated to performance proxies and all were significant for both initial and optimal model with all proxies of performance for commercial banks in Kenya.

Findings showed that foreign exchange risk has a strong and highly significant negative effect on financial performance of pension fund firms in Kenya(r=-0.649,p<0.05). Standard multiple

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regression was conducted and there was a negative and statistically significant effect of foreign exchange risk on financial performance of pension fund firms in Kenya (β =-0.263 p < 0.05).These findings coincides with foreign exchange risk on project management in KEMRI. It was noted that a falling domestic exchange rate decreases the amount of funding received on conversion to local currency therefore affecting budgeted activities in terms of time, scope and quality of project output and viceversa (Kinyuma, 2016). This is also consistent with existing literature on the effects of foreign exchange rate on project management as documented in CPA Australia Ltd (2009)

The study results revealed liquidity risk has a negative significant effect on financial performance of pension fund firms in Kenya (r=-0.639,p<0.180).Standard multiple regression was conducted and there was a negative and statistically significant effect of liquidity risk on financial performance of pension fund firms in Kenya (β =-0.146 p < 0.05). These findings coincide with financial risk and performance of pension schemes, a survey of pension schemes in Kenya. (Omwaka & Malenya, 2020)

CONCLUSIONS AND RECOMMENDATIONS

The foreign exchange risk has a significant effect on financial performance of pension fund firms in Kenya. This indicates that returns and profits of the pension fund firms are responsive to foreign exchange risk. This indicates that foreign exchange risk expose pension fund firms to greater losses in the event of high volatilities of exchange rates. Pension funds are therefore called upon to set strategies that enable them to achieve returns. Therefore, the pensions should carefully consider the risks exposure by utilizing value at risk ratio to determine the tail end of a distribution of returns for changes in exchange rates to highlight the outcomes with the worst returns.

The liquidity risk has a significant effect on financial performance of pension fund firms in Kenya. This indicates that returns of the pension fund firms are responsive to operational risk. This also indicate that operational risk expose pension fund firms to losses in the event of high operating costs. This would enable managers to track avoidable expenses and material risks in operational activities. Therefore, pension fund firm managers should consider the risk exposure by utilizing operational cost to net operating income ratio to reduce the cost associated with fixed assets as well as investing in fixed assets which have high returns. Also this ratio would enable managers to enable managers to track avoidable expenses and material risks in operational activities.

The market risk has a significant effect on financial performance of pension fund firms in Kenya. This indicates that returns of the pension fund firms are responsive to market risk. This also indicate that market risk expose pension fund firms to huge losses in the event of interest rate volatilities and sudden change of prices in stock and commodities in global market. Therefore, pension fund firms should adopt a degree of financial leverage ratio to measure volatility of earnings. This would enable managers to adopt proactive approaches and conventional management strategies to measure the market risk.

The operational risk has a significant effect on financial performance of pension fund firms in Kenya. This indicates that returns of the pension fund firms are responsive to liquidity risk. This also indicate that liquidity risk expose pension fund firms to huge losses in the event of illiquid assets. Therefore, pension fund firms should adopt a cash ratio to measure liquidity risks of assets in the firms. This would enable managers to gauge the capacity to raise cash quickly.

The study concluded that foreign exchange risk has a significance influence on financial performance of pension fund firms in Kenya. An increase in foreign exchange risk would result to significant decrease in financial performance of pension fund firms in Kenya. Therefore, high exposures of fluctuations of currency has reduced returns on investment and profitability of the pension fund firms in Kenya.

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The study also concluded that market risk has significant influence on financial performance of pension fund firms in Kenya. Exposure to interest rate volatilities in the country has reduced the returns on investment of pension fund firms in Kenya. Therefore, market risk is a useful predictor of performance of pension fund firms in Kenya.

From the linear regression results the study concluded that operational risk has significant effect on financial performance of pension fund firms in Kenya. An increase in risk such as deviations of operating cost from the planned costs by the pension fund firms would result to significant decrease in performance of pension fund firms in Kenya. Therefore, operational risk is a significant predictor of financial performance of pension fund firms in Kenya. The study concluded that liquidity risk has significant effect on financial performance of pension fund firms in Kenya. Exposure to liquidity risk has been associated with reduction in financial performance as fund firms are unable to meet their financial obligation as they arise. Therefore, liquidity risk is an important predictor of performance of pension fund firms in Kenya.

The study recommended that more attention to be put in foreign exchange risk as it has negative influence on financial performance of pension fund firms. The managers should adopt foreign exchange management practices to protect earning fluctuations and minimize foreign exchange losses. The government of Kenya can adopt the expansionary fiscal policies to weaken the dollar by increasing the supply of money. This would tend to improve the growth of pension funds in Kenya by attracting domestic and foreign investors to dollar denominated assets.

Managers should ensure that pension funds invest excess cash in productive assets and stocks. This ensures that they do not hold excess cash at the expense of fixed assets that can improve profitability. Pension fund managers should regularly gauge their capacity to raise funds quickly from each source thus identify the main factors that affect their ability to acquire funds and monitor the factors closely so as to ensure the sound liquidity. This would always make sure satisfaction to stakeholders and beneficiaries.

The study recommended the managers, administrators and actuaries to come together and work together in Kenya to find ways of minimizing operational risk that has a negative influence on financial performance. This can be done by encouraging implementation of dynamic computerized solution with proper back up system that will act as a tool for pension managers to publish a risk management strategy that would easily identify and track all material risks in conjunction with operation risks. This would help to allocate and track funds and also mitigates fraud and embezzlement of funds in pension fund firms in Kenya.

The managers can also pay attention to market risk as it also has a negative influence on financial performance. The managers should put in place a conventional risk management where they should adopt proactive approaches and be forewarned by market risk management division with the scale and nature of business and its risk profile. This should also push managers and administrators in pension fund firms to advice investors on how important to invest in a portfolio rather than a risky stock.

Suggestion for further studies

The study didn't exhaust all the independent variables influencing financial performance of pension fund firms in Kenya and a recommendation is given that more studies be carried out to constitute other variables for instance management efficiency, industry practices, growth opportunities, political stability and age of the firm. Determining the impact of each variable on financial performance shall enable the policy makers to understand the tools that can be used to control performance.

The study also shows that a unit increase in foreign exchange risk leads to a 26.3% decrease in financial performance of pension fund firms in Kenya. Therefore, other researchers can examine the effect

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of foreign exchange risk on financial performance of pension fund firms in Kenya. Also the research only focused on the financial institutions therefore study recommendations are that further studies be carried out on other sectors in Kenya. Finally, as a result of regression models' limitations, other models including the Vector Error Correction Model (VECM) may be applied in explanation of the various relationships among variables.

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