EFFECT OF INVESTMENT DIVERSIFICATION IN BONDS ON THE FINANCIAL PERFORMANCE OF RETIREMENT BENEFITS SCHEMES IN KENYA

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ABSTRACT

The main objective of the study was to investigate the effect of investment diversification in bonds on the financial performance of the retirement benefits schemes in Kenya. The study further investigated the moderating effect of the foreign exchange rate on the relationship between the independent and the dependent variable. The study embraced a descriptive research design and the study population constituted of 87 retirement benefits schemes. The stratified random sampling technique used resulted into having 72 units of analysis. Primary and secondary quantitative data were employed in this study. Data analysis was through the statistical package for social sciences. The hypothesis testing led to the rejection of H01, and H02. The rejection H01 confirmed that investment diversification in bonds has a significant positive effect on the financial performance of the retirement benefits schemes in Kenya. The rejection of H02 confirmed that foreign exchange rate has a significant positive moderating effect on the relationship between investment diversification in bonds and the financial performance of the retirement benefits schemes in Kenya. The researcher therefore, recommends that the retirement benefits schemes should consider diversifying their investments because it affects their financial performance. The researcher also recommends that the schemes should be cautious on the volatility of the foreign exchange rate because it has a moderating effect on the relationship between the investment diversification in bonds and their financial performance.

Keywords: Bonds; Investments Diversification; Portfolio; Financial Performance; Retirement Benefits Schemes.

INTRODUCTION

Investment diversification refers to a scenario where a company undertakes various types of investments with different inherent risks as opposed to committing all its finances in one investment (Kioko & Ochieng, 2020). This concept is in congruent with the old adage of not putting all your eggs in one basket (Aregu & Tassew, 2018). As a result of investment diversification, people can invest in various financial securities such as equities, bonds as well as government securities through the commercial banks, pension schemes as well as the investment banks (Kiboi & Bosire, 2022). It is anticipated that as the financial intermediaries diversify their investment portfolios, their financial performance will upsurge (Aregu & Tassew, 2018). This current research sought to undertake an investigation regarding the investment diversification in bonds.

Problem Statement

The performance of the retirement benefits schemes in Kenya has not been optimal over the years as portrayed in its contribution to the country's GDP which stood at 13.3% in 2020 as well as increased complaints from investors (Muli & Ambrose, 2022). The subpar performance can be attributed to lack of investment diversification, since studies around the globe shows that embracing investment portfolio diversification has a tendency of subverting poor performances of entities into superior performances (Kioko & Ochieng, 2020).

The reviewed empirical literature section brought about the methodological gap, since other researchers used mixed research designs as opposed to the descriptive research design used in this study. Other scholars also used the multiple linear regression analysis method as opposed to the simple linear regression model used in this study. Some of the reviewed studies were done outside Kenya as well as in other industries. Again, the researchers in the reviewed articles, conceptualized their study variables differently form the way this study conceptualized its variables.

In response to the problem in performance, methodological, contextual as well as the conceptual research gaps, this present study endeavored to conduct an investigation in an attempt to unravel the effect of investment diversification in bonds on the financial performance of retirement benefits schemes in Kenya.

Objectives of the Study

i. To determine the effect of investment diversification in bonds on the financial performance of retirement benefits schemes in Kenya.
ii. To investigate the moderating effect of foreign exchange rate on the relationship between investment diversification in bonds and the financial performance of retirement benefits schemes in Kenya.

Hypothesis

H_{01}: Investment diversification in bonds has no significant effect on the financial performance of retirement benefits schemes in Kenya.

H_{02}: Foreign Exchange rate has no significant moderating effect on the relationship between investment diversification in bonds and the financial performance of retirement benefits schemes in Kenya

LITERATURE REVIEW

Conceptual Framework

It is a pictorial representation of the relationship between the dependent and the independent variables under inquiry. (Cooper & Schindler, 2019). In this study, the relationship between the independent and the dependent variable was moderated by the foreign exchange rate. The conceptual framework employed in this research was presented in figure 2.1.

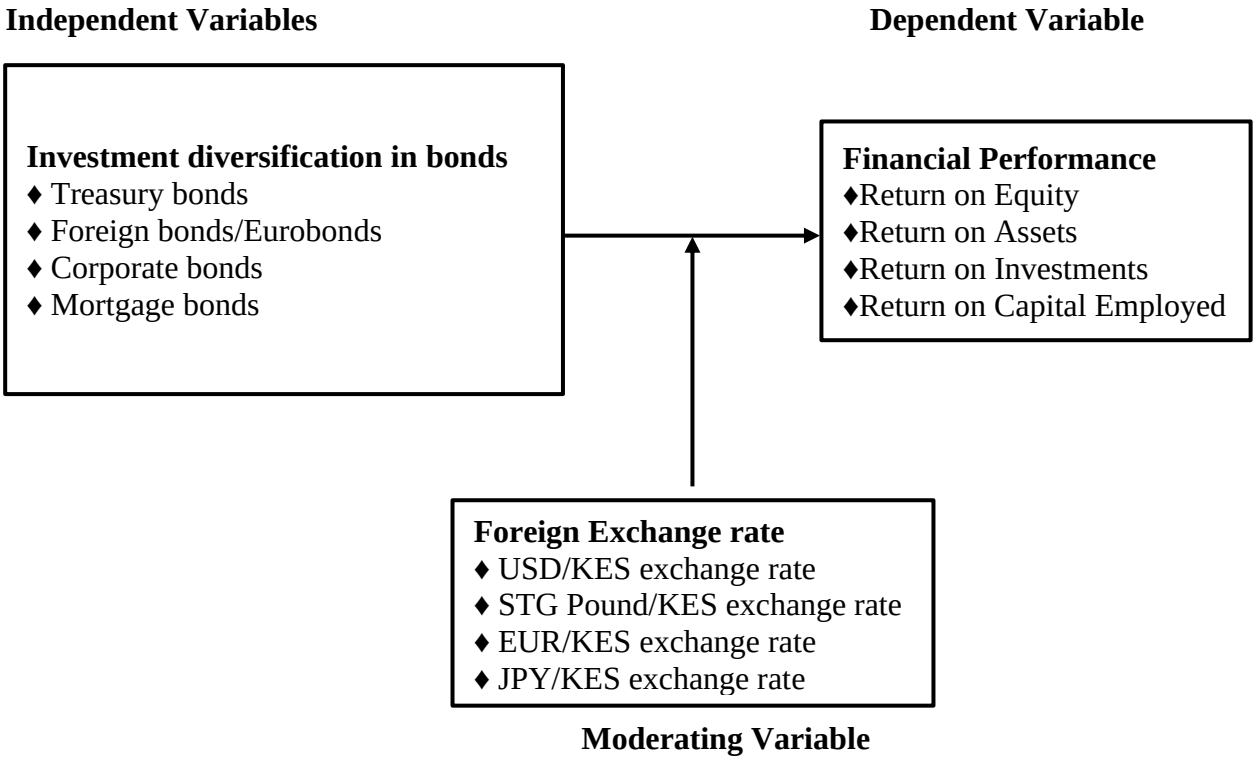

Figure 2. 1: Conceptual Framework

Empirical Literature Review

Bonds are fixed income financial securities in form of long-term loans traded by governments, municipalities as well as corporations (Kamau & Maina, 2019). Bonds offer periodic interest throughout their lifespan and a return of the entire principal investment upon elapsing of the bond term (Banafa, Kenga, Ifire, & Umulkulthum, 2022). Investment diversification in bonds involves spreading the risk inherent in bond investments across the various classes of bond investments (Nzau, Kung'u, & Onyuma, 2019). Bonds can be diversified in terms of government bonds, corporate bonds, municipal bonds, bond maturity as well as bond quality (Kamau & Maina, 2019). In this study investment diversification in bonds constituted the independent variables and it was proxied by Treasury bonds, Mortgage bonds, corporate bonds as well as foreign bonds/Eurobonds. The treasury bonds are financial securities offered by the government through the central bank of Kenya and they are commonly referred to as risk free assets and their maturity can range from one year to 30 years (CBK, 2023). Holders of treasury bonds are entitled to receive interest over the bond's life time as well as the face value of the investment amount upon maturity (CBK, 2023). On the other hand, mortgage bonds are bonds which are backed by real estates, and they are considered the safest bonds type, hence bearing law interest rates (Almeida & Gonçalves, 2023). Corporate bonds are financial securities issued by corporate entities to raise funds to finance their operations, whereas foreign/ Eurobonds are bonds issued in currency which is different from the country in which it is issued, so as to safeguard against foreign exchange risks (Ndungu & Muturi, 2019). The various characteristics of the constructs in the investment diversification in bonds variables requires companies to be intentional when considering what to invest in as far as the bonds are concerned so as to reap a substantial return on investments (Makau & Jagongo, The Impact of Portfolio Diversification on Financial Performance of Investment Firms Listed at Nairobi Securities Exchange, Kenya., 2018). In their study, Banafa, Kenga, Ifire and Umulkulthum (2022) reported

that a well-diversified investment portfolio in bonds results into reporting superior financial performance results. This scenerio therefore, entails that an in-depth analysis is essential prio to settling on the constructs that a company want to employ in its investment diversification in bonds. A research study conducted by Kamau and Maina (2019) on investment diversification and financial performance indicated that investment divesrification in bonds has a significant positive effect on financial performance. The research was carried out in the Mutual funds entities in Nakuru County. The study by Kamau and Maina (2019) was supported by the Mordern Portfolio Theory (MPT) as well as the Arbitratge Pricing Technique (APT) theories. The authors employed the stratified sampling technique in sample size determination. The research employed primary as well as secondary data which was collected via questionnaires and data obsevation schedules repectively. The scholars espoused the descriptive research design and data was analyzed through the multiple regression model.

In another research on invesments and financial performance, Banafa, Kenga, Ifire and Umulkulthum (2022) concluded that investment in bonds has a signifcant positive effect on financial performance. The research was undertaked in the investment banks in Kenya and it was underscored by the MPT, the Efficient Market Hypothesis (EMH) as well as the liquidity preference theories. The researchers used the decsriptive research design as well as secondary data. Data analysis was via infereatial and the regression statistcis in the Statistical Package for Social Sciences (SPSS). In the same endeavor, Nzau, Kung'u and Onyuma (2019) concluded that investment diversification in bonds affect financial performance. The study by Nzau, Kung'u and Onyuma (2019) was supported by the capital structure theory by Miller and Modigiliani (MM). The panel data for their study was collected between 2008 and 2017 whereas the descriptive research design guided their study. The scholars employed the regression analysis model in their study.

Research Gap

The reviewed empirical literature brought about the research gap which this study endeavored to address. For instance, the study by Kamau and Maina (2019) was done in the mutual funds, whereas the study by Banafa, Kenga, Ifire and Umulkulthum (2022) was done in the investment banks. The study by Nzau, Kung'u and Onyuma (2019) only used pannel data, whereas the study by Kamau and Maina (2019) used the multiple linear regression model in their data analysis. Again none of the researchers conceptualised their study variables in the same way as in this present study. In response to the contextual, methodological and conceptual research gaps, this study conducted an investigation in an attempt to unravle the effect of investment diversification in bonds on the financial performance of retirement benefites schemes inKenya.

RESEARCH METHODOLOGY

The descriptive research design was employed in this study, whereas the population for the study comprised of the 87 retirement benefits schemes in Kenya. The Yamane Taro 1967 formular employed in determining the sample size, resulted into having a total sample size of 72 units. The stratified random sampling technique was used in selecting the 72 units of analysis out of the population. Data for the study was collected via questionnaires and data observation schedules. The

collected data was analyzed through the Statistical Package for Social Sciences. Descriptive statistics, correlation statistics as well as the regression statistics were generated in this study. Diagnostic tests were conducted on the data before running the simple linear regression model. The regression coefficients generated were used in testing the hypothesis at 0.05 level of significance and decision made on whether to reject or fail to reject the null hypothesis. The regression model guiding this study was formulated in the following manner.

$Y = \beta 0 + \beta_1 X_1 + \varepsilon$……………………………………………………………Equation 3.1

Where:

Y: Represented the Financial performance (Dependent variable)

X_1: Represented investment diversification in bonds (Independent variable)

The moderated regression model was espoused in determining the moderation effect of the foreign exchange rate on the relationship between investment diversification in bonds and the financial performance of the retirement benefits schemes. The moderated regression model was specifically employed in testing for H_{02}. The moderated regression model tests whether the prediction of a dependent variable (Y), from an independent variable (X) varies across levels of a moderating variable (Z). The moderated regression model comprised of two stages, the first stage involved estimating the main effect of the predictor variable (X) and the hypothesized moderator (Z) as shown in equation (3.2)

$Y = \beta 0 + \beta_1 X_1 + \beta_Z Z + \varepsilon$……………………………………………………Equation 3.2

Where:

Z: Represented the moderating variable (Foreign exchange rate)

β_Z: Represented the beta coefficient of the moderating variable

The second stage encompassed adding the interaction of the moderating variable so as to obtain equation (3.3).

$Y = \beta 0 + \beta_1 X_1 + \beta_Z Z + \beta_{1Z} X_1 * Z + \varepsilon$……………………………………………Equation 3.3

Where:

β_{1Z}: Represented the beta coefficients of the product term (X*Z)

RESEARCH FINDINGS AND DISCUSSION

Diagnostic Tests

Diagnostic tests were conducted on the data as a prerequisite for the successful running of the simple linear regression model.

Test for Normality

For the successful running of the linear regression model, the data ought to be distributed normally (Creswell & Creswell, 2022). Normality of the data is confirmed when the normal (Probability to Probability) (P-P) plot tends to follow a liner pattern (Kothari & Garg, 2019). Figure 4.1 shows that the data points in the P-P plot follow a linear distribution pattern, thus confirming that the data set was normally distributed.

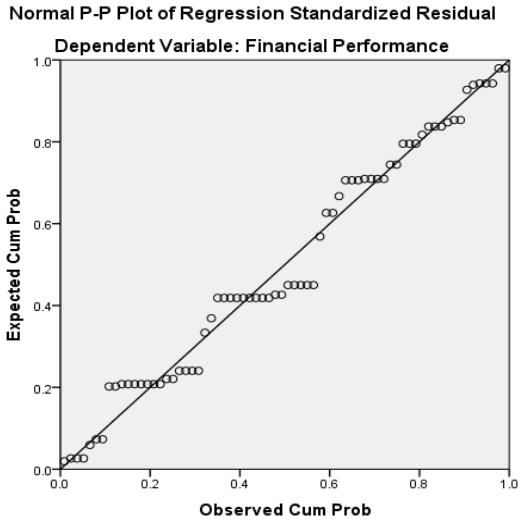

Figure 4.1: Normal P-P Plot

Test for Linearity

The scatter plots enshrined in SPSS were used in testing for linearity (Field, 2017). Researchers confirm the presence of linear relationship between the independent and the dependent variables when the scatter plot portray an oval shape distribution (Holmes, 2019). The oval shape distribution pattern of the scatter plot presented in figure 4.2 confirmed the presence of linearity, thus paving way for the successful application of the linear regression model.

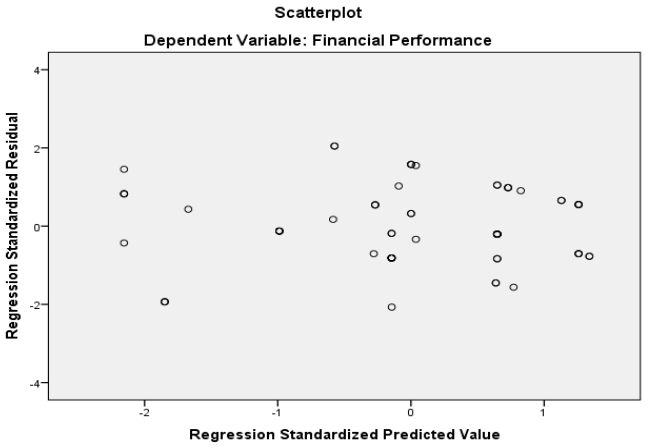

Figure 4. 2: Scatter Plot

Descriptive Test Results

The descriptive statistics for the investment diversification in bonds were generated using SPSS and the results tabulated in table 4.1.

Table 4. 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Investment Diversification in Bonds	70	3.00	4.50	3.9250	.65296
Moderated Investment Diversification in Bonds.	70	2.00	4.00	3.2714	.88336

Table 4.1 showed that the overall mean for the investment diversification in bonds variable was 3.9250, thus portraying the general agreement by the respondents that the retirement benefits schemes incorporated bonds in their investment portfolio. The standard deviation statistics value of 0.65296 which was less than the mean value indicated that the data for the investment diversification in bonds was well distributed around the central tendency. Again, the mean statistics of 3.2714 and the standard deviation of 0.88336 for the moderated investment diversification in bonds showcased that data was well dispersed around the mean.

Pearson's Correlation Analysis Results

The Pearson's correlation analysis statistics were generated and tabulated in table 4.2

Table 4. 2: Pearson's Correlations Coefficients

		Financial Performance	Investment Diversification in Bonds	Moderated Investment Diversification in Bonds
Financial Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	70		
Investment Diversification in Bonds	Pearson Correlation	.027	1	
	Sig. (2-tailed)	.825		
	N	70	70	
Moderated Investment Diversification in Bonds	Pearson Correlation	.232	.277*	1
	Sig. (2-tailed)	.053	.020	
	N	70	70	70

*. Correlation is significant at the 0.05 level (2-tailed).

The pearson's correaltion analysis outcomes presented in table 4.2 indicated a weeak positive ralationship of 0.027 between investment diversification in bonds and financial performance. The outcomes indicated that for every unit increase in investment diversification in bonds, financial performance increases by 0.027 units.The correlation coefficient for the moderated relationship bewteen investment diversification in bonds and financial performance was positive .232.

Regression Analysis Results

This section comprised of table 4.3 for the model summary, table 4.4 for the ANOVA table and table 4.5 for the regression coefficients of the direct relationship model. Table 4.6 was used to represent the regression coefficients for the moderated relationship model.

Table 4. 3: The Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.644[a]	.414	.378	.39811

a. Predictors: (Constant), Investment Diversification in Bonds, Moderated Investment Diversification in Bonds
b. Dependent Variable: Financial Performance

The R-square outcomes of 0.414 from the model in table 4.3 indicated that over 41.4% of the variability of the dependent variable could be explained by the independent variables. The R-square results showed that the model was a good fit.

Table 4. 4: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.291	4	1.823	11.500	.000[b]
	Residual	10.302	65	.158		
	Total	17.593	69			

a. Dependent Variable: Financial Performance
b. Predictors: (Constant), Investment Diversification in Bonds, Moderated Investment Diversification in Bonds

The significant F test results of 0.000 in table 4.4 indicated that the model was fit and statistically significant, thus paving way for the successful running of the regression model.

Table 4. 5: Regression Coefficients for the Direct Relationship Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.969	.639		6.212	.000
	Investment Diversification in Bonds	.303	.094	.392	3.235	.002

Out of the findings in table 4.5, the simple linear regression model for the direct relationship model was fitted as shown in equation 4.1.

$Y= 3.969 + 0.303X_1$ ……..……...……. Equation 4.1

Where,

Y: is the financial performance

X_1: is investment diversification in equities

Table 4. 6: Regression Coefficients Results for the Moderated Relationship Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.677	.967		2.767	.007
	Moderated Investment Diversification in Bonds	.273	.116	.425	2.354	.022

a. Dependent Variable: Financial Performance

Out of the findings in table 4.8, the simple linear regression model for the moderated relationship model was fitted as shown in equation 4.2.

$Y= 2.677 + 0.273_{1Z}X_1*Z$ ……...… Equation 4.2

Where,

Y: is the financial performance

$_{1Z}X_1*Z$: is the moderated investment diversification in bonds

Hypothesis Testing

The p-value statistics from the regression model in table 4.5 and 4.6 were employed in testing the hypothesis at 0.05 level of significance. The results for the hypotheses testing using both models were given in table 4.7

Table 4. 7: Hypothesis Testing

Hypothesis Statement	P-value	Decision Rule
H_{02}: Investment diversification in bonds has no significant effect on the financial performance of retirement benefits schemes in Kenya	.002	Reject **H_{01}**, Since P-value <0.05
H_{02}: Foreign Exchange rate has no significant moderating effect on the relationship between Investment diversification in bonds and the financial performance of retirement benefits schemes in Kenya	.022	Reject **H_{02}**, Since P-value <0.05

DISCUSSION OF KEY FINDINGS

The hypothesis testing in table 4.7 lead to the rejection of **H_{01}**, since the P-value of 0.002 was <0.05. The rejection of **H_{01}** portrayed that investment diversification in bonds has a significant positive effect on the financial performance of retirements benefits schemes in Kenya. These finding were similar to the findings of Kamau and Maina (2019) who reported a significant positive effect on invetment diversification in bonds and finanical performance in their study on Mutual firms in Nakuru County, Kenya. Similar findings were reported by Nzau, Kung'u and Onyuma (2019) who researhed on the firms listed at the Nairobi Securities Exchange (NSE).

The hypothesis testing in table 4.7 reported a P value of 0.022 which was < 0.05, thus resulting to the rejection of the **H_{02}**. The rejection of **H_{02}** depicted that foreign exchange rate has a significant positive moderating effect on the relationship between investment diversification in bonds and the financial performance of retirement benefits schemes in Kenya. Similar results were reported by Banafa, Kenga, Ifire and Umulkulthum (2022) in their study on investments portfolio choice and financial pefromance of investment companies listed at the Nairobi Securities Exchange (NSE).

Summary

The objective of the study was to investigate the effect of investment diversification in bonds on the financial performance of retirement benefits schemes in Kenya. The hypothesis testing in table 4.7 led to the rejection of **H_{01}**. These findings depicted that investment diversification in bonds has a significant positive effect on the financial performance of the retirement benefits schemes in Kenya. The hypothesis testing for the moderated relationship between investment diversification in bonds and the financial performance of the retirement benefits schemes in table 4.7 led to the rejection of **H_{02}**. These findings indicated that foreign exchange rate has a significant positive moderating effect on the relationship between investment diversification in bonds and the financial performance of the retirement benefits schemes in Kenya.

Conclusion

With reference to the main objective, the researcher concluded that investment diversification in bonds has a significant positive effect on the financial performance of retirement benefits schemes in Kenya. With reference to the moderating effect of the foreign exchange rate on the relationship between investment diversification in bonds and the financial performance of retirement benefits schemes in Kenya, the researcher gave the following conclusion. The researcher concluded that foreign exchange rate has a significant positive moderating effect on the relationship between investment diversification in bonds and the financial performance of the retirement benefits schemes in Kenya.

Recommendations

The researcher therefore, recommends that the retirement benefits schemes should consider diversifying their investments in bonds because it affects their financial performance. The researcher also recommends that the schemes should be vigilant on the volatility of the foreign exchange rate because it has a moderating effect on the relationship between the investment diversification in bonds and their financial performance

In the same endeavor, the research recommends that policy formulating and regulatory bodies such as the ministry of finance, the Retirement Benefits Authority (RBA), the Central bank of Kenya (CBK), the Kenya National Bureau of Statistics (KNBS) as well as the Capital Market Authority (CMA) should devise mechanisms which ensures a close monitoring of the foreign exchange rate as well as the entire macro-economic variable volatility so as to mitigate adverse effect on the financial performance of entities.

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