
# FINANCIAL RISK AND PERFORMANCE OF PENSION SCHEMES, A SURVEY OF PENSION SCHEMES IN KENYA

**Omwaka, S. A., & Malenya, A.**

The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com

Vol. 7, Iss. 3, pp 912 – 929. August 27, 2020. www.strategicjournals.com, ©Strategic Journals

# FINANCIAL RISK AND PERFORMANCE OF PENSION SCHEMES, A SURVEY OF PENSION SCHEMES IN KENYA

**Omwaka, S. A., [1*] & Malenya, A.[2]**

[1*] MBA Candidate, School of Business, Jomo Kenyatta University of Agriculture & Technology (JKUAT), Kenya
[2] Ph.D, Lecturer, Jomo Kenyatta University of Agriculture & Technology (JKUAT), Kenya

**Accepted: August 26, 2020**

**ABSTRACT**

*The main objective of this study was to assess financial risk and performance of pension schemes, a survey of pension schemes in Kenya. The study sought to establish the effect of market risk, liquidity risk, operational risk and credit risk on performance of pension schemes in Kenya. This study adopted descriptive research design and the target population was pension schemes in Kenya. A sample size of 303 pension schemes was involved in this study. The pension schemes were selected using simple random sampling technique, and data collection sheet issued per pension scheme selected. In every pension scheme, one respondent was selected from the middle level management using purposive random sampling technique. Quantitative data collected was analyzed by descriptive and inferential analysis. Statistical Package for Social Sciences (SPSS helped the researcher to analyze the data. The findings were presented using tables, pie charts and bar graphs. The results indicated that market risk, credit risk, liquidity risk and operational risk negatively affected performance of pension schemes in Kenya. Therefore, the study concluded that financial risks negatively affect performance of pension schemes in Kenya. The study recommended that managers of pension schemes in Kenya should put in place conventional risk management where they should adopt proactive approaches and be forewarned by developing regulatory insight to avoid legal risks.*

***Key Words:*** *Market Risk, Liquidity Risk, Operational Risk, Credit Risk*

**CITATION:** Omwaka, S. A., & Malenya, A. (2020). Financial risk and performance of pension schemes, A survey of pension schemes in Kenya**.** *The Strategic Journal of Business & Change Management*, 7(3), 912 – 929.

## INTRODUCTION

Financial risks and activities of any organization are inseparable for reasons that the environment in which most firms operate is highly volatile and uncertain (Napp, 2011). The levels of financial risks continually escalate since firms have to make new financial related decision and every business decision and act is connected with financial risk (Lopatina, 2013). With market imperfections, and ever increasing financial risks, organizations need to have indepth knowledge of the financial risks they face. The knowledge is important in enabling the organizations to secure their business continuity. Further, such knowledge can enable organizations to add additional value by avoiding or reducing transaction costs and cost of financial distress or bankruptcy (Wanjiru, 2013).

Financial risks in pension schemes remains an area of concern as argued by Njeru and Kasomi (2015) that the most pertinent concern in pension schemes is lack of trustees to clearly understand and put proper benchmarks to monitor risks and the performance of the funds. These views are advanced by World Bank (2011) report which acknowledges that pension systems have become a source of macroeconomics instability as a result risks they face. Supporting these sentiments, Boyd and Yimeng (2017) point out that most public pension funds are in a precarious situation and therefore, there is added pressure to reduce financial risks in pension funds' asset holding in order to mitigate volatility and to keep funding ratios more stable than in the past. Hatchett, Bowie and Forester (2010) conclude understanding financial risk is very vital for the pension funds survival and success.

In Kenya Oluoch (2013) points out that there is a weak positive relationships between returns viability problems. Regionally, in Uganda, DEAR (2014) points out that the pension performance has been hindered by the challenges of keeping down the costs of running the pensions schemes, balancing sustainability and adequacy of the pension payments, and fund value, assets and contributions of pensioners indicating that fund values, assets, and contributions are not utilized in the generation of income for the pension funds in Kenya. This implied that this the schemes contribute by pensioners are not used for income generation activities. Further, it has been reported that, of the 130 plans in the public sector, 69 are grossly under-funded and need urgent measures to revitalize them. To add, in the year 2002, the fund lost Kenya Shillings 256 million in the Euro Bank scandal. This study will therefore investigate financial risk and performance of pension schemes.

Pension schemes are defined as any scheme or arrangement (other than a contract for life assurance), whether established by a written law or by any other instrument, under which persons are entitled to benefits in the form of payments, determined by age, length of service, amount of earnings or otherwise and payable primarily upon retirement, or upon death, termination of service, or upon the occurrence of such other event as may be specified (Masese, 2015). There are about 1,300 pension schemes in the country controlling in excess Sh680 billion. About 30 of these are individual retirement benefit schemes registered by the Retirement Benefits Authority (RBA).

Pension schemes in Kenya can be classified into four main categories according to Masinde and Olukuru (2015). The first category is the pension fund that is sponsored by the state and operates in the name of National Social Security Fund (NSSF). This pension is mandatory to all employees both in the public and private sector. The second category of pension funds includes the ones run by public service and are specifically meant to serve civil servants. The third category of pension funds is called occupational schemes and they draw their membership from private sector companies that operate pension schemes. The last category comprises of individual pension schemes that run as trusts and membership is open to all. RoK (2012) points out that pension schemes in Kenya are exposed various financial risks among them market risk, credit risk and operational risks. To add,

financial risks in the pensions industry in Kenya are on the rise. RoK (2010) acknowledges financial risks facings pension schemes are as a result of faced a result poor record keeping, resulting to unallocated suspense account of approximately seven billion Kenya Shillings.

**Statement of the Problem**

Pension Schemes in Kenya are have been recording poor performance according to Muriithi and Wamari (2013). Such performance is reflected in their financial reports, whereby Kenyan pension scheme financial report from the year 2010 to 2012 indicate a reduction in total fund value from 445 billion to 348 billion despite the increase in contributions from 2.4 billion to 2.9 billion (Awino, 2013). Return also decreased from 5.5 Billion to 1.9 Billion over the years. Same results were exhibited in 2015, whereby returns from investment in the pension schemes declined according to survey by Actuarial Services East Africa (2015). Specifically, in the fourth quarter, returns from investment in the sector were on average 1.3 per cent compared to an average of 5.8 per cent of the third quarter.

Regarding risks in, Awino (2013) argue that management and regulation governing pension funds restrict early withdrawal of funds by beneficiaries and as a result, this leaves pension funds with long term liabilities, allowing holding of high risk and high return instruments. According to RoK (2010), the risks facing pension schemes has resulted to an unallocated suspense account of approximately seven billion Kenya Shillings. Crose, Kaminker and Stewart (2011) allege that such results are attributed to associated risks. Adding to this, KRBA (2011) revealed the financial risks as market risk, operational risk, liquidity and credit risks.

Past studies carried out in the pension schemes context in Kenya show that pension schemes in Kenya are exposed various financial risks (RoK, 2012, Awino, 2013). Other studies focus on risk management practices. For instance, Kimingichi (2015) investigated how pension scheme risks management practices affect performance of pension schemes by use of Sharpe Ratio. The results revealed that there is a link between the asset allocation and risk factor at all the schemes. Kipkogei (2013) investigated the determinants influencing the likelihood of risk management strategies adoption by pension schemes in Kenya. Franzen (2010) point out that pension fund managers often feel uneasy about risks and applying risk management tools since most of them are originating from other sectors.

In the banking context, Muriithi (2016) studied on effect of financial risk on financial performance of commercial banks in Kenya and revealed that that credit, market, liquidity and operational risks have significant negative effect on return on equity of Kenyan commercial banks. Same results were obtained by Al-Tamimi *et al.,* (2015) while examining the relationship between financial risk and performance of Gulf Cooperation Council Islamic banks. On the contrary, Lake (2013) examined the impact of financial risk on the profitability of commercial banks in Ethiopia revealing that relationship for interest rate risk and foreign exchange rate risk on profitability was statistically insignificant. Kithinji (2010) analyzed the effect of credit risk on return on total asset in Kenyan banks from 2004 to 2008, revealing that profits of commercial banks was not influenced by the amount of credit and non-performing loans. This implies that financial risk and performance of firms remains contradictory and inconclusive hence a knowledge gap. This study sought to fill the existing knowledge gap by investigating financial risk and performance of pension schemes in Kenya.

**General Objective**

The main objective of this study was to assess financial risk and performance of pension schemes, a survey of pension schemes in Kenya. The study sought to address the following specific objectives;

- To establish the influence of market risk on the performance of pension schemes in Kenya
- To determine the influence of liquidity risk on the performance of pension schemes in Kenya

- To assess how operational risk influence performance of pension schemes in Kenya
- To find out the influence of credit risk on the performance of pension schemes in Kenya

The study was guided by the following research Hypothesis

- $H_{01}$: There is no significant influence of market risk on performance of pension schemes in Kenya
- $H_{02}$: There is no significant influence of liquidity risk on performance of pension schemes in Kenya
- $H_{03}$: There is no significant influence of operational risk on performance of pension schemes in Kenya
- $H_{04}$: There is no significant influence of credit risk on performance of pension schemes in Kenya

## LITERATURE REVIEW

### Capital Asset Pricing Model (CAPM)

Capital Asset Pricing Model (CAPM) was introduced by Jack Treynor (1961). The model describes the relationship between systematic risk and expected return for assets. CAPM is widely used throughout finance for the pricing of risky securities, generating expected returns for assets given the risk of those assets. CAPM has been adopted in this study because of its relevance to financial risks and financial performance as the model takes into account the asset's sensitivity to non-diversifiable risk (also known as systematic risk or market risk), as well as the expected return of the market and the expected return of a theoretical risk-free asset.

According to Capital Asset Pricing Model (CAPM), if the number of assets included in the portfolio is high and these assets are not perfectly correlated, the unsystematic component of the portfolio risk diminishes (Mondo et al., 2013). The CAPM says that the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium. If this expected return does not meet or beat the required return, then the investment should not be undertaken. Therefore, CAPM has been adopted in this study as it suggests that a relationship exists between risks and returns and further, CAPM is used to help determine the return investors require for a given level of risk. CAPM is used to calculate the required rate of return for any risky asset.

### Modern Portfolio Theory

Modern Portfolio Theory (MPT) originates from the work of Markowitz (1952). This theory attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets (Omisore, Yusuf & Christopher, 2012). The portfolio theory explains that some sources of risk associated with individual assets can be eliminated or diversified away, by holding a proper combination of assets. Modern Portfolio Theory (MPT) proposes how rational investors should use diversification in order to optimize their portfolios. It also discusses how a risky asset should be priced (Bodie, Markus & Kane 2009).

This theory was adopted by this study due to its relevance on financial risks and financial performance. The theory acknowledged that there need for understanding financial risk facing firms so as to influence the performance of their portfolios (Diamond & Rajan, 2001). The proponents of this theory argued that, proper risk management can ensure that institutions manage and reduce risks. Modern portfolio theory (MPT) is a theory on how risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. Donaldson (1999) states that, to understand whether an organization is likely to make adaptive changes or not and whether it is likely to grow or not, there is need to understand its degree of risk. Therefore this theory is relevant to the study on grounds that the portfolio of pension schemes has financial risks and therefore, maximization of the portfolio expected return related to the amount of portfolio


The Strategic Journal of Business & Change Management. ISSN 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

risk. The theory therefore relates returns of organizations to risks faced. It was on these grounds that the MPT was adopted.

**Enterprise Risk Management Theory**

Enterprise Risk Management (ERM) theory is a theory that focuses on adopting a systematic and consistent approach to managing all of the risks confronting an organization (Tseng, 2007). Gordon et al. (2009) on the other hand define ERM as the overall process of managing an organization'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.

ERT help organization to balance the two most significant business pressures; the responsibility to deliver to stakeholders and the risks associated with and generated by the business itself in a commercially achievable way (Searle, 2008). By doing so, the risk manager is constantly aware of the risks it faces and therefore constantly monitors its exposure and be positioned to change strategy or direction to ensure the level of risks it takes is acceptable. This theory is adopted by the study as it emphasizes that all risks, including financial risks under study might have an impact on organizations health and hence constantly monitoring of the exposure of business to such risk so as to ensure the level of risks it takes is acceptable.

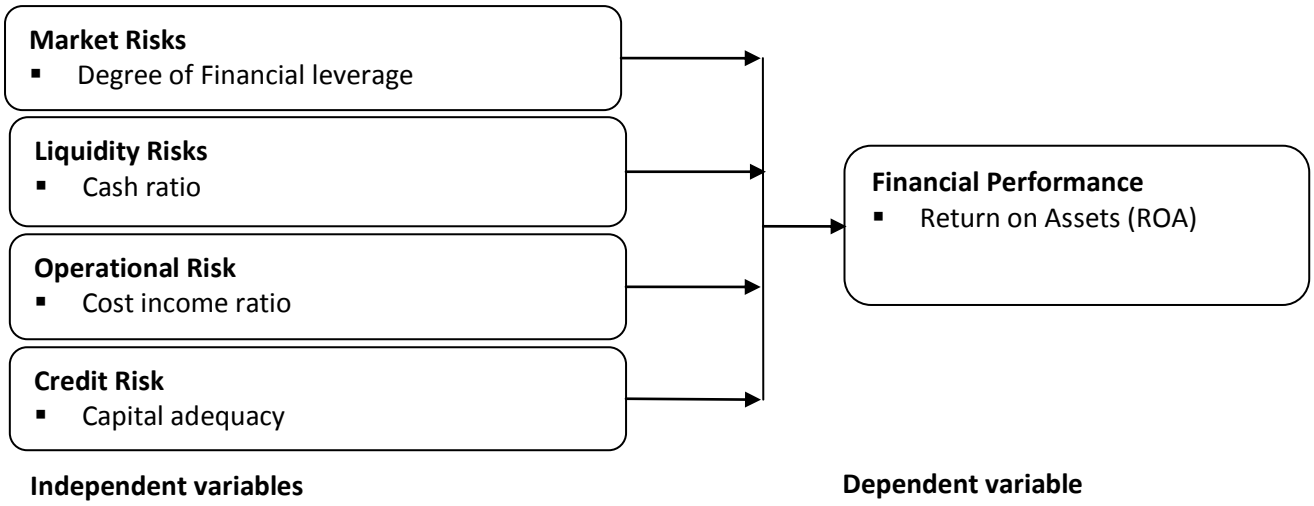


**Figure 1: Conceptual Framework**

**Empirical Review**

A study was done on the effect of risk based supervision on the financial performance of pension schemes in Kenya (Makau, 2014). The study was done on Kenyan pension funds at aggregate level using quarterly data on fund value as well as the asset classes in which the scheme funds were invested. The data was from between June 2008 through June 2013. Multiple regression model was used to determine the relationship between financial performance before and after the implementation of risk based supervision. The study established that financial performance of pension funds in Kenya was better in the period after which risk based supervision was adopted and implemented. The study recommended further studies to be done focusing on evaluation of the various risks facing pension schemes from different perspectives so as to identify the most prevalent.

Shehu (2011) did a study on financial risk analysis in pension funds investment. The research tried to


The Strategic Journal of Business & Change Management. ISSN 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

unveil the multifarious risks that were contained in pension fund investment. The major risks unveiled include financial market related risks and non-financial market risks. This study, despite revealing the existence of financial related risks, did not show the relationship between it and the financial performance of pension schemes. It only recommended that pension funds companies should endeavor to establish an ERM unit to be managed by risk and investment expert who can accurately evaluate risks. The current study seeks to reveal the relationship between financial risk and financial performance of pension schemes.

Owojori (2008) did a study on risk management in pension fund administration in Nigeria. The study found out that unlike other industries, pension funds industry face different types of risk which called for an effective and efficient risk management process. More so the study revealed that failure of the administrators to pay contributions after retirement had been a major set back that discourage contributors, employees, employers and government. The focus of this study was on risk management other than examining individual risks.

Fiona (2007) investigated experiences and challenges with the introduction of risk-based supervision for pension funds. Retirement Benefits Authority (RBA), is responsible for the supervision of funds, identified several risks faced by pension funds including counterparty default risk, balance sheet and market risk, operational risk, liquidity risk, legal and regulatory risk, strategic risk, contagion and related party risk. This paper informed on the risks faced but failed to discuss the risk management practices adopted.

In a study conducted by Njuguna (2010) on the agency problems and the resolution mechanisms among pension schemes in Kenya and recommended for effective supervision of pension schemes citing that RBA should focus on plans which focus on legal compliance, financial control and supervision of managers. He further recommended increased resilience on modern and effective risk management. The study made recommendations on ensuring effective risk management.

Kasanga (2011) investigated the determinants of performance of pension funds in Kenya from January 2008 to December 2010. He found out that forecasting ability, market timing ability and security selection techniques employed by fund managers in managing both equity and money market portfolios were important determinants of performance. He also found out that performance of equity and money market funds managed by unit trust schemes was highly positively correlated with forecasting ability, market timing and security selection.

A study by Sanghani (2014) on non-financial companies listed at the Nairobi Securities Exchange revealed that there was a positive relationship between current ratio, operating cash flow ratio, capital structure and financial performance of non-financial companies listed at the NSE. Thus the study concluded that liquidity positively affects the financial performance of non-financial companies listed on the NSE.

**METHODOLOGY**

This study adopted descriptive research design. This research design was considered appropriate because it enabled the researcher to establish the current status of the phenomena under investigation. The population of the study was pension schemes in Kenya. In Kenya there were 1248 Pension schemes according Retirement Benefits Authority (RBA) (2017) records. The researcher targeted the pension scheme managers in the middle level of management. The sample size was 303 pension schemes in Kenya. Questionnaires were used for data collection because it was easier to manage as it saved time. The researcher used self-administered data collection sheet. Quantitative data collected was analyzed by descriptive and inferential statistics. Statistical Package for Social Sciences (SPSS) helped the

researcher to analyze the data. The findings were presented using tables.

## FINDINGS AND DISCUSSIONS

### Descriptive statistics

Descriptive analysis used percentages, frequencies, means and standard deviation to show the response from the respondents as shown in the tables below for each variable. The respondents were required to state their level of agreement on various statements on each variable. The level of agreement ranged from 1-strongly disagree, 2-disagree, 3-fairly agreed, 4-agree and 5- strongly agree. The results were as follows.

### Market risk and Performance

The sampled respondents were provided with five statements related to Market risk. Percentages are in parenthesis (). The results are as presented in Table 1.

**Table 1: Market risk**

| Statements | 5 | 4 | 3 | 2 | 1 | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| This pension scheme is highly exposed to currency risks | 56 (22.8) | 120 (48.8) | 57 (23.2) | 5 (2) | 8 (3.3) | 3.86 | 0.90 |
| The variance of operating income of this pension scheme has been on rise | 58 (23.6) | 129 (52.4) | 40 (16.3) | 8 (3.3) | 11 (4.5) | 3.87 | 0.96 |
| The cash ratio of this pension scheme has remained relatively high. | 38 (15.4) | 121 (49.2) | 76 (30.9) | 7 (2.8) | 4 (1.6) | 3.74 | 0.81 |
| Interest rate volatility in the country has reduced the Returns on Investment of this pension scheme. | 37 (15) | 75 (30.5) | 111 (45.1) | 15 (6.1) | 8 (3.3) | 3.48 | 0.93 |
| The value of assets owned by our pension scheme has been falling with rise in interest rates. | 59 (24) | 74 (30.1) | 83 (33.7) | 22 (8.9) | 8 (3.3) | 3.63 | 1.05 |

From Table 1, 48.8% of the respondents agreed that their pension scheme is highly exposed to currency risks while 22.8% strongly agreed. Similarly, 52.4% of the respondents agreed that the variance of operating income of this pension scheme has been on rise. The results also revealed that 49.2% and 15.4% of the respondents agreed and strongly agreed respectively that the cash ratio of this pension scheme has remained relatively high.

However, slight majority of the respondents (45.1%) were not sure whether the interest rate volatility in the country has reduced the Returns on Investment of this pension scheme. On the other hand, 30.5% and 15.0% of the respondents agreed and strongly agreed that interest rate volatility in the country has reduced the Returns on Investment of this pension scheme. Lastly, the results further revealed that 30.1% and 24.0% of the sampled respondents agreed and strongly agreed respectively that the value of assets owned by our pension scheme has been falling with rise in interest rates. Pariyada (2013) indicated that market risk was a major component in sensitivity of bank stock returns the relationship was positive and significant. Large banks are more sensitive to changes in market conditions than medium and small banks. Banks with high market power have higher profitability and banks with low market power will have low profitability.

### Liquidity risk and Performance

The sampled respondents were provided with five statements related to Liquidity risk. The pertinent results were as shown in Table 2.


The Strategic Journal of Business & Change Management. ISSN 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

**Table 2: Liquidity risk**

| Statements | 5 | 4 | 3 | 2 | 1 | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| The current ratio, that is the current assets relative to current liabilities, has increased over time | 62 (25.2) | 97 (39.4) | 37 (15) | 46 (18.7) | 4 (1.6) | 3.68 | 1.09 |
| Current ratio at this pension scheme is maintained at low levels in the event that the pension scheme's assets are used to grow the business. | 45 (18.3) | 107 (43.5) | 68 (27.6) | 15 (6.1) | 11 (4.5) | 3.65 | 0.99 |
| The cash ratio of this pension scheme has been high enabling pension scheme to meets immediate payments obligations to when demanded | 44 (17.9) | 61 (24.8) | 58 (23.6) | 76 (30.9) | 7 (2.8) | 3.24 | 1.16 |
| The pension scheme maintains sufficient cash reserves | 45 (18.3) | 113 (45.9) | 43 (17.5) | 33 (13.4) | 12 (4.9) | 3.59 | 1.08 |
| Reducing liquidity risks faced by this pension scheme increases the profitability of our pension scheme. | 31 (12.6) | 132 (53.7) | 64 (26) | 11 (4.5) | 8 (3.3) | 3.68 | 0.87 |

According to the results in Table 2, 39.4% of the respondents agreed that the current ratio, that is the current assets relative to current liabilities, had increased over time while 25.2% strongly agreed on the same. Similarly, 43.5% and 18.3% of the respondents agreed and strongly agreed that Current ratio at this pension scheme was maintained at low levels in the event that the pension scheme's assets are used to grow the business. The results also revealed that 24.8% of the respondents agreed that the cash ratio of this pension scheme had been high enabling pension scheme to meets immediate payments obligations to when demanded while 17.9% strongly agreed on the same. However, 30.9% of the respondents disagreed implying that the cash ratio of this pension scheme has not been high enabling pension scheme to meets immediate payments obligations to when demanded.

The results further revealed that 45.9% and 18.3% of the respondents agreed and strongly agreed respectively that the pension scheme maintains sufficient cash reserves. Lastly, slight majority of the respondents were agreed that reducing liquidity risks faced by this pension scheme increases the profitability of their pension scheme as shown by 53.7% and 12.6% strongly agreed on the same. The results are in agreement with Kim (2015) who investigated the impact of liquidity risk on performance in European Union countries panel data for the three year period to 2009 and sample data from 23 European Union countries was used. The findings were a negative relationship between liquidity ratios and performance.

**Operational Risk**

The sampled respondents were provided with five statements related to Operational Risk. The relevant results were as shown in Table 3.

**Table 3: Operational Risk**

| Statements | 5 | 4 | 3 | 2 | 1 | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| The ratio of total costs to total income of this pension scheme has remained relatively low | 15 (6.1) | 111 (45.1) | 77 (31.3) | 30 (12.2) | 13 (5.3) | 3.35 | 0.96 |
| Operating costs at the pension scheme are always regulated to ensure that they do not surpass the total income | 80 (32.5) | 59 (24) | 83 (33.7) | 20 (8.1) | 4 (1.6) | 3.78 | 1.04 |
| There have been deviations of operating | 54 | 82 | 72 | 35 | 3 | 3.61 | 1.02 |


The Strategic Journal of Business & Change Management. ISSN 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| cost from the planned costs by the pension scheme | (22) | (33.3) | (29.3) | (14.2) | (1.2) | | |
| Deviations from the planned operating costs have been lowering the net income. | 14 (5.7) | 85 (34.6) | 74 (30.1) | 70 (28.5) | 3 (1.2) | 3.15 | 0.94 |
| Chances of operational risk exposures at the pension scheme are generally high | 14 (5.7) | 102 (41.5) | 80 (32.5) | 44 (17.9) | 6 (2.4) | 3.30 | 0.91 |

From Table 3, the results revealed that 45.1% of the sampled respondents agreed that the ratio of total costs to total income of this pension scheme has remained relatively low although 31.3% were undecided. On the other hand, 32.5% of the sampled respondents strongly agreed that operating costs at the pension scheme are always regulated to ensure that they do not surpass the total income while on the other hand 33.38% were undecided. The study also established that 33.3% of the sampled respondents agreed that there have been deviations of operating cost from the planned costs by the pension scheme and further 22.0% strongly agreed.

The results further revealed that 30.1% and 34.6% of the respondents were undecided and agreed respectively that deviation from the planned operating costs have been lowering the net income. Lastly, 44.5% and 5.7% of the sampled respondents agreed and strongly agreed that chances of operational risk exposures at the pension scheme are generally high. As argued by Blake, Cotter and Dowd (2006), people began to notice that operational risks other than market and credit risk play a huge role in the financial stability of firms at the beginning of this millennium. A review of the work of Lazear (2009) revealed that the diversity in the structures of hedge funds from an operational perspective complicates operational risk mitigation efforts further, as valuation, accounting and other practices vary from fund to fund.

**Credit risk**

The sampled respondents were provided with five statements related to credit risk. The relevant results were as shown in Table 4.

**Table 4: Credit risk**

| Statements | 5 | 4 | 3 | 2 | 1 | Mean | Std Dev |
|---|---|---|---|---|---|---|---|
| The clients served by this pension scheme make their monthly contribution accordance with agreed terms avoiding delays and bad debts | 36 (14.6) | 119 (48.4) | 81 (32.9) | 7 (2.8) | 3 (1.2) | 3.72 | 0.79 |
| There are cases in which the debtors fail to make payments as expected, making our pension scheme to suffer loss. | 36 (14.6) | 135 (54.9) | 33 (13.4) | 39 (15.9) | 3 (1.2) | 3.66 | 0.95 |
| The pension scheme has been successful in recovering high proportion of debts that debtors fail to service in time | 43 (17.5) | 96 (39) | 80 (32.5) | 24 (9.8) | 3 (1.2) | 3.62 | 0.93 |
| Our pension scheme has been able to service pension payments that are due on time. | 34 (13.8) | 128 (52) | 57 (23.2) | 22 (8.9) | 5 (2) | 3.67 | 0.90 |
| The operating income has been maintained at low levels to control financial leverage effect | 48 (19.5) | 58 (23.6) | 95 (38.6) | 40 (16.3) | 5 (2) | 3.42 | 1.04 |

From Table 4, majority of the sampled respondents (48.4%) agreed that the clients served by this pension scheme make their monthly contribution accordance with agreed terms avoiding delays and bad debts and further 14.6% strongly agreed on the same. The results further revealed that 54.9% of the respondents agreed that there are cases in which the debtors fail to make payments as expected, making our pension scheme to suffer loss while 15.9% disagreed on the same implying that there are incidence of no cases in which the debtors fail to make payments as expected, making our pension scheme to suffer loss.

The results also revealed that 39.0% and 17.5% of the sampled respondents agreed and strongly agreed respectively that the pension scheme has been successful in recovering high proportion of debts that debtors fail to service in time. However, 32.5% of the respondents undecided that the pension scheme has been successful in recovering high proportion of debts that debtors fail to service in time

The results also indicated that 52.0% of the sampled respondents agreed their pension scheme has been able to service pension payments that are due on time and 13.8% strongly agreed on the same although 32.4% were undecided. Lastly, 23.6% and 19.5% of the respondents agreed and strongly agreed respectively that the operating income has been maintained at low levels to control financial leverage effect. Rasika, Hewage and Thennakoon (2016) in their research does credit risk affect financial performance of Sri lankan commercial banks. The results showed that Capital Adequacy Ratio and Non-Performing Loan Ratio both have negative and significant relationship with Return on Equity. Sangare (2017) on the other hand researched on impact on credit risk and banks performance for member states of West African Economic and Monetary Union. Non-performing loans ratio and loan loss provision as measures of credit risk had a negative significant relationship with return on assets a measure of performance.

**Inferential Analysis**

**Pearson Correlation Results**

The correlation coefficient (r) results were presented as shown in Table 5 using Pearson correlation analysis, which computed the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables.

**Table 5: Multiple Correlation Matrix**

| | | Market Risk | Liquidity Risk | Operational Risk | Credit Risk |
|---|---|---|---|---|---|
| Market risk | Pearson Correlation | 1 | .545** | .386** | .538** |
| | Sig. (2-tailed) | | .000 | .000 | .000 |
| | N | 246 | 246 | 246 | 246 |
| Liquidity risk | Pearson Correlation | .545** | 1 | .473** | .497** |
| | Sig. (2-tailed) | .000 | | .000 | .000 |
| | N | 246 | 246 | 246 | 246 |
| Operational risk | Pearson Correlation | .386** | .473** | 1 | .632** |
| | Sig. (2-tailed) | .000 | .000 | | .000 |
| | N | 246 | 246 | 246 | 246 |
| Credit risk | Pearson Correlation | .538** | .497** | .632** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | |
| | N | 246 | 246 | 246 | 246 |
| Performance | Pearson Correlation | -.639** | -.608** | -.586** | -.649** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 |
| | N | 246 | 246 | 246 | 246 |

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

From the correlation Table 5, market risk is negatively correlated to performance the coefficient was -0.639 (p value < 0.01) this was significant at 99% confidence level. Thus increase in market risk would make performance to decrease.

Similarly, the correlation coefficient for liquidity risk was -0.608, P=0.000, suggesting that there is significant negative relationship between liquidity risk and performance of pension schemes in Kenya. Increase in liquidity risk would results to decrease in performance.

Similarly, a correlation coefficient of -0.586** implied that there is significant negative relationship between operational risk and performance. Lastly, there is significant negative relationship between credit risk and performance of pension schemes in Kenya as indicated by -0.649 **, p=0.000. This implied that increase in credit risk would results to decrease in performance.

**Multiple Regression Analysis**

Objective of this study sought objective of the study was to determine the influence of public financial management practices on performance of pension schemes in Kenya. This was achieved by carrying out standard multiple regression. The study was interested in knowing the effect of each of the Operational Risk constructs on performance when all these constructs were entered as a block on the model. The results of multiple linear regression analysis were presented in Table 6.

**Table 6: Model Summary**

| Model | R | R Square | Adj R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Sq Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .781[a] | .610 | .604 | .467915 | .610 | 94.348 | 4 | 241 | .000 |

a. Predictors: (Constant), Credit risk, Market risk, liquidity risk, Operational Risk

**ANOVA[a]**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 82.628 | 4 | 20.657 | 94.348 | .000[b] |
| | Residual | 52.766 | 241 | .219 | | |
| | Total | 135.394 | 245 | | | |

a. Dependent Variable: Performance

b. Predictors: (Constant), Credit risk, Market risk, liquidity risk, Operational Risk

The results from the model summary in Table 6 gave us information on the overall summary of the model. Looking at the R square column, we deduced that financial risks accounted for 61.0% significant variance in performance (R square =.610, P=0.000) implying that 39.0% of the variance in performance in Performance is accounted for by other variables not captured in this model. In order to assess the significance of the model, simply whether the study model was a better significant predictor of the performance rather than using mean score which is considered as a guess, the study resorted to F Ratio. From the findings, the F value is more than one, as indicated by a value of 94.348, which meant that enhancement as a result of model fitting was much larger than the model errors/inaccuracies that were not used in the model (F (4,245) = 94.348, P=0.000). This implied that the final study model has significant improvement in it is prediction ability of performance of pension schemes in Kenya.

The presented in Table 7 showed unstandardized coefficients, standardized coefficients, t statistic and significant values.

**Table 7**: **Coefficients on effect of Financial risk Constructs on Performance**

| Model | | Coefficients[a] Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .764 | .222 | | 3.438 | .001 |
| | Market risk | -.400 | .067 | -.309 | -5.984 | .000 |
| | Liquidity risk | -.271 | .063 | -.221 | -4.287 | .000 |
| | Operational Risk | -.197 | .050 | -.211 | -3.945 | .000 |
| | Credit risk | -.289 | .069 | -.240 | -4.172 | .000 |

a. Dependent Variable: Performance

A regression of the four predictor variables against performance established the multiple linear regression model as below:

**Y=0.764 - 0.400** $X_1$**-0.271** $X_2$**-0.197** $X_3$**-0.289** $X_4$

Where Y is the dependent variable (Performance),

$X_1$ is Market risk

$X_2$ is Liquidity risk

$X_3$ is Operational risk

$X_4$ is Credit risk

From the findings, we looked at the model results and scan down through the unstandardized coefficients B column. All financial risk constructs had significant negative effect on the performance. If financial risks are held at zero or it is absent, the performance of pension schemes in Kenya would be 0.764, p=0.001. The results revealed that market risk had unique significant contribution to the model with B=-0.400, p=.000 suggesting that controlling of other variables (Liquidity risk, Operational Risk and Credit risk) in the model, a unit increase in market risk would result to significant decrease in performance by 0.400 units. This findings are in agreement with Pariyada (2013) who researched on sensitivity of stock returns for Thai commercial banks the research employed GARCH approach. The results were that market risk was a major component in sensitivity of bank stock returns the relationship was positive and significant. Large banks are more sensitive to changes in market conditions than medium and small banks. Banks with high market power have higher profitability and banks with low market power will have low profitability. Maniagi (2018) investigated the influence of market risk on financial performance of commercial banks in Kenya. From the regression and correlation results with market risk were positively correlated to performance proxies and all were significant for both initial and optimal model with all proxies of performance for commercial banks in Kenya

The coefficient of liquidity risk was -0.271, which was significant (p=.000). When the variance explained by all other variables (Market risk, Operational Risk and Credit risk) in the model is controlled, a unit increase in liquidity risk would result to decrease in performance by 0.271units in the same direction. This study is in agreement with Kim (2015) who investigated the impact of liquidity risk on banks performance in European Union countries panel data for the three year period to 2009 and sample data from 23 European Union countries was used. The findings were a negative relationship between liquidity ratios and performance. On the hand other authors in their research on liquidity risk and performance in EU countries found the ratio of loans to deposits as a proxy for liquidity risk significant and positively related to net interest margins (Chortareas, Girardone & Ventouri, 2011).

Another variable that also had a unique significant contribution to the model was the value for operational Risk (B=-.197, p=.000). When other variables in the model are controlled (Liquidity risk, Market risk and Credit risk), a unit change in Operational Risk would result to significant change in performance by 0.197 in the opposite direction.

The results of this study agree with Ndung'u and Lishenga (2014) sought to determine the relationship between operating leverage and performance of firms quoted in the Nairobi Securities Exchange. Findings indicated that that an increase in operating leverage risk decreases return. It can therefore be concluded that management of firms listed in the NSE should target higher operating leverage in order to increase financial performance. Similar results were obtained by Kumar (2014) who indicated that, operational risk is statistically significant negative correlation with the financial performance. However, Sen and Ranjan (2018) analyze the impact of operational risk on the profitability and performance of the company. Results suggested that the operating operational risk of the company does not play any major role in making investment decisions of the company. And it was also found that the operational risk of the company has no significant impact on ROA (Return on Assets) and Risk Adjusted (SHROA) of the company.

Lastly, Credit risk had also unique significant contribution to the model with B=-0.289, p=.000 implying that when other variables in the model are controlled (Liquidity risk, Operational Risk and Market risk), a unit change in Credit risk would result to significant change in performance by 0.289 in the opposite direction. Muhammad (2012) researched on credit risk and performance of Nigerian banks for the years 2004 to 2008 found a negative relationship between credit risk and performance. Similar findings from other authors whose study on Australian State housing authorities found a negative relationship between credit risk and performance. Similar results were obtained by Hamed, Sanaz and Hadi (2013) in their research on effects of credit risk indicator on share-holders value of commercial banks in Iran showed negative effects of capital adequacy and level of doubtful debts to total loans on share-holders value. Abdullah (2013) in his research on banks in Nigeria for the years 2006 to 2010 showed that credit risk had a negative influence on performance this is in agreement with other authors like (Sacket & Shaffer, 2006).

**Hypothesis testing**

First**,** study hypothesis one ($H_{01}$) stated that there is no significant influence of market risk on performance of pension schemes in Kenya. Multiple regression results indicated that market risk has significant influence on performance of pension schemes in Kenya (β = -0.400 at *p<0.01*). Hypothesis one was therefore rejected. The results indicated that a single increase in Market risk will lead to 0.400 units decrease in performance of pension schemes in Kenya.

Secondly**,** study hypothesis two ($H_{02}$) stated that there is no significant influence of liquidity risk on performance of pension schemes in Kenya. Multiple regression results indicated that liquidity risk has significant influence on performance of pension schemes in Kenya (β = -0.271 at *p<0.01*). Hypothesis two was therefore rejected. The results indicated that a single increase in Liquidity risk will lead to 0.271 units decrease in performance of pension schemes in Kenya.

Thirdly**,** study hypothesis three ($H_{03}$) stated there is no significant influence of operational risk on performance of pension schemes in Kenya. Multiple regression results indicated that operational Risk has significant influence on performance of pension schemes in Kenya (β = -0.197 at *p<0.01*). Hypothesis three was therefore rejected. The results indicated that a single increase in operational Risk will lead to 0.197 units decrease in performance of pension schemes in Kenya.

Fourthly**,** study hypothesis four ($H_{04}$) stated that there is no significant influence of credit risk on performance of pension schemes in Kenya. Multiple regression results indicated that credit risk has significant influence on performance of pension schemes in Kenya (β = -0.289 at *p<0.01*). Hypothesis four was therefore rejected. The results indicated that a single increase in credit risk will lead to 0.289

units decrease in performance of pension schemes in Kenya.

## CONCLUSIONS AND RECOMMENDATIONS

The study concluded that market risk has significant influence on performance of pension schemes in Kenya. An increase in market risk would results to significant decrease in performance of pension schemes in Kenya. Therefore, increase in interest rate volatility in the country has reduced the Returns on Investment of pension scheme.

The study concluded that liquidity risk has significant influence on performance of pension schemes in Kenya. Exposure to liquidity risk has been associated with reduction in performance as organization is unable to meet their financial obligation as they arise. Therefore, liquidity risk is a useful predicator of performance of pension schemes in Kenya.

From the linear and multiple regression results, the study concluded that operational risk has significant effect on performance of pension schemes in Kenya. An increase in operational risk such as deviations of operating cost from the planned costs by the pension scheme would results to significant decrease in performance of pension schemes in Kenya. Therefore, operational risk is a significant predicator of performance of pension schemes in Kenya. The study concluded that credit risk has significant effect on performance of pension schemes in Kenya. Hence, credit risk is a significant predicator of performance of pension schemes in Kenya. There are cases in which the debtors fail to make payments as expected, making pension scheme to suffer losses. Therefore, increase of credit risks result to decrease in performance.

The study recommended that more attention to be paid to market risk as it has negative influence on performance. Thus managers should put in place conventional risk management where they should adopt proactive approaches and be forewarned by developing regulatory insight to avoid legal risks.

Managers should ensure that commercial banks invest excess cash in productive assets. This ensures that they do not hold excess cash at the expense of fixed assets that can improve profitability. Bank 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 that sound liquidity.

The study recommended that managers of pension schemes in Kenya should find ways of minimizing operational risk. This can be done by managers of pension schemes lowering the proportion of operating fixed cost in relation to operating variable cost. This can be achieved by reducing the cost associated with fixed assets which attracts fixed operating cost monthly as well as investing in fixed assets which have high returns

The managers can minimize credit risk by ensuring that there are minimal cases in which the debtors fail to make payments as expected, making pension scheme to suffer loss.. Thus managers should be cautious when setting up credit policies that will not impact negatively of the scheme's performance in regard to credit risk management.

### Suggestion for Further Studies

A detailed research can also be done to include other financial risk factors such as inflation risk to find out how they impact financial performance of pension schemes. Besides, there is need to consider size and age of the firm as a moderating variable to determine their moderating effects on financial performance pension scheme firms. Moreover, secondary data could be used to supplement the primary data obtained from the audited financial statements.

**REFERENCES**


Akonga, M. (2013). *The Relationship between Liquidity Risk and Financial Performance of Commercial Banks in Kenya*. Unpublished MBA Thesis, University Of Nairobi

Abubakar, A. S. (2012). *A Study on Financial Risk Analysis in Pension Funds Investment: an Implication of Exchange Rate Exposure*. Retrieved from http://www.pucsp.br/icim/ingles/downloads/papers_2011/part_7/part_7_proc_49.Pdf. Accessed on 8th, August, 2017.

Akong'a, C. (2014). *The Effect of Financial Risk Management on the Financial Performance of Commercial Banks in Kenya*. Unpublished MBA thesis,University of Nairobi.

Antolin, P. (2008). *Pension Fund Performance*. Paris, France: OECD publishing.

Aruwa, S. A., & Musa, A. O. (2014). Risk components and the Financial Performance of Deposit Money Banks in Nigeria. *International Journal of Social Sciences and Entrepreneurship, 1*(11), 514-522.

Awino, M. O. (2013). *The Determinants of Performance of Pension Funds in Kenya*. Unpublished MBA Thesis, University of Nairobi.

Blake, K., Cotter, J., & Dowd, K. (2006). *Financial Risks and the Pension Protection Fund: Can it Survive Them?* Retrieved from https://arxiv.org/ftp/arxiv/papers/1103/1103.59 78.pdf. Accessed on 2st, May, 2017.

Boyd, D., & Yimeng, Y. (2017). *Appropriateness of Risk-Taking by Public Pension Plans.* NewYork, USA: University of New York.

Bruce, T. (2011). *Measuring Market Risk Can Indicate the Safety of an Investment*. Retrieved from http://www.brighthub.com/money/investing/articles/112657.aspx. Accessed on 2st, May, 2017.

Bwari, M. A., & Oluoch, J. O. (2017). Effect of Financial Risks on Market Performance of Public Manufacturing Companies in Kenya. *European Scientific Journal*, *3*(3), 2011-2031.

Crose, D., Kaminker, C., & Stewart, F. (2011). *The Role of Pension Funds in Financing Green Growth Initiatives*. Paris, France: OECD Publishing.

DEAR. (2014). *Pensions Reform In Uganda; Challenges and Opportunities*. Kampala, Uganda: DEAR.

Franzen, D. (2010). *Managing Investment Risk in Defined Benefit Pension Funds*. Paris, France: OECD Publishing.

Frijns, J. M., Nijssen, J. A., & Scholtens, L. J. (2010). *Pension: Uncertain security. An Analysis of the Investment Policy and Risk Management of Dutch Pension Funds*. Retrieved from https://www.rug.nl/staff/l.j.r.scholtens/pension_funds_-_uncert ain_se curity.pdf. Accessed on 2st, May, 2017.

Gamayuni, R. R. (2015). The effect of Intangible Asset, Financial Performance and Financial Policies on the Firm Value. *International Journal of Scientific & Technology Research, 4*(1), 23-38.

Garcia, M. T. (2010). Efficiency Evaluation of the Portuguese Pension Funds Management Companies. *Journal of International Financial Markets, Institutions & Money, 20* (2), 259-266.

Gathigia, J. M. (2016). *Effect of Financial Risk on Financial Performance of Commercial Banks in Kenya*. Unpublished PhD thesis, Jomo Kenyatta University of Agriculture and Technology.

Gathigia, M., Mwangi, M., & Munyua, W. (2016). The Effect of Market Risk on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, 4(4), 225-233.

Hatchett, G., Bowie, M., & Forester, F. (2010). *Risk Management for Pension Funds*. London, UK: Stapple Inn Actuarial Society.

Iyer, R., & Puri, M. (2012). Understanding Bank Runs: The Importance of Depositor Bank Relationships and Networks. *American Economic Review, 102*, 1414-1445.

Jonathan, J. (2014). *What Does Liquidity Risk Mean For Pension Funds?* Retrieved from http://www.benefitscanada.com/pensions/db/what-does-liquidity-risk-mean-for-pensionfunds 59726. Accessed on 1st, May, 2017.

Kenya Retirement Benefits Authority (KRBA). (2011). *Pensions annual Financial Report 2011*.Nairobi, Kenya: Government Printers.

Kenya Retirement Benefits Authority. (2011). *Pensions annual Financial Report*. Nairobi, Kenya: KRBA.

Kipkogei, J. A. (2013). *Determinants Influencing the Likelihood of Risk Management Strategies Adoption by Pension Schemes in Kenya*. Unpublished Doctor of Philosophy in Business Administration Degree of JKUAT.

Kleopatra, N. (2009). *Liquidity Risk Concepts Definitions and Interactions*. Working paper series no 1008 / february 2009. Accessed on 2st, May, 2017.

Lazear, E. (2009). *How Operational Risk Assessment Helps Pension Plans Build A Solid Foundation Against Hedge Fund Structural Risks*. Retrieved from http://www.benefitscanada.com/wp-content/uploads/2009/09/IN84hedg efunds.pdf. Accessed on 2st, May, 2017.

Lopatina, E. Y. (2013). Problems of SME Risks' Identification and Systematization. *World Applied Sciences Journal, 23* (11), 1548-1554.

Makau, J. K. (2014). *The Effect of Risk Based Supervision on the Financial Performance of Pension Schemes in Kenya*. Unpublished MBA thesis, University of Nairobi.

Masese, W. (2015). *Returns on Pension Investments Drop*. Retrieved from https://www.standardmedia.co.ke/business/article/2000153341/returns-on-pension - investments-drop. Accessed on 29th, April, 2017.

Masinde, M, V., & Olukuru, J. L. (2015). Impacts of Pension Reforms on the Kenyan Pension Industry. *European Scientific Journal*, *1* (3), 168- 176.

McCarthy, D., & Neuberger, A. (2005). The Pension Protection Fund. *Fiscal Studies, 26*(1), 139-167.

Meng, A., & Pfau, W. (2010). The Role of Pension Funds in Capital Market Development. *GRIPS Discussion Paper*.

Muranaga, J., & Makoto, O. (2008). *Measurement of Liquidity Risk in the Context of Market Risk Calculation*. Institute for Monetary and Economic Studies.

Muriithi, G. J., Muturi, W. M., & Waweru, K. M. (2016). The Effect of Market Risk on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting,* 4(4), 225-233.

Mwenda, M. F. (2014). *The Relationship between Retirement Benefits Authority Investment Guidelines and Financial Performance of Pension Schemes in Kenya*. Unpublished MBA thesis, University of Nairobi.

National Fraud Authority. (2012). *Annual Fraud Indicator.* Nairobi, Kenya: National Fraud Authority.

Ndiwa, R. (2016). *The Effect of Liquidity Risk on the Financial Performance of Pension Funds in Kenya.* Unpublished MBA thesis, University of Nairobi.

Ngetich, C. (2012). *Determinants of the Growth of Individual Pension Schemes in Kenya*. Unpublished MBA thesis, University of Nairobi.

Njeru, S. E., & Kasomi, F. (2015). Evaluation of Financial Performance on Portfolio Holdings Held By Pension Funds In Kenya. *European Scientific Journal, 11*(16), 145-160.

Njuguna, A. (2011). Determinants of Pension Governance: A Survey of Pension Plans in Kenya. *International Journal of Business and Management, 6* (11), 15-21.

Njuguna, A. G., & Arnolds, C. (2010). *Improving the Financial Efficiency of Pension Funds in Kenya*. Nelson Mandela Metropolitan University.

Njuguna, G. (2011). *A Survey of the Agency Problems and the Resolution Mechanisms among Pension Schemes in Kenya*. University of Nairobi.

OECD. (2011). *Good Practices for Pension Funds' Risk Management Systems*. Retrieved from http://www.iopsweb.org/principlesguidelines/46864197.pdf. Accessed on 2st, May, 2017.

Oluoch, M. O. (2013). *The Determinants of Performance of Pension Funds in Kenya*. Unpublished MBA thesis, University of Nairobi.

PWC. (2015). *The Nigerian Pension Industry*. Abuja, Nigeria: PricewaterhouseCoopers.

Republic of Kenya. (2010). *Economic Survey Report 2010*. Nairobi, Kenya: Government Printers.

Republic of Kenya. (2011). *Economic Survey Report 2011*. Nairobi, Kenya: Government Printers.

Republic of Kenya. (2012). *Economic Survey Report 2012*. Nairobi, Kenya: Government Printers.

Rindu. R. G. (2015). The Effect of Intangible Asset, Financial Performance and Financial Policies On The Firm Value. *International Journal of Scientific & Technology Research*, *4* (1), 289-212.

Sabri, B., Dimitrios, G., Khuong, N., & Nikos, P. (2015). *The Effects of Monetary Policy Initiatives on Pension Fund Risk Incentives.* Retrieved from http://www.beta-umr7522.fr/IMG/UserFiles/ Webmasters/Colloques/SUSTAINABILITY/NGUY N_DK_. Accessed on 2st, May, 2017.

Salome W. G. (2015). *Analysis of the Financial Performance of Registered Individual Retirement Schemes in Kenya*. Unpublished Thesis, Jomo Kenyatta University of Agriculture and Technology.

Shehu, A. A. (2011). *A Study on Financial Risk Analysis in Pension Funds Investment: an Implication of Exchange Rate Exposure*. School of Management, Wuhan University of Technology.

Simbabrashe, M., Mhaka, C., & Nyamwanza, L. (2014). Pension Fund Size (Asset Size) and Fund Investment Performance in Zimbabwe: Does Size Really Matter? *The International Journal of Business & Management, 2*(9), 292-304.

Stewart, F. (2010). *Pension Funds' Risk-Management Framework: Regulation and Supervisory Oversight. OECD Working Papers on Insurance and Private Pensions, No. 40.* Paris, France: OECD publishing.

Tafri, F. H., Hamid, Z., Meera, A. K. M., & Omar, M. A. (2009). The impact of financial risks on profitability of Malaysian commercial banks: 1996-2005. *International Journal of Social, Human Science and Engineering, 3*(6), 268- 282.

Yahaya, O. A., Kutigi, U. M., & Ahmed, M. (2015). Country-Specific Characteristics as Determinants of Financial Performance: Evidence from Listed Deposit Money Banks in Nigeria. *Journal of Finance and Accounting Research*, 12(2), 48-56.

Yijia, L. R., Macminn, R, T., & Jifeng, Y. (2014). Pension Risk Management in the Enterprise Risk Management Framework. *Presentation for the 10th International Longevity Risk and Capital Market Solutions Seminar Santiago, Chile September 2014.*