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Determinants of financial performance of pension funds in Tanzania: The case of national social security fund

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ABSTRACT

This study was set to examine the determinants of financial performance of pension funds in Tanzania. According to literature millions of the people under the globe depend on the pension funds as their principal sources of income at their retirement age. This study adopted a descriptive design to examine the determinants of financial performance of pension funds in Tanzania. The study uses regression analysis approach to examine the effect of determinants on financial performance of pension funds. Data were collected from National Social Security Fund (NSSF)'s financial statements for the period from 2005 to 2022. Different tests were employed such as normality test, heteroscedasticity test multicolliniality test and autocorrelation test in multiple regression modelling. The findings from this study revealed that investments and contribution density have a positive relationship to return on assets. However, the age of the contributors has depicted a weak and insignificant relationship to the return on assets of the pension fund under investigation. Therefore, it is recommended that the pension funds have to put more efforts on its investments as well as contribution density which are key contributors to the financial performance of pension funds in Tanzania.

Contribution/Originality: Theoretically, pension funds are established to manage collect contributions from employees and make payments to the retirees on time. However, in practice the performance of the pension funds have been facing challenges to pay retirement benefits to the retirees on time. It is therefore important to investigate the determinants of financial performance of pension funds.

1. INTRODUCTION

The need for better managed pension funds in many countries has been compelled by rising populations around the world. Most countries both developed and developing are now faced with increasing longevity in life expectance and reduced fertility rates that seem to threaten the sustainability of traditional pay-as-you-go pension systems. The contributions funded by the working population will not suffice in meeting the pensions of the elderly. In response, countries are increasingly shifting their pension systems toward partial or full funding.

Pension funds need to be well managed in order to have a better balance between the available funds generated from available investment opportunities and payment to retirees. This normally depends on the performance of pension funds to deliver stable and sufficient income to cover retirement benefits. Thus, the performance of pension funds is quite crucial since they play a very significant role in the economy of any country. In the United States of

America, 82% of elderly people rely heavily on pension income (Employee Benefit Research Institute, 2018). In Kenya, most of the total income of retirees is composed of 68% of the total retirement income (Raichura, 2008).

In Tanzania, pension funds have been investing in portfolios such as commercial loans, real estate, government securities, loan able funds, banks deposits and equities, all of which have contributed to social and macro-economic developments of the country (Kyando, 2014). From an investment perspective, investing in capital markets can be beneficial to Tanzanian pension funds from a long-term investment (strategic asset allocation) perspective and from a short-term investment (tactical asset allocation) perspective as well. Increased investment in capital markets securities by pension funds would likely affect the volatility of the asset class. On one hand, pension funds following strategic asset allocation guidelines would likely follow buy-and-hold strategies. Hence, pension funds could contribute to stabilize markets as their behaviour simulates the behaviour of dedicated emerging market investors. On the other hand, if emerging market investment decisions are guided mainly by short-term tactical considerations, pension funds would tend to behave like other investors, getting in and-out of positions rapidly, hence enhancing liquidity and pricing discovery function (Chan-Lau, 2004). More importantly, according to the Bank of Tanzania (2018) pension funds play a crucial role in financing the Government domestic debt by a staggering Tshs 2,218.1 trillion (22.2% share of the Government debt), in second position to commercial banks.

However, Tanzania is still lenient towards the traditional pay-as-you-go pension system and therefore, there is a need to understand the dynamics towards the performance of pension funds so as to cope with demographic pressures and unsustainable financial market positions. Pay-as-you-go pension is a system where, the current benefit payouts for retirees are paid by the contributions from the current members. It requires a balance between the benefits paid to the retirees and the contributions made by the active members. The system is much affected when the old population exceeds the working population. In view of the above discussion, this study is proposed to assess the determinants of financial performance of the pension funds in Tanzania.

The remainder of the this study is organized as follows; section two provide literature review and section three presents methodology used in this study, section four of this study presents analysis of data used and presentation of findings. Finally, section five presents conclusion and policy recommendations.

2. LITERATURE REVIEW

2.1. Theoretical Literature Review

2.1.1. Tier/Pillars System

This study uses Tier or Pillar's system to study the social security system. According to Holzmann, Hinz, and Dorfman (2008) a social security system in the country is divided into three tiers: the first tier or pillar is based on social assistance programmes approach, which intends to provide assistance to marginalized people, people with inadequate income to meet basic needs, people with special problems, suffering from long illness and the likes. The system is organized in a way that the miserable group of people should get extra support from the already established budget. The second tier is based on social insurance. This is a mandatory scheme for the class of employed persons. It comprises of social security pensions schemes like NSSF and Parastatal Public Service Social Security Fund (PSSSF). The third pillar is based on voluntary commercial social insurance which supplements the schemes such as property insurance (fire insurance, vehicle insurance and marine insurance), life insurance policies etc. This study focus on the second tier where a mandatory scheme for the class of employed people is established for social security pension schemes.

2.2. Empirical Literature Review

2.2.1. Relationship between Density of Contributions and Performance of Pension Funds

This section reviews the empirical literature on the relationship between density of contributions and performance of pension funds on one hand and the relationship between investment and financial performance of

pension fund on the other hand. The density of contributions that pension funds collect from the contributors is also very crucial in evaluating their performance. If the fund has many contributors who are consistently channeling adequate funds to the scheme, then there will be enough funds to invest and this will assist the fund to earn better revenues for the sustainable fund. The reverse is also likely to happen if the amount of contributions received from the contributors are not sufficient to enable the fund to enter into any meaningful asset investment (Bodie, Detemple, & Rindisbacher, 2009). Several studies have been conducted to assess the effect of density of contribution on the performance of the pension funds.

Ngetich (2012) Surveyed the determinants of the growth of individual pension schemes including the density of the contributions in Kenya. The regression analysis he applied indicated that fund governance exerts a significant relationship on the growth of the pension schemes. This means that pension fund governance led to improved growth of the individual pension schemes. Moreover, it was shown that reducing the benefits processing period, providing relevant education to the trustees, maintaining an appropriate internal control system, communicating regularly with members, defining the roles of the trustees clearly, regulating the fees charged by the service providers, controlling default risk on the part of the sponsor and implementing investment strategies that are major factors that influence the growth of individual pension schemes in Kenya.

Munyambonera, Katunze, Munu, and Sserunjogi (2018) Surveyed the expansion of pension sector in Uganda using qualitative analysis. Findings show that the pension coverage is low at about 9.3 percent of total employed Ugandans in both the formal and informal sectors, but mainly in the formal sector. With regard to the non-contributory public pension scheme, the fiscal burden has reached an unsustainable level with cumulative arrears of about UGX (Ugandan shillings) 516 billion by 2016. At the same time, governance and regulation continue to affect the effectiveness and efficiency of the national pension system and warrants further reforms.

Bukuluki and Mubiru (2014) Investigated on the status of social security systems in Uganda; challenges and opportunities. The study findings revealed that Uganda has a multi-tier pension system model encompassing contributory social insurance, non-contributory direct income support and voluntary private pension schemes. Informal social security systems were and still remain vital in Uganda, particularly in rural areas and in the informal sector. They are, however, experiencing challenges related to poverty, urbanization and, to some extent, some sections of the population becoming relatively individualistic with more focus on nuclear families.

According to Maduhu (2014) the benefits offered by social security schemes in Tanzania with response to the ILO Social Security (Minimum Standards) Convention (ILO, 1952 No.102). The study used qualitative approach to analyze the data. Findings indicated that although the social security schemes in Tanzania have done their best to offer social security benefits however such schemes fall short of what is stipulated in the International Labour Organizations (ILO) Convention 1952. Moreover, non-fulfillment of the minimum standards is contributed by a number of factors such as poverty and low income of the individuals.

2.2.2. The Effect of Investments on the Return on Assets of Pension Funds

Bodie et al. (2009) argued that there is need to recognize that pension fund assets have important differences compared with other forms of collective investments. This difference is due to the fact that pension funds have the objective of providing income replacement in retirement, whereas the other forms of collective investments are primarily concerned with short-term wealth maximization of individuals. Typically, pension funds invest in the government securities, equities, loans, real estate and deposits with banks. More importantly, there is a need to synchronize the nature of liabilities (long-term) towards the asset base of pension scheme (Asset-Liability Matching).

The first empirical study examined the determinants of the growth of investment income of pension funds (Shola, 2013). Shola (2013) Conducted a study which studied the determinants of the growth of investment income of pensions fund schemes. Local Authorities Pensions Fund was taken as a case study. Time series data were used

and ordinary least square method was used to estimate the model. Results show that the variables "members' contributions" and "investment made in fixed deposits" are positively related to the growth of investment income and are statistically significant at one percent level. However, the variable "investment in government securities," is positively related to the growth of investment income and statistically significant at five percent level.

The study further estimated parameters for investment in government securities is 1234.84 while for members contribution is 0.22 and that of investment made in fixed deposits is 0.12. All these estimated parameters refer to the magnitude of change of investment income when the respective variable changes by one unit. Lastly, it recommended that, the Local Authorities Pension Fund (LAPF) should maintain the same share of investment in government securities.

The study conducted by Sabugo (2017) on the determinants of investment income growth in the Tanzanian social security schemes using the multiple regressions to analyze the factors behind investment growth of the Tanzanian social security funds. Findings indicated that the value of Social Security Schemes, member contributions and benefits payment were statistically significant at 5% significance level and positively affected investment income growth. The coefficients of Value of Social Security Schemes, Member Contributions and Benefits Payment were 0.001, 0.022 and 0.194 respectively. This means that any change by one unit may result to change of investment income growth by the amount equal to the coefficient of respective independent variable ceteris paribus (in billion TZS (Tanzanian Shillings) and vice versa).

Mkilalu (2013) investigated on performances in relation to investments of corporate governance practices in Tanzania focusing on three selected pension funds in Tanzania, namely, the Public Service Pension Fund, National Social Security Fund and Parastatal Pension Fund. The study used qualitative approach to analyze the data. Findings showed that the Boards play their roles by making periodic investment performance reviews. The boards Participate in appointing senior manager and attending to regular scheduled Board meetings. However, the Public Service Pension Fund (PSPF) and NSSF Boards did not play the role of appointment of the Director General since their respective acts required the appointment to be done by the president.

According to Kyando (2014) the involvement of pension funds in investments of capital market transactions in Tanzania is increasing in tandem with their growing financial power. The study employed descriptive and return on investment approaches and found that there is low participation of Pension Funds in Initial Public Offer. The Pension Funds (PFs) hold a small fraction of Dar es Salaam Stock Exchange (DSEs) market capitalization. PFs purchases and holds securities for longer terms. The low liquidity of the DSE is partially contributed by low participation of PFs in secondary market trading. Finally, the results show that portfolio of PFs is mainly made up by Government bonds, bank deposits and loans. Inclusively, results from the research work imply that the contribution of PFs in the development of capital markets in Tanzania, particularly the DSE is not significant.

Another scholar Alda (2017) investigated the relationship between pension funds and the investments of the stock market. It was guided by the question, does the aging population of Europe affect the performance of the pension funds. The study used the Regression Analysis to analysis its data. Their finding reveals that the influence of pension funds varies over time and across economies, because of arbitrage opportunities that provoke adaptive managerial strategies.

Babalos and Stavroyiannis (2020) studied the effect of the investments of pension funds on the stock market development in Organization for Economic Cooperation and Development (OECD) countries. These scholars investigated the relationship between Pension funds and stock market development in OECD countries. They concluded that the pension fund investments in equities enhanced and strengthened the stock market development in selected economies.

All in all, although the relationship between the investments of pension funds and performance of these pension funds have been studied extensively in different countries, yielding different conclusions, there is a scarcity of this

kind of study in Tanzania especially on the NSSF. Hence, this study will examine the effects of the investments of the pension funds on the returns of the NSSF performance in Tanzania.

Despite the achievements attained, there are still challenges facing Pension Funds in Tanzania. The major challenges being delay in payment of pensions after employee's retirement and complaints from public regarding pension formula. It is imperative now to investigate the determinants of financial performance of pension funds in Tanzania.

3. DATA AND METHODOLOGY

This study used descriptive research design. According to Saleem, Shabana, and Sadik (2014) a descriptive research design is the arrangement of conditions for collection and analysis of data that aim to systematically describe the phenomenon, situation or particular population. This study adopted a descriptive design to examine the determinants of financial performance of pension funds in Tanzania. More, specifically this study employed regression model to examine the effect of determinants on financial performance of pension funds. The design fits well the study because it also involves single subjects or research units that are measured repeatedly at regular intervals overtime such as on the annual basis. The study makes use of annual financial statements of NSSF Pensions Fund from the year 2005 to 2022. Two sampling techniques that is purposive sampling and simple random sampling were used.

4. RESULTS AND FINDINGS

4.1. Results of Tests Employed

4.1.1. Normality Test

The normality tests are supplementary to the graphical assessment of normality (Elliot and Wood ward, 2007). The main tests for the assessment of normality are Kolmogorov-Smirnov (K-S) test (Öztuna, Elhan, & Tüccar, 2006) and Shapiro-Wilk test (Öztuna et al., 2006; Peat & Barton, 2005). The tests mentioned above compare the scores in the sample to a normally distributed set of scores with the same mean and standard deviation; the null hypothesis is that "sample distribution is normal." If the test is significant, the distribution is non-normal. The test statistics are shown in Table 1. Here two tests for normality are run. For dataset small than 2000 elements, we use the Shapiro-Wilktest, otherwise, the Kolmogorov-Smirnov test is used. In our case, since we have only 12 elements, the Shapiro-Wilk test is used. Findings from Table 1 show that the p-value is 0.976; the p-value is not significant therefore we can reject the null hypothesis and conclude that the data comes from a normal distribution.

Table 1. Normality test.

Dependent variable	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Return on assets	0.136	12	0.200*	0.978	12	0.976

Note: a. Lilliefors significance correction.
*. This is a lower bound of the true significance.

4.1.2. Heteroscedasticity Test

Heteroscedasticity test is part of the classical assumption test in the regression model. It is a systematic change in the spread of the residuals over the range of measured values. To detect the presence or absence of heteroscedastisities in a data, can be done in several ways, one of them is by looking at the scatterplot graph on SPSS output. Heteroscedasticity is a problem because ordinary least squares (OLS) regression assumes that all residuals are drawn from a population that has a constant variance (homoscedasticity) (Refer Figure 1).

Scatterplot

Dependent variable: Return on assets
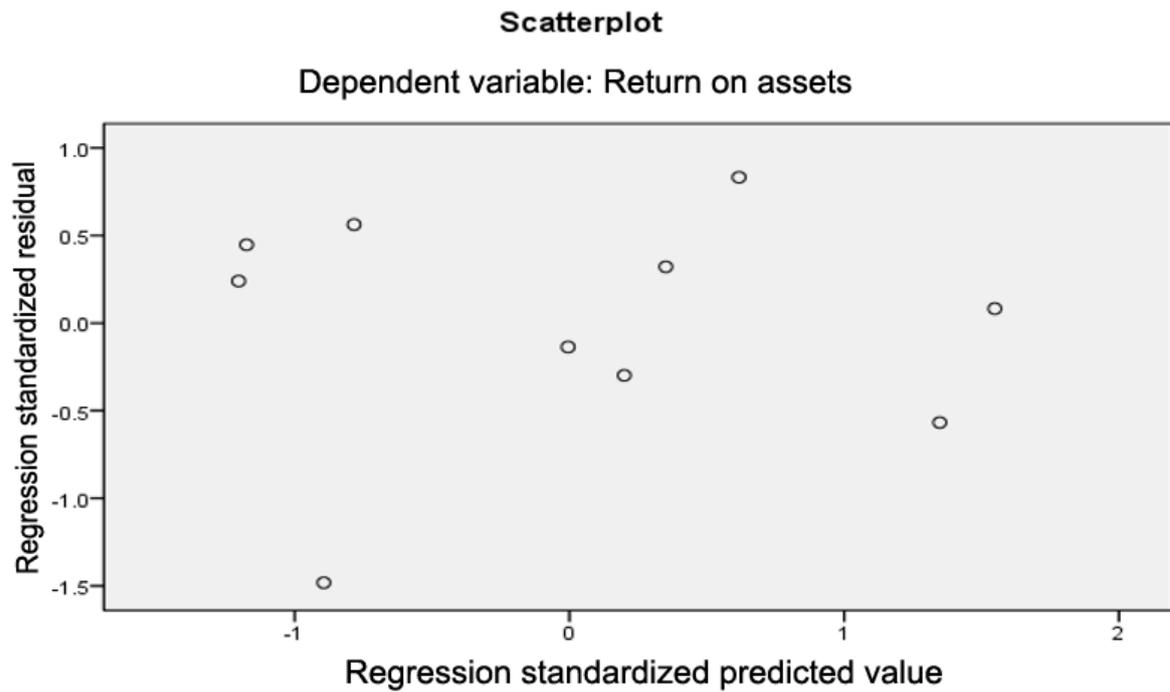
Figure 1. Heteroscedasticity result test.

4.1.3. Multicollinearity Test

Multicollinearity is an unacceptable high correlation among predictor variables in the model which bias coefficients of determinations thus makes relative assessment of each predictor variable unreliable. This problem can be fixed through combining highly correlated variables, drop highly correlated ones, introduce new variables, transformation or just do nothing (Gujarati, 2007). According to Pallant (2005) commonly used cutoff points for determining the presence of multicollinearity is the Tolerance value of less than .10. Multi-collinearity, was tested using SPSS collinearity diagnostics. The predictor variables, average age of contributions, investment income and contribution density were regressed against each other. Table 2 reports the results of Variance Inflation Factor value (VIF).The variance inflation factor for average age of contributors was 8.035, contribution density 9.584, investment income of the pension fund was 8.004, Gross Domestic Product (GDP) was 2.074 and inflation was 2.227.In light of these findings, the explanatory variables are free from serious problem of multi-collinearity.

Table 2. Multi-collinearity test using variance inflation factor.

Variable	vif	1/vif
Age	8.035	0.124
Inv	8.004	0.125
Dens	9.584	0.104
GDP	2.074	0.482
INF	2.227	0.449
Mean VIF	5.539	

Note: This table reports result of multi-collinearity test using variance inflation factor.

4.1.4. Autocorrelation Test

Regression models assume that the error terms (residuals) are not correlated. Literatures suggests that, autocorrelation exist when the residuals of two different observations are either positively or negatively correlated (Field, 2009).

A random plot of residuals indicate absence of autocorrelation whereas a general straight pattern of residuals against time indicates existence of autocorrelation. On the other hand, the Durbin Watson statistic value of 2 (d = 2) suggest that there is no autocorrelation, value from 0 to less than 2 (0 < d ≤ 2) indicate positive autocorrelation

and from greater than 2 to 4 ($2 > d \geq 4$) indicates existence of negative autocorrelation. Since in reality absence of autocorrelation does not exist, values closer to 2 indicate absence of autocorrelation (Field, 2009).

Autocorrelation was tested through both visual examinations of the Durbin Watson statistic using SPSS. Table 3 reports the results of auto correction using Durbin Watson Test. The observed Durbin Watson statistics value (d) was 1.139, which was above the Durbin Watson critical value upper boundary (dU) in the Durbin-Watson results.

Table 3. Model Summary.

R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
0.885[a]	0.783	0.702	0.815	1.139

Note: a. Predictors: (Constant), investments in Tshs, average age of contributors, contribution in Tshs.
Dependent variable: Return on assets.

4.2. Descriptive Analysis

4.2.1. Age Structure of Contributors

In our analysis, the variable of age structure is represented by the use of average age of the contributors of the scheme. Table 4 shows that the mean of the age of contributors for the period of 12 years (2005 - 2016) was 40.3 years with a deviation of 3.1. The maximum age was 43.6 and the minimum age was 35.8. The trend of average age of contributors as can be seen in the table has generally been on a decline over the defined time period. It can be observed that the average age of the contributors in 2005 was 44.5 which further declined to 35.9 in the year 2016. This indicates that the age profile of NSSFF is relatively young implying that most contributions are channeled towards investments rather than financing retirement benefits. Therefore, the expectation is that the return on assets will comparatively be higher than if the age profile was skewed towards the retirement age.

Table 4. Results of the multiple regression model.

Variable	Coefficient	t value	p-value
Age	0.092	0.321	0.764
Inv.	0.183	3.408	0.027
Dens	0.047	2.970	0.041
GDP	0.233	0.598	0.582
INF	0.220	0.598	0.09
Constant	-2.030	-0.168	0.875
Adj. R² (%)	0.702		

Source: Researcher, 2023.

4.3. Discussion of Results

Firstly, the findings show that the average age structure for contributors of NSSF within the 12 years period was 40.3, relatively a young age profile. However, the regression model's coefficient for the average age of contributors shows a positive relationship with the performance of NSSF as measured by return on assets but not significantly influencing the performance. In other words, the NSSF performance in terms of ROA is not significantly influenced by the average age of contributors, other factors being constant. These findings are similar to Oluoch (2013) who found that there was a strong positive relationship between ages of the investors measured by national life expectancy indicating that a longer life expectation positively affected returns. Secondly, the results have shown a positive relationship between the investments and return on assets. This implies that the investments made by NSSF had influenced positively the overall performance of the pension scheme in terms of Return on Assets (ROA). The theoretical expectation was that as contributions collection increases, so does investments which will finally influence the return on assets. These results align with the findings of Adeoti, Gunu, and Tsado (2012) who found that investments in Nigeria pension schemes are positively related to return on assets. The findings also are similar with those found by Kigen (2016) that investments made in Kenya were positive and statistically

influencing the financial performance of pension funds. Lastly, we also know from literatures that if a fund has many contributors who are consistently channeling adequate funds to the scheme, then there will be enough funds to invest and this will assist the fund to earn better revenues for a sustainable fund. Moreover, the theoretical implication was that, more contributions to the pension fund leads to availability of more funds for investment which in turn leads to earning more investment income (Bodie et al., 2009). The results of this study have also affirmed that the density of contribution is positively related to the return on assets.

5. CONCLUSIONS

From the findings we can draw the following conclusions; the coefficient of age was not statistically significant indicating that general age of the contributors was not a contributor to the performance of NSSF in terms of returns on assets in Tanzania. This indicates that variability of the age of the contributors was independent from the variability of the returns on assets as opposed to the theoretical positions which claim a close relationship. The relationship between the investments and return on assets was strong. This concludes that the investments acquired are of high yields. This implies the investments made are generating income for sustainability of pension fund. Moreover, the contribution density had also a positive and significant effect on return on assets of the pension fund in Tanzania. This leads to the conclusion that the contributions made are useful in improving the financial performance.

5.1. Recommendations

Based on the findings of this study, the following recommendations are made; first, the merged pension funds PSSSF and NSSSF should focus on increasing its contributions through increased registration of new members and put more efforts on timely collection of contributions from members. Second, more emphasis should be directed on investment projects that are expected to earn some reasonable returns. In order to achieve this, the pension funds should develop an investment strategy focusing at exploiting available investment opportunities that will generate returns and at the same time matching its liabilities to its assets or investments.

REFERENCES

Adeoti, J. O., Gunu, U., & Tsado, E. (2012). Determinants of pension fund investment in Nigeria: The critical factors. *International Journal of Human Resource Studies, 2*(4), 1-13. https://doi.org/10.5296/ijhrs.v2i4.2505

Alda, M. (2017). The relationship between pension funds and the stock market: Does the aging population of Europe affect it? *International Review of Financial Analysis, 49,* 83–97. https://doi.org/10.1016/j.irfa.2016.12.008

Babalos, V., & Stavroyiannis, S. (2020). Pension funds and stock market development in OECD countries: Novel evidence from a panel VAR. *Finance Research Letters, 34,* 101247. https://doi.org/10.1016/j.frl.2019.07.020

Bank of Tanzania. (2018). *Annual report 2017/18. Bank of Tanzania, 2 Mirambo Street 11884, Dar es Salaam.* Retrieved from http://www.bot.go.tz

Bodie, Z., Detemple, J., & Rindisbacher, M. (2009). *Life cycle finance and the design of pension plans.* Boston University School of Management Research Paper Series No. 2009-5.

Bukuluki, P., & Mubiru, J. B. (2014). Thestatus of social security systems in Uganda: Challenges and opportunities. In (pp. 144). Kampala, Uganda: Konrad-Adenauer-Stiftung.

Chan-Lau, J. A. (2004). *Pension funds and emerging markets.* IMF Working Paper #WP/04/181.

Elliot and Wood ward. (2007). *Statistical inferences, independent variables, dependent variables.* Thousand Oaks, CA: Sage Publications,Inc. https://doi.org/10.4135/9781412985949.

Employee Benefit Research Institute. (2018). *Retirement confidence survey.* Washington, DC: Employee Benefit Research Institute.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications Ltd.

Gujarati, D. N. (2007). *Basic econometric* (4th ed.). New Delhi, India: Tata McGraw –Hill.

Holzmann, R., Hinz, R. P., & Dorfman, M. (2008). *Pension systems and reform conceptual framework.* The World Bank, SP Discussion Paper # 0824.

Kigen, A. K. (2016). *Effect of fund size on the financial performance of pension funds in Kenya.* A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Finance and Investment at KCA University.

Kyando, B. W. (2014). *Contribution of pension funds in the development of capital markets in Tanzania.* A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration of the Open University of Tanzania.

Maduhu, H. (2014). *Analysis of social security schemes in Tanzania with response to the ILO social security (Minimum standards) convention, 1952.* An Award of Master's Degree of Business Administration of the Open University of Tanzania.

Mkilalu, E. (2013). *Corporate governance practices and investment performance: A case study of selected pension schemes in Tanzania.* A Dissertation Submitted to the Faculty of Commerce in a Partial/Fulfillment of the Requirement for Award of the Degree of Masters of Science in Accounting and Finance, of Mzumbe University.

Munyambonera, E., Katunze, M., Munu, M. L., & Sserunjogi, B. (2018). *Expanding the pension sector in Uganda.* Economic Policy Research Centre (EPRC) Research Series No. 143.Kampala Uganda.

Ngetich, K. C. (2012). *Determinants of the growth of individual pension schemes in Kenya.* An Award of the Degree of Master of Business Administration, School of Business, University of Nairobi.

Oluoch, M. A. (2013). *The determinants of performance of pension funds in Kenya.* A Research Project Submitted in Partial Fulfillment of the Requirements for the Award of a Degree of Master of Business Administration, University of Nairobi.

Öztuna, D., Elhan, A. H., & Tüccar, E. (2006). Investigation of four different normality tests in terms of type 1 error rate and power under different distributions. *Turkish Journal of Medical Sciences, 36*(3), 171-176.

Pallant, J. (2005). *SPSS survival guide: A step by step guide to data analysis using SPSS for windows* (3rd ed.). New York: Open University Press.

Peat, J., & Barton, B. (2005). *Medical statistics: A guide to data analysis and critical appraisal* (1st ed.). Malden: Blackwell Publishing Ltd.

Raichura, S. K. (2008). *Analytical review of the pension system in Kenya.* Retrieved from http://www.oecd.org/daf/fin/private-pensions/41564693.pdf

Sabugo, N. Y. (2017). *Determinants of investment income growth in the Tanzanian social security schemes: A case of social security schemes industry.* Award of Master Degree of Business Administration in Corporate Management (MBA-CM) at Mzumbe University.

Saleem, A., Shabana, T., & Sadik, B. (2014). Holistic approach of research work. *International Journal of Scientific and Research Publications, 4*(7), 1-7.

Shola, E. (2013). *Determinants of the growth of investment income of pensions fund schemes: The case of LAPFin Dodoma.* Unpublished Dissertation Award of Degree of Master of Science in Economics Project Planning and Management of Mzumbe University.