

## **Influence of Financial Risk on Financial Performance of Agricultural Firms Listed on Nairobi Securities Exchange in Kenya**

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### **Abstract:**

**Background:** Agricultural sector is majorly unstable to risk of returns compared with other sectors for instance the services and commercial sectors and the industrial and allied sectors which have modest risk and investment and finance sector having the least comparative risk among all the four sectors. Further, out of the six listed agricultural firms, three of them indicated poor performance within the financial year 2014 to 2018 and one firm delisted from NSE. The main objective of this study was to determine the influence of financial risk on financial performance of agricultural firms listed on the Nairobi Securities Exchange in Kenya. The specific objective was to determine the influence of financial leverage risk on financial performance of agricultural firms listed on NSE.

**Materials and Methods:** Longitudinal research design was used in this study. The study took the entire population of all six listed firms using census technique. The secondary data was collected from audited financial records of agricultural companies listed between the years 2009 to 2018 (10 year period of time). Panel data was analyzed using inferential statistics which involved testing of hypotheses at a significance level of 0.05. Inferential analysis involved multiple linear regression analysis and correlation analysis. Descriptive analysis was also used which included mean and standard error. The data was presented in form of tables and models.

**Results:** The findings revealed that financial leverage risk has significant negative influence on financial performance of agricultural listed firms ( $p < 0.05$ ).

**Conclusion:** The study concluded that financial risk influenced financial performance of agricultural firms listed on the NSE. The study recommends that listed agricultural firms should source for less costly sources of finance which don't exhaust the earnings of the firms. Listed agricultural firms should also negotiate for better and longer credit terms in relation to repayment terms and interest rates.

**Key Word:** Financial Risk, Financial leverage risk, listed firms, financial performance.

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### **I. Introduction**

Firms face different kind of risks in their daily operations and the manner in which they deal with them greatly influences their performance. Risk in financial terms is usually defined as the probability that the actual return may differ from the expected return. Financial risk is whereby returns vary or fluctuate unexpectedly. There are many types of financial risks such as leverage risk, liquidity risk, market risk, currency risk, asset-backed risk, foreign exchange risk, credit risk, equity risk among others. These risks contribute negatively in terms of how an organization will perform financially. Financial risk usually leads to the collapse and underperformance of firms if they are not handled. Financial risks normally lead to financial crisis if they are not managed which leads to poor performance of firms and lowers the economy of a country and hence the living standards of people. These risks should be managed and regulated by firms and institutions so as to improve profitability and reduce losses, (Gathiga 2016).

Financial leverage risk is one of the primary determinants of financial risk in agricultural firms in the world, (Byrnes, Callahan, Cook, Kiles & Patterson, 2014). The term financial leverage is considered to depict the manner by which proprietors of the firm can utilize the assets of the firm to "gear up" the earning and asset of an organization. Utilizing debts enables the proprietor to control more prominent volume of assets than they could if that they contributed their very own cash as it were. The higher the debt-equity proportion, the higher the firm value and along these lines the firm degree of financial leverage risk. Financial leverage risks happen because of the higher extent of financial commitments in the cost structure of the organization, (Wei, 2012). The most

widely recognized financial leverage in observational examinations is the proportion of total debt to equity which is commonly abbreviated as debt to equity ratio (DER). It shows the degree to which a firm uses funds from borrowings. Firms that are more leverage are probably going to face negative outcomes as there is risk of default, if that the firm can't meet its commitments, there will be trouble for them to obtain new debts from the market. Leverage isn't in every case awful, in any case; it can build the investor's earning on the funds which they have invested and improve use of the tax benefits which are associated with financing through debts (Ali & Bilal, 2018).

Agriculture based stocks are anticipated to keep slacking in performance at the Nairobi Securities Exchange (NSE) with majority of investor preferring fluid counters, whose business isn't influenced by factors like the climate that is not easy to control them. Data from the NSE investor handbook (2013) shows that shares of the seven quoted agriculture based firms; Limuru Tea, Eaagads, Kapchorua, Rea Vipingo, Kakuzi, Williamson Tea and Sasini have been lingering behind the rest of the market since the start of the year, while different stocks prices have been increasing gradually. Stocks of Kapchuroa Tea, Williamson Tea and Kakuzi have risen by 6.94%, 5% and 1.69% individually for the year 2012; Sasini Ltd and Eaagads stocks have dropped by 0.85% and 4% separately, while Limuru Tea's share price stayed unaltered. Comparatively, out of 25 of the 61 recorded NSE firms, there shares have increased in value by over 10%.

According to NSE investors' handbook (2018), financial review report showed that out of all the six listed agricultural firms, three of them indicated poor performance within the period of the year 2014 to 2018. Eaagads' Ltd. net profit for the year 2018 dropped by Kshs. 80,634,000; Limuru Tea Company reported a net loss of Kshs. 22,134,000 for the year of income 2017 indicating a drop by Kshs. 3,060,000; Sasini's Plc profit for the year of income 2017 dropped by Kshs. 237,578,000. From NSE the investor's data center report 2018, Karuturi Ltd. was put into receivership back in the year 2014 due to liquidity. This was attributed by failure to pay a loan of Ksh. 383,000,000 that was borrowed from CFC Stanbic. The company continued to sink further in debt after it was placed under receivership leading to its closure and delisting from NSE in 2018.

According to Kinyua, (2015) few investors are interested in agricultural stocks traded on NSE due to the high risk and dependence on favourable climate which is rather unpredictable. Agricultural sector is majorly unstable to risk of returns compared with other sectors for instance the services and commercial sectors and the industrial and allied sectors which have modest risk and investment and finance sector having the least comparative risk among all the four sectors. Further, the sector has that deal with products which are weather sensitive yet the Kenyan market has exceptionally unpredictable climate conditions which reflect in the unpredictability of the profits of the firm in the agricultural sector.

### ***Statement of the Problem***

Agricultural sector is majorly unstable to risk of returns compared with other sectors for instance the services and commercial sectors and the industrial and allied sectors which have modest risk and investment and finance sector having the least comparative risk among all the four sectors. Further, the sector deals with products which are weather sensitive and the Kenyan market has exceptionally unpredictable climate conditions which reflect in the unpredictability of the profits of the firm in the agricultural sector. The risk is majorly attributed by financial risk that has led to the poor performance of agricultural firms, (Kinyua, 2015). According to NSE investors' handbook (2018), financial review report showed that out of all the six listed agricultural firms, three of them; Eaagads'; Limuru and Sasini indicated poor performance within the period of the year 2014 to 2018. From NSE the investor's data center report 2018, Karuturi Ltd. was put into receivership back in the year 2014 due to liquidity. This was attributed by failure to pay a loan that was borrowed from CFC Stanbic. The company continued to sink further in debt after it was placed under receivership leading to its closure and delisting from NSE in 2018.

There is an inconsistency of research findings on whether financial risk influence financial performance. Studies have indicated that financial risk factors have a significant and negative influence on financial performance, (Mudanya&Muturi 2018, Kioko, Olweny&Ochieng 2019, Lelgo&Obwogi 2018, Matayo&Muturi 2018). Others demonstrated that, financial risk is significantly positive to performance, (Okelo 2015, Juma, Odunga, Atheru&Nzai 2018, Nimalathan&Pratheepkanth 2012). Still other researches have proposed that no influence of financial risk indicators on performance, (Hamid &Oskouei 2014). There is no consensus as to whether financial risk influence financial performance. Therefore, this study was necessitated by the contradicting findings of other researchers. The results might help agricultural firms, investors, policy makers and general academicians to have the knowledge and understanding of financial risk which is fruitful in decisions making. This study therefore investigated the influence of financial risk on financial performance of agricultural firms listed on the NSE.

### **Objectives of the Study**

The main objective of this study was to determine the influence of financial risk on financial performance of agricultural firms listed on the Nairobi Securities Exchange in Kenya.

The specific objective of this study was to;

- I. Determine influence of financial leverage risk on financial performance of agricultural firms listed on the NSE.

### **Hypotheses of the Study**

- i)  $H_0$ : Financial leverage risk has no significant influence on financial performance of agricultural firms listed on the NSE.

## **II. Literature Review**

### **Theoretical Framework**

The study was guided by Asset Pricing Theory. Asset pricing theory begin from prior improvements driven by the fundamental work of Arrow (1953), Markowitz (1965), Sharpe (1964), Lintner (1965) & Radner (1972). Those past advancements can be additionally separated into two recognized ways of thinking, in particular, the balance resource estimating hypothesis way of thinking and the purported no-exchange way to deal with resource valuing way of thinking.

Sharpe (1964) and Lintner (1965) are notable for their determinations of the capital resource estimating model (CAPM). This model can be viewed as a feature of the fruitful use of the balance way to deal with resource estimating. The inferences are based on going before advancement in mean-change examination and common reserve partition. They demonstrated that in harmony, one of the isolating portfolios must be given by the market portfolio. The other isolating portfolio is the risk free bond. The CAPM sets up the exceptional job of the market portfolio in portraying it as the aftereffect of a financial specialist's portfolio decision and demonstrating its pertinence in deciding balance costs for every tradable security. Thus, the balance CAPM is otherwise called the market portfolio-based resource estimating model.

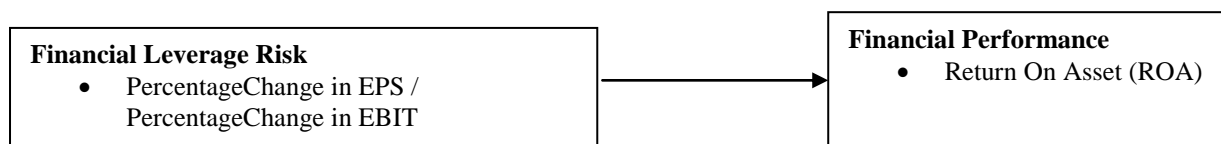
CAPM begins with the possibility that individual ventures contain two kinds of risks. To begin with, deliberate exposure is the risk of holding the market portfolio. These are market risks that can't be broadened away. As the market moves, every individual resource is pretty much influenced. To the degree that any advantage takes part in such broad market moves that benefit involves market risk. Loan costs, subsidence and wars are instances of orderly risks. Furthermore, explicit risk (unsystematic risk) is the risk which is one of a kind to a person's benefit. This risk can be broadened away as the speculator builds the quantity of uncorrelated stocks in their portfolio. In progressively specialized terms, it speaks to the segment of a benefit's profits which is uncorrelated with general market moves, (Sharpe, 1964).

The capital resource estimating model (CAPM) is utilized to decide a hypothetically suitable required pace of return of an advantage, if that benefit is to be added to an effectively well-expanded portfolio, given that advantages non-diversifiable risk. The model considers the advantage's affectability to non-diversifiable risk (otherwise called precise risk or market chance), frequently spoken to by the amount beta ( $\beta$ ) in the monetary business, just as the normal return of the market and the normal return of a hypothetical risk free resource, (Sharpe, 1964). The significant ramifications of the model are that the normal return of an advantage will be identified with a proportion of risk for that benefit, its beta. CAPM proposes that a financial specialist's expense of value capital is dictated by beta. Beta qualities are presently determined and distributed routinely for all stock trade recorded organizations, (Sharpe, 1964).

One of the most troublesome issues for financial specialists is to gauge the largest amount of risk one can expect. Thusly by examining Capital resource evaluating model, most financial specialists at NSE can choose protections that are steady with their risk inclinations since connection among risk and return is significant in a portfolio setting since these two parameters are viewed as the principle objects of decision. Financial specialists know that normal return increments as risk builds (Cheney & Moses, 1989). Study directed by Gitari (2013) found that Kenyan freely cited organizations do show a genuine connection between efficient risk and return. This relationship in any case, was not statically noteworthy along these lines recommending those financial specialists may either be under or over made up for going out on a limb. This recommended the requirement for risk investigation with respect to financial specialist (Gitari, 2013).

### **Conceptual Review**

Figure 1.0, presents the researcher's conceptualized influence of financial risk on financial performance. The dimensions of financial risk (independent variable) investigated was financial leverage risk. Financial performance (dependent variable) was measured in terms of return on assets (ROA).



**Figure 1.0: Conceptual Framework**

### ***Empirical Review***

Rehman (2013) undertook a research on connection between financial performance and financial leverage which was an empirical evidence of quoted firms in Pakistan. The investigation utilized thirty five listed firms Karachi Stock Exchange which are food based as sample size. Budgetary execution was the needy variable estimated utilizing five pointers of: ROA (%), ROE (%), EPS after duty (%), NPM (%) and deals development. The dependent variable was measured using 5 metric which comprised of sales growth, NPM (%), EPS after tax (%), ROE (%) and ROA (%) as financial performance indicators. The outcome reveals there is a positive relationship of debt equity ratio with return on asset and sales growth, and negative relationship of debt equity ratio with earning per share, net profit margin and return on equity.

Kenyanya and Ombok (2018) researched on effect of financial leverage on financial performance of Kenyan listed firms. They adopted correlational research design and secondary data for sampled 38 firms for a period of twelve years (2003-2014) was considered. Outcomes reveal that financial leverage has a negative significant effect on financial performance indicating an increase in financial leverage leads to a reduction in financial performance. The study recommended to the listed firms in the NSE to look more into internal financing rather than external financing in order to generate good performance. Ali (2011) in a similar study to examine the determinants of leverage of the listed Indian textile companies, used leverage ratios as the dependent variable. A panel data of sampled 170 Indian textile companies listed on the Stock Exchange was used covering a period of five years (2006- 2010). The results reveal that profitability and growth has a negative influence on leverage.

Okaka and Shibanda (2015) carried out a research to evaluate the connection between non-financial firms performance and financial leverage of the Nairobi Securities Exchange. The investigation explicitly decided the relationship of leverage of current assets to short term debt, debt to equity proportion to short term debt, equity ratio to total debt, equity ratio to short term debt, equity ratio to short term debt, equity ratio to total debt, equity ratio to short term debt, equity ratio to long term debt performance in terms of financial metric was measured by use of return on asset computed from financial statements. The examination utilized descriptive correlational research design and sampled all 61 firms recorded on the NSE by use of census sampling. A sample of 42 companies was chosen by purposive sampling subsequent to discarding firms in the financial sectors due to their capital structures being controlled by the CBK. Secondary data for six-year study period (from 2007 to 2012) and regression examination model was utilized to research the association of dependent variable and financial leverage. Result shows that there is critical connection between performance and financial leverage. The study recommended for further study to take into consideration substantial period so as to clearly bring out the pattern of the variables.

Onyema and Oji (2018) studied on financial leverage and profitability of quoted food and beverage firms in Nigeria. The study employed ex-post factor research design and secondary data for a period of 26 years was extracted from the financial statements. A sample size of 10 companies was used. Outcomes reveal liquidity ratio is negatively related with return on equity (ROE) and return on assets (ROA) which were used as the dependent variables while long term debt, equity ratio, debt ratio and debt equity ratio relate positively with the dependent variables.

Ahmad, Salman and Shansi (2015) investigated the impact of financial leverage on firms' profitability of cement firms in Pakistan. Sample size of eighteen cement firms was considered and six years annual data from 2005 to 2010 regarding financial leverage and profitability of the said firms were taken into consideration. Findings reveal that financial leverage has a significant inverse impact on profitability. Iyakaremye (2015) studied analysis of financial performance and financial risk in agricultural firms listed on the NSE. The study employed descriptive research design and a sample of five listed agricultural firms at NSE was used. Outcomes showed that debt to equity ratio, and debt ratios have statistically significant relationship with financial performance implying relationship exists between financial risk and financial performance.

### **III. Material And Methods**

To investigate the relevance of the research purpose with economic procedure, this paper adopted a longitudinal research design to collect and analyze data. Longitudinal research design involves repeated observations of the same variables such as people over short or long periods of time that is uses panel data. From NSE handbook (2018), the total six agricultural firms listed on were analyzed for a period of 10 years making a total of 60 elements that were considered as the target population as well as the sample size of the

study. This study took the entire population of all six listed agricultural firms using census technique. This study used the secondary data. The secondary data was retrieved from financial records of agricultural companies listed at the NSE as published each year by NSE; the consideration period was between the years 2009 to 2018 (10 years period of time). The researcher used descriptive statistics that include measure of central tendency; mean and measure of variability; standard deviation, maximum and minimum. The study used inferential statistics which were regression analysis and correlation analysis to test null hypotheses. These statistical tests were at 5% significance level. STATA software version 15 was used for statistical analysis.

#### IV. Resultand Discussion

##### *Descriptive Statistics*

The descriptive statistics entailed mean and standard error. The results are as shown in Table 1.0.

**Table 1:** Descriptive Results

Variable	Mean	Std.Err	[95% Conf. Interval]
LN_FLR	0.22	0.16	-0.09      0.54
LN_ROA	-2.96	0.16	-3.27      -2.64

From Table 1.0, natural logarithm of financial leverage risk had a mean of 0.22 with a standard error of 0.16. From 95% confidence interval, this implies that there is only a 5% chance that the range -0.09 to 0.54 excludes the mean of the population for financial leverage risk. The natural log for Return of Asset had a mean of -2.96 and standard error of 0.16. From 95% confidence interval it can be deduced that there is only a 5% chance that the range -3.27 to -2.64 excludes the mean of the population for Return on Asset.

##### *Inferential Statistics*

The study used correlation analysis to test the association between independent variables and dependent variable for linearity and between independent variables for multi-collinearity. The results are as shown in Table 2

**Table 2:** Correlation Analysis

VARIABLES	DLNROA	DLNFLR
DLNROA	1.0000	
DLNFLR	-0.3198	1.0000
	0.0184	

The results inTable 2 revealed thattherewasno high correlation between theindependent and dependent variables variable as indicated with correlation coefficients less than 0.9. It implies that there was no multi-collinearity among independent variables. The relationship between financial leverage risk (-0.3198) and return on asset was negative and weak. This implies that increase in financial leverage risk would result decrease in financial performance. The results are in agreement with Abubakar (2017) examined the effect of financial leverage on the financial performance using 7 companies quoted on the services sector of the Nigerian Stock Exchange(NSE), during the period 2005 - 2016. The study found there is significant relationship between financial leverage risk and financial performance.

##### *Linear Regression Analysis*

Linear regression analyses were conducted to determinetheinfluence of financial risk on financialperformance of agricultural firms listed on the NSE,Kenya. Outputs of first difference were used. Random and fixed effects model was used after applying Hausman test.

##### *Hausman Test*

A Hausmantestwas carried out to determinewhethertouse thefixed effect or random effect modeltoaddressobjectivesofthisstudy. Under the test, the null hypothesis is that thereisno significant correlation between the individual effectsandtheindependentvariables. A rejection of the null hypothesis confirms the argumentinfavorofthefixedeffect against therandomeffectmodel. The resultsareas shown inTable 3.

**Table 3: Hausman Test**

	(b) Fixed	(B) Random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
DLNFLR	-0.0399438	-0.0402624	0.0003186	0.0051724
b = consistentunderHoandHa;obtainedfromxtreg B = inconsistentunderHa,efficientunderHo;obtainedfromxtreg  Test: Ho: differenceincoefficientsnotsystematic  $\chi^2(4) = (b-B)[(V_b-V_B)^{-1}](b-B)$ $= 0.19$ $\text{Prob} > \chi^2 = 0.9959$				

Results in the table 3 indicated a prob>chi2 value of 0.9959 which is greater than critical P value at 0.05 level of significance which implies that the null hypothesis that a random effect model is the best was not rejected. The study hence used a random effect regression model. Maniagi (2018) used random effect regression model when investigating the influence of financial risk on financial performance of commercial banks in Kenya after carrying out Hausman test while addressing the objectives of the study.

The study sought to determine influence of financial leverage risk on financial performance of agricultural firms listed on the NSE. The first null hypothesis denoted, **H<sub>0</sub>**: Financial leverage risk has no significant influence on financial performance of agricultural firms listed on the NSE. Table 4 contains the findings

**Table 4: Regression Random Effect of financial leverage risk on ROA**

Random-effects GLS regression		Number of obs =		56		
Group variable: FIRMIS		Number of groups =		6		
R-sq:		Obs per group:				
within=0.1037		min =		9		
between=0.0023		avg =		9		
overall=0.1022		max =		9		
corr(u_i, X) = 0 (assumed)		Wald chi2(1) =		5.92		
		Prob > chi2 =		0.0150		
DLNROA	Coef.	Std. Err.	Z	P > z	[95% Conf. Interval]	
DLNFLR	-0.27899	0.114646	-2.43	0.015	-0.5037	-0.05429
_cons	-0.09758	0.184643	-0.53	0.597	-0.45947	0.264312
sigma_u	0					
sigma_e	1.4177216					
Rho	0	(fraction of variance due to u_i)				

The result obtained from random effect model indicated that financial leverage risk accounted for 10.37% (Overall R square = 0.1037) of the variation in financial performance of agricultural firms listed on the NSE. To test the goodness of fit, the study computed Wald chi-square since the model used random effect regression analysis. The findings revealed Wald chi-square = 5.92 with a corresponding p-value = 0.0150. The partial regression coefficient for financial leverage risk was -0.27899 shows that decrease in one percent in financial leverage risk across time and agricultural listed firms makes Return on assets to increase by -0.27899 per cent. The regression model is as shown below

$$DLNROA = - 0.09758 - 0.27899DLNFLR$$

The study therefore rejected the null hypothesis that financial leverage risk has no significant influence on financial performance of agricultural firms listed on the NSE and concluded that the influence of financial leverage risk on financial performance was statistically significant. This implies that increase in financial leverage risk would result to decrease in financial performance of agricultural firms listed on the NSE. The results confirmed findings of Omondi and Muturi (2013) indicated leverage as measured by DFL has got significant influence with financial performance as measured by ROA of listed firms in Nairobi Stock Exchange. Similarly, Aziidah (2017) found that there was a strong relationship between profitability and financial leverage risk of Kenyan Energy and Petroleum firms listed on the Nairobi Securities Exchange for a five year period, from 2012-2016. However, the findings contradict results from Enekwe, Agu and Eziedo. (2014) which revealed that financial leverage has no significant effect on financial performance of quoted pharmaceutical companies in Nigeria. Similar results were obtained by Raheel and Shah (2015) who indicated that there was no significant impact of financial leverage risk on the profitability of the companies listed on the Karachi Stock Exchange.

## V. Conclusion

In line with the study objective, influence of financial leverage risk on financial performance of agricultural firms listed on the NSE the study concluded that financial leverage risk has significant negative effect on financial performance of agricultural firms listed on the NSE. An increase in financial leverage risk would results to significant decrease in financial performance of agricultural firms listed on the NSE Therefore, financial leverage risk has got significant influence on financial performance of agricultural firms listed on the NSE. The study recommends that listed agricultural firms should source for less costly sources of finance which don't exhaust the earnings of the firms. Listed agricultural firms should also negotiate for better and longer credit terms in relation to repayment terms and interest rates.

## References

- [1]. National Abubakar, A. (2017). Financial leverage and financial performance of quoted industrial goods firms in Nigeria. *KASU Journal of Management Science*, 8(2), 89-108.
- [2]. Ahmad, N. Salman, A. & Shansi, A. F. (2015). Impact of Financial Leverage on Firms' Profitability: An Investigation from Cement Sector of Pakistan. *Research Journal of Finance and Accounting*. 6(7).
- [3]. Ali M. and Bilal, M., E., (2018). Determinants of financial performance in the industrial firms: Evidence from Jordan *Asian Journal of Agriculture Extension, Economics and sociology* ISSN; 2320-7027.
- [4]. Ali, L. (2011). The Determinants of Leverage of the Listed-Textile Companies in India. *European Journal of Business and Management*. 3(12), 2222-2839.
- [5]. Arrow, J. (1953). The Role of Securities in the Optimal Allocation of Risk-Bearing, *Review of Economic Studies*, Vol. 31, (April, 1964).
- [6]. Aziidah, N. (2017). The Effect of Financial Leverage on the Financial Performance of Kenyan Energy and Petroleum Firms Listed on the NSE (Doctoral dissertation, United States International University-Africa).
- [7]. Byrnes, M. Callahan, P. Cook, K. Kiles, A. & Patterson, T. (2014). Systematic Risk in Global Agriculture: Princeton-Columbia Joint Conference.
- [8]. Cheney, J., & Moses, E. (1989). *Investments: Analysis, Selection, and Management*. West.
- [9]. Enekwe, C. I., Agu, C. I., & Eziedo, K. N. (2014). The effect of financial leverage on financial performance: Evidence of quoted pharmaceutical companies in Nigeria. *Journal of Economics and Finance*, 5(3), 17-25.
- [10]. Gathiga (2016). Effect of financial risk on financial performance of commercial banks in Kenya. Unpublished PhD thesis in Finance – JKUAT.
- [11]. Gitari, I. (2013). Challenges facing micro and small enterprises in accessing credit facilities in KangemiHarambee market in Nairobi City County, Kenya. *International Journal of Scientific and Research Publications*, 4(12), 1-25.
- [12]. Hamid, R., V., and Oskouei, M., M., (2014) The Effect of Risk on Firm performance: Evidence from Automobile Companies Listed in Tehran Stock Exchange (TSE). *Middle-East Journal of Scientific Research*. 19(6): 740-746
- [13]. Iyakaremye, A. (2015) Analysis of Financial Performance and Financial Risk in Agricultural Companies Listed on the Nairobi Security Exchange.
- [14]. Juma, A. M., Odunga, R., Atheru, G. & Nzai, C. (2018). Financial Risks Analysis and Performance of Commercial Banks in Kenya, *Journal of Finance and Accounting*, 2(2), 76-95.
- [15]. Kenyanya, P. N. & Ombok, O. B. (2018). Effect of Financial Leverage on Value-Added Financial Performance of Kenyan Listed Firms. *IOSR Journal of Business and Management (IOSR-JBM)*, 20(6), 51-57.
- [16]. Kinyua, D. M. (2015). Determinants Of Capital Structure Of Agricultural Firms In Kenya (Doctoral dissertation, KCA University).
- [17]. Kioko, C. M., Olweny, T., & Ochieng, L. (2019) Effect of Financial Risk on the Financial Performance of Commercial Banks in Kenya listed on the Nairobi Stock Exchange. *The strategic Business and Change Journal of Management*. 6(2): 1936 -1952.
- [18]. Lelgo, K. J. & Obwogi, J. (2018). Effect of financial risk on financial performance of micro finance institutions in Kenya. *International Academic Journal of Economics and Finance*, 3(2), 357-369
- [19]. Lintner, J. (1965). The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets. *Review of Economics and Statistics* 47: pp 13-37.
- [20]. Maniagi, G. M. (2018). Influence of Financial Risk on Financial Performance of Commercial Banks in Kenya (Doctoral dissertation, JKUAT).
- [21]. Markowitz, H. (1965). *Portfolio Selection: Efficient Diversification of Investments*. Cowles Foundation Monograph No. 16. New York: Wiley & Sons, Inc.
- [22]. Matayo, W. and Muturi, W. (2018). Effect of Financial Risk on Financial Performance of Large Scale Supermarkets in Nairobi County, Kenya. *International Journal of Social Sciences and Information Technology*, 6(5), 574-591.
- [23]. Mudanya, L., E., and Muturi, W., (2018) Effects of Financial Risk on Profitability of Commercial Banks Listed in the Nairobi Securities Exchange. *Int Journal of Social Sciences Management and Entrepreneurship*. 2(1): 75 -93
- [24]. Nairobi Securities Exchange (2013). Annual Handbook. Retrieved from <http://www.nse.co.ke>
- [25]. Nairobi Securities Exchange (2018). Annual Handbook. Retrieved from <http://www.nse.co.ke>
- [26]. Nimalathasan, B. & Pratheepkanth, P. (2012). Systematic Risk Management and Profitability: A Case Study of Selected Financial Institutions in Sri Lanka. *Global Journal of Management and Business Research*, 1 (17) 2249-4588.
- [27]. Okaka, D. & Shibanda, G. (2015) Financial Leverage and Performance of Non-Financial Companies in Nairobi Securities Exchange in Kenya. *IOSR Journal of Business and Management (IOSR-JBM)*. 17(8), 27-34.
- [28]. Okelo, C. A. (2015). Determinants of Financial Risk of Listed Companies on the Nairobi Securities Exchange in Kenya. Unpublished PhD thesis, Kenya-JKUAT.
- [29]. Omondi, M. M., & Muturi, W. (2013). Factors affecting the financial performance of listed companies at the Nairobi Securities Exchange in Kenya. *Research journal of finance and accounting*, 4(15), 99-104.
- [30]. Onyema, J. I. & Oji, J. U. (2018) Financial Leverage and Profitability of Quoted Food and Beverage Companies in Nigeria. *International Journal of Research in Economics and Social Sciences (IJRESS)*. 8(9), 6.
- [31]. Radner, R. (1972). "Problems in the Theory of Markets under Uncertainty." *American Economic Review*: pp 454-60.

- [32]. Raheel, T. & Shah, F. M. (2015). A study that identifies the relationship between the financial leverage and firms profitability: Empirical evidence from oil and gas companies of Pakistan listed in KSE. *International Journal of Scientific & Engineering Research*, 6 (11), 80 – 88.
- [33]. Rehman, B.S. (2013). Relationship between Financial Leverage and Financial Performance: Empirical Evidence of Listed Sugar Companies of Pakistan. *Global Journal of Management and Business Research Finance*, 13 (8), 1-9
- [34]. Sharpe, F. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *Journal of Finance* 19(9), 425-442.
- [35]. Wei, W., (2012). Factors Affecting Financial performance of Agricultural Firms listed on Shanghai Stock Exchange. Unpublished MBA project University of the Thai Chamber of Commerce.

Oruko, F., Tibbs, C., & Maniagi, M. (2020) Influence of Financial Risk on Financial Performance of Agricultural Firms Listed on Nairobi Securities Exchange in Kenya. *Journal of Economics and Finance (IOSR-JEF)*. 11(4), 05-12.