The Impact of Financial Risk on Financial Performance: A Case of Listed Manufacturing Companies in Tanzania

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Abstract
The study assessed the impact of financial risk on the financial performance of listed manufacturing firms in Tanzania at the Dar es Salaam Stock Exchange (DSE). Proxies used to represent financial risk, as independent variables, were credit risk and liquidity risk, and financial performance metrics were return on assets (ROA) and return on equity (ROE). A quantitative research design was used to gather secondary data from audited financial statements of listed manufacturing firms at DSE from 2008 to 2022 (15-year period). The balanced panel regression model was used to test the hypotheses by using Stata 11 software as a tool for analysis. The result reveals that liquidity risk exerts a positive and significant impact on ROA. In contrast, credit risk exerts a negative and significant impact on ROE. These findings highlight the importance of enhancing risk management practices and prudential oversight to safeguard a manufacturing firm's financial performance. The analysis may assist investors, both current and prospective, government officials, financial managers, brokers, and the authority dealing with investments in the manufacturing companies listed under DSE to formulate policies and analyze their investments to increase value to stakeholders and look for a better way of stabilizing the economy of these companies and the national economy in general.

Keywords: *Liquidity risk, credit risk, return on equity, return on assets, listed manufacturing companies*

1.0 INTRODUCTION

Financial risks have a great impact on a firm's performance (Verawati et al., 2023). In that regard, exposure to financial risk has been continuously cited as a big problem to financial performance worldwide (Ghazieh & Chebana, 2021). It has reminded the companies and their supervising boards to draw useful lessons from past experiences (Arun & Balagobei, 2023). To some extent, manufacturing companies are now aware of the need to identify, measure, monitor, and control financial risk together while ensuring that they possess adequate capital against these risks (Zaidanin, 2021).

Proper management of firm performance not only can solve the problem of profitability, liquidity, and risk but also increase the ability of the firm to generate its profit (Bhatti et al., 2020). This is because firm performance establishes the link between the production of the firm and sales (Bhatti et al., 2020). Efficient management of financial performance is crucial for both profitability and prosperity of any firm. As (Al Shraah et al., 2021) observed, a firm's performance is important because of its effect on the firm's profitability, liquidity, and risk, and consequently its value.

Management of a firm's performance involves administration of sales, cost, profit, assets (both fixed assets and current assets), and current liabilities. This was also observed by Abdić et al., (2024) that a firm's performance can be measured in different ways such as return on asset, return on equity, Tobin's Q, and market to book value. In this study only return on asset (ROA) and return on equity (ROE) were used as a measure of firm performance. ROA and ROE directly deal with the management of elements of the financial statement which directly affects the profitability and liquidity of the firm (Ahmeti & Pervetica, 2023). The control variable firm size helps the business to enjoy economies of scale and brand their reputation while better leverage will decrease deficiencies in cash flows (Weerasinghe & Ekanayake, 2023).

Efficient firm performance involves diligent plans and controls (Emmanuel et al, 2022). There must be a balance between sales and the cost to have enough amount of profit to eliminate the risk of insolvency in Nigeria (Ajagbe et al., 2024). Firm debt management is a very sensitive area in the field of financial management (Abu-Rumman et al., 2021) due to some reasons such as the current assets of typical manufacturing firms account for more than half of the total asset of the firm (Mohammad Yeasin, 2023). Also, a firm without sufficient liquidity cannot operate daily transactions or meet day-to-day obligations because liquidity is the heart of any firm needed in daily transactions. (Abdullahi & Tela, 2022) also

argue that risk assessment is crucial in every firm to see if the company is moving forward or not.

The effective management of credit and liquid position within manufacturing companies plays a crucial role in influencing the profitability and overall effectiveness of operations (Wang et al., 2022). Detailed evaluation of the magnitude and management of risks serves to diminish the incremental expenses related to debt and liquidity, consequently lowering the financial liabilities of financial institutions (Asif & Shahzad, 2023). Consequently, proficient credit risk management (Prabowo & Wijaya, 2024) shield companies from encountering fiscal distress and unforeseen deficits. Underperforming firms are burdened by the existence of credit risks and liquidity risks that are considered to be potentially challenging conditions (Tago and Ponsian, 2024).

Moreover, studies conducted in East Africa suggest that companies should ensure proper management of liquidity and credit risk to boost their financial performance (Omendo & Wanjara, 2023; Akinama & Tarus, 2024). It is crucial to note that companies that fail to manage these risks may face liquidation, leading to substantial debt losses. Consequently, deficient credit risk management within any financial institution stands as a primary driver behind company collapses (Hillary et al., 2023). The interconnection between financial performance and risk management emerges as a pivotal aspect in understanding an empirical assessment of the determinants of financial performance as well as their influence on risk management methodologies. This discourse presents prevailing theories and empirical substantiation concerning the correlation between profitability and credit risk management (Rahmawan & Bakar, 2022).

Considering the importance of risk management and corporate governance in today's business environment, many companies are facing significant challenges, especially in light of the ongoing pandemic recovery. Previous studies in Tanzania have primarily focused on the financial sector (Temba et al, 2024; Emma & Mfugale, 2021; Meshack & Mwaura, 2016) with limited research conducted in the manufacturing sector. However, the manufacturing sector contributed 23.2% to the nation's gross domestic product of Tanzania in 2022 (Bank of Tanzania, 2023). Therefore, this research is centered on the manufacturing firms listed at the Dar es Salaam Stock Exchange since the manufacturing sector is crucial in economic development. Manufacturing firms also are facing credit risks from two perspectives. Firstly, from a lending standpoint, there is a risk of customers defaulting on receivable payments. Secondly, as investors in bonds, there is a risk of defaults occurring. Liquidity

risk is also a concern for manufacturing firms, as they must ensure they can meet their current financial obligations.

1.1 Study Objectives

The study intended to assess the impact of financial risks on the financial performance of listed manufacturing companies at the Dar-es-Salaam Stock Exchange (DSE) in Tanzania. Specifically, it: Examined the influence of credit risk on financial performance and evaluated the influence of liquidity risk on financial performance.

1.2 Research Questions

To achieve the study objectives, the following questions were developed:
What is the influence of firms' credit risk on financial performance?
What is the influence of firms' liquidity risk on financial performance?

2.0 LITERATURE REVIEW

2.1 Theoretical review

Theories underline the basis and provide a theoretical approach to the study which focuses on the relationship between financial risk and financial performance in manufacturing firms in Tanzania. The study focuses on the following theory:

2.2 Agency Theory

Agency theory, developed by Jensen and Meckling in 1976, conceptualizes the framework that explains the relationship existing between principals (shareholders) and agents (directors) within any company. According to agency theory, agents are responsible for executing the operational activities of the business using the principals' funds and making decisions (Paniagua et al., 2018). Within agency theory, alongside the formal agreement between the principal and agent, there is a potential for discrepancies to arise. These discrepancies stem from personal motives that may result in conflicting interests, diverting attention from the primary objectives assigned to the agent (Ghazieh & Chebana, 2021). The theory suggests that to optimize the principal-agent relationship we need to formulate a suitable agreement, rewards policy, and performance-based payment that will help to reduce agency costs and harmonize the goals of the principal and agent (Jensen, & Meckling, 1976).

The theory is based on these four underlying assumptions (Jensen, & Meckling, 1976). Firstly, the theory assumes that ownership and control are separated in organizations, where directors are entitled to make decisions on behalf of the shareholders. Secondly, it assumes that both principals and agents are rational

and act in their self-interest. Thirdly, it assumes the existence of information asymmetry between principals and agents, meaning that directors have more information about their actions and performance than the shareholders. Lastly, it assumes that conflicts of interest between principals and agents may arise due to differences in risk preferences and objectives.

On the other hand, agency theory has various criticisms and weaknesses. One major criticism is that it assumes that people are just driven by their interests, which generalizes human behavior (Donaldson, & Davis, 1991). Critics argue that the theory ignores other factors that motivate people to work honestly and be devoted to achieving organizational objectives such as altruism, social norms, and ethical considerations (Ghoshal, 2005). Furthermore, agency theory mostly focuses on the conflicts between principals and agents, overlooking the potential for cooperative behavior and shared goals.

In financial risk management, agency theory is relevant because it climaxes the potential conflicts of interest between shareholders and directors. It highlights the need for effective risk management practices to reduce agency costs by aligning the interests of both (Eisenhardt, 1989). Companies can address the potential problems of moral hazard and adverse selection resulting from knowledge asymmetry by putting in place appropriate risk management systems. Divergent interests can create credit risks as external debtors often neglect the concerns of creditors, leading to conflicts of interest (Wang et al., 2022). Furthermore, agency theory is applicable in manufacturing companies because it elucidates the correlation between corporate governance and firm performance, emphasizing that senior management must effectively address stakeholders' interests (Oudat et al., 2023).

Also, agency theory provides insights into the principal-agent relationship within organizations. It identifies conflicts of interest, highlights the need for harmonization of the interests of principals and agents, and emphasizes the importance of effective risk management practices. Despite criticisms for oversimplifying human behavior, it remains useful in understanding financial risk management and the financial performance of manufacturing companies.

2.3 Empirical review

Credit risk and financial performance

Isiaka et al. (2022), in a study on the influence of financial risk on the profitability of commercial banks in Nigeria, argued that credit risk is negatively related to profitability. Data from fourteen commercial banks listed in Nigeria was used, covering the period from 2011 to 2020. Data were analyzed using multiple

regression techniques. They concluded that banks must regulate their credit facilities to reduce the amount of nonperforming loans that were shown to reduce profitability. Also, Olayinka et al., (2021) studied the enterprises' risk management and financial performance in a case study of merging the markets in Nigeria. The study revealed credit risk management is positively related to financial performance significantly. The study recommended that firms must adopt risk management practices. Furthermore, Ary et al., (2023) examined the impact of risk management on firm performance with corporate governance as a moderating variable. Purposive random sampling techniques were used in this study to collect secondary data from 48 companies in Southeast Asia covering the period from 2017 to 2021. The study found that credit risk does not affect a firm's financial performance while credit risk hurts a firm financial performance. However corporate governance can strengthen the relationship between credit risk on firm financial performance. This study suggests that companies must develop good corporate governance to maximize risk management and help investors assess the company's risk.

Omedo & Wanjala (2023) studied the influence of financial risk management on the financial performance of logistics companies in the coastal region in Kenya. A cross-sectional research design was adopted by the researcher using targeted 132 logistics companies. The study used primary data, where structured questionnaires were used to collect data, while analysis was done using SPSS. The result of this study indicates a positive and significant relationship between credit risk and the financial performance of logistics companies. Moreover, a negative relationship between credit risk and financial performance was established by Bagh et al. (2022), using a sample taken by considering market capitalization from 160 non-financial firms listed in stock markets of emerging and developed countries, covering the period of 2007 to 2018. Ajagbe et al., (2024) used panel data collected from 70 observations from five significant commercial banks in Nigeria and analyzed using a fixed-effect regression model. The result demonstrated there was no individual significant effect of credit risk on return on assets. This finding emphasizes the importance of adopting risk management practices and prudential oversight to safeguard financial performance and financial stability.

Temba et al., (2024) investigated the effect of credit risk management on the financial performance of commercial banks in Tanzania. Panel data with 225 observations revealed a negative relationship exists between credit risk and financial performance. It was suggested that credit risk management practices are a crucial aspect of the improvement of financial performance and bank operations. Additionally, Emmanuel et al., (2022) conducted an empirical

investigation on the relationship between financial risk and bank performance in Nigeria. Deposit banks totaling 11 are selected for the period of ten years (2010-2020). The study employed ex-post facto research design and data are obtained from audited financial statements of selected banks. From this study, the finding shows that credit risk is insignificant on return on equity (Chaeriah & Sodikin, 2020).

Even though the above study shows contradictory results, this study believed credit risk has negative effect on financial performance. Furthermore, from the literature review, it was also found that most research focuses on financial institutions. This study addressed the gap in the case of manufacturing companies listed on the Dar es Salaam Stock Exchange, covering the period from 2008 to 2022, then the following hypothesis was developed:

$H_{a1;}$ *There is a negative influence of companies' credit risk on financial performance.*

Liquidity risk and financial performance

Chhetri (2021) examines the effect of credit risk on the financial performance of Nepalese commercial banks. Panel data from 85 observations conducted for seventeen commercial banks covering the period of 2015 to 2015 are analyzed. The regression model indicated that liquidity risk has a negative and statistically significant impact on financial performance. The study suggests that it is fundamental for commercial banks to improve the management of credit risk and liquidity risk for them to boost financial performance in Nepalese banks. Adeel et al., (2023) conducted an assessment of the impact of financial risk management on organizational performance evidenced from insurance companies in Pakistan. A significant association between organizational accomplishment and liquidity risk management was observed. Weerasinghe & Ekanayake, (2023) examined the impact of financial risk on the financial performance of the consumer service sector in Sir Lanka, A quantitative research approach by which secondary data were collected from the published audited annual reports of consumer service listed companies over 10 years from 2011 to 2020. Fixed effect regression model was used to analyze panel data. The result proclaims that liquidity risk has a statistically positively significant impact on financial performance. This study provides an understanding to service companies on how financial risk impacts financial performance.

Xu, (2022) investigated the impact of financial risk management systems under big data on the performance of small and medium-sized enterprises in China. Small and medium-sized companies listed on June 30 2022 evidenced that

promotion of liquidity risk management can be achieved through big data technology since liquidity risk management is negatively related to the performance of small and medium-sized enterprises. Furthermore Onsongo et al., (2020) in their study on the relationship of liquidity conclude that liquidity risk has a negative insignificant impact on the return on assets. However firm size plays a big role in risk management practice; that is firms with high total assets manage risk better than their counterparts. On the other hand, Alshehhi et al., (2024) investigated the impact of risk management on the performance of construction projects. Analysis of approaches of liquidity risk management empowers and is appropriate in decision making. This enhances financial outcomes and reduces disruption.

Ghazieh & Chebana, (2021) suggest that the liquidity risk of selected firms within the European nationals based on empirical evidence is based on an international quantitative analysis from data collected from 320 companies listed on the stock exchange from 2005 to 2014 has a positive influence on financial performance. Likewise, Radenovic & Hasani, (2020) explore the impact of financial attributes on potential business risk-taking tendencies. The study data were gathered from the Stock Exchange over five years, from 2011 to 2015, when the indicators for evaluating financial features were designed. A sample strategy based on the Cochran formula was used to select 111 companies, yielding 555 year-firm observations in total. The tested research hypotheses revealed that there is positive significant influence of liquidity risk on financial performance.

The studies above revealed contradictory results, but this study believed that liquidity risk hurts financial performance. Furthermore, from the literature review, it was also found that most research focuses on financial institutions. This study addressed the gap in the case of manufacturing companies listed on the Dar es Salaam Stock Exchange, covering the period from 2008 to 2022. The following alternative hypothesis was then developed:

$H_{a2;}$ *There is a negative influence of companies' liquidity risk on financial performance.*

2.4 Conceptual framework

The conceptual framework of this study, Figure 1 below details the independent, dependent, and control variables used in this study.

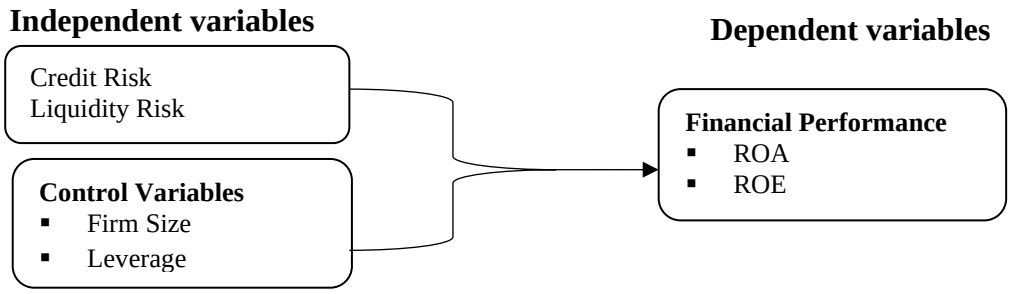

Figure 1: Conceptual framework

3.0 RESEARCH METHODOLOGY

3.1 Data and sample

The study adopted an ex-post facto research design to establish the causes and effect relationship that will be derived from the regression analysis. The research focuses on manufacturing companies listed at the Dar es Salaam Stock Exchange (DSE), whereby purposive sampling techniques were used to select all manufacturing industries listed at DSE. The study covers the period of fifteen years from 2008 to 2022. The study period was chosen to examine the impact of financial risk on financial performance following the global financial crisis of 2007, a time when financial risk gained significant global attention (Jagirani et al. 2023). Regression analysis tested the influence of financial risk components on the financial performance of listed companies at DSE. Furthermore, the study population complies with all listed manufacturing companies at DSE that is, Tanzania Breweries Plc, Tanzania Cigarette Company Ltd (TCC), Tanga Cement Company Ltd (Simba Cement), TOL Gas Ltd, Tanzania Portland Cement Co Ltd, TATEPA Ltd and East African Breweries Limited (EABL).

3.2 Data Source

The study used secondary data collected from published audited financial statements obtained from the Dar es Salaam Stock Exchange websites and companies' official websites.

Variable construction

Table 1: Operationalization of study dependence and independent variables

Variable	Symbol	Measurement	Source/authors
Dependent variable			
Return on Equity	ROE	Net income/Total equity	Weerasinghe & Ekanayake, 2023, Bagh et al., 2022,
Return on Asset	ROA	Net income/Total assets	Bagh et al., 2022, Chhetri, 2021, Ajagbe, 2024
Independent variable			
Liquidity Risk	LR	Current Assets/Current Liability	Weerasinghe & Ekanayake, 2023, Bagh et al., 2022, Chhetri, 2021
Credit Risk	CR	Total Debt/ Total Equity	Weerasinghe & Ekanayake, 2023, Kassi, Rathnayake, Louembe, & Ding, 2019
Control Variables			
Firm Size	FS	Ln (Total Assets)	Weerasinghe & Ekanayake, 2023, Bagh et al., 2022, Chhetri, 2021
Leverage	LV	Short-Term Debt/ Total Assets	Weerasinghe & Ekanayake, 2023, Lartey, Gyimah, & Adu-Ameyaw, 2021.

Specification of the regression model

The study used regression analysis to test the influence of financial risk on the financial performance of listed manufacturing companies at DSE. The Hausman test was used to select the appropriate method for estimation between the Panel data. Regression model involves the selection of a suitable estimation method between fixed effect and random effects. To avoid specious results from regression analysis, data were tested for correlation, multicollinearity, and heteroskedasticity. A correlation matrix was used to check the existence of multicollinearity between variables.

The panel regression model is seen below;

$$ROE_{it} = \beta_0 + \beta_1(LR)_{it} + \beta_2(CR)_{it} + \beta_3(FS)_{it} + \beta_4(LV)_{it} + \varepsilon_{it} \quad (1)$$

$$ROA_{it} = \beta_0 + \beta_1(LR)_{it} + \beta_2(CR)_{it} + \beta_3(LFS)_{it} + \beta_4(LV)_{it} + \varepsilon_{it} \quad (2)$$

4.0 RESULTS

4.1 Descriptive statistics

The descriptive statistics are of Return on Equity (ROE), Return on Assets (ROA), Liquidity Risk, Credit Risk, and controlling variables that is firm size

and leverage. This analysis shows the mean, median, standard deviation, skewness, and kurtosis of each variable as shown in Table 2 below. Also, it presents the maximum and minimum value of each variable used which helps in getting a picture of the maximum and minimum value a variable has achieved.

Table 2: Descriptive statistics

	N	Min	Max	Mean	Std	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	**Statistic**
ROE (%)	105	-2115.75	128.34	7.09	212.19	-9.67	**97.25**
ROA (%)	105	-27.93	46.19	12.33	14.36	-.63	**3.36**
Liquid Risk	105	.27	3.98	1.55	.88	.64	**2.52**
Credit Risk	105	-11.6	98.16	2.76	13.46	6.66	**47.20**
Firm Size	105	22.68	27.75	25.49	1.37	-.29	**1.90**
Leverage	**105**	**.09**	**1.55**	**.33**	**.22**	**.05**	**2.75**

Table 2 above shows the descriptive data regarding variables for a sample of 105 observations computed. The mean ROE is 7.09 indicating average profitability. The maximum Return on Equity (ROE) is 128.34 while the minimum -2115.75. Return on Assets (ROA) has a mean of 12.33 and ranges from -27.93 to 46.19. Liquidity risk has a mean of 1.55 and ranges from 0.27 to 3.98, while credit risk has a mean of 2.76 with a range of -11.6 to 98.16. Firm size has a mean value of 25.49 with a range from 22.68 to 27.75. Finally, leverage has a mean of 0.33 and ranges from 0.09 to 1.55. Standard deviation, skewness, and kurtosis provide information about the distribution of the variables. Credit, liquidity risk, and leverage are positively skewed while ROE, ROA, and firm size are negatively skewed. Furthermore, the kurtosis value of return on equity, return on assets and credit risk, firm size, and growth are greater than three i.e. "***k > 3"*** which is known as "*leptokurtic*" meaning that their central peaks are higher and sharper with longer and sharper tails as compared to Gaussian normal distribution. On the other hand, kurtosis for liquidity risk, firm size and leverage, inventory days and liquidity ratio are less than three i.e**"*k<3*"** which is known as "*platykurtic"* meaning that the distribution produces fewer and less extreme outliers than does the normal distribution. In summary, the table provides useful summary statistics that enable an assessment of the central tendency, dispersion, shape of the distribution, and normality of the key variables. This aids further statistical analysis and modeling.

Correlation analysis

Table 3 below presents the Pearson correlation analysis for variables that are used in the model of this study. Pearson's correlation analysis is used to show the relationship between these variables. The correlation analysis shows that the coefficient of correlation between study variables ranges from -0.7307 to 0.5862

which indicates that there were no multicollinearities between variables because the coefficient is below 0.8 (Magoma et al., 2024).

Table 3: Correlation analysis

ROE	ROA	Liquidity Risk	Credit Risk	Firm Size	Leverage
ROE	1.0000				
ROA	0.3015*	1.0000			
Liquidity Risk	0.1088	0.5862*	1.0000		
Credit Risk	-0.7307*	-0.2064*	-0.1799	1.0000	
Firm Size	0.1506	0.4831*	0.4118*	-0.1551	1.0000
Leverage	-0.1225	-0.5413*	-0.6251*	0.1924*	-0.4490*
1.0000					

The correlation matrix in Table 3 above provides insight into the existing relationship between variables used in this study. ROE has a strong negative correlation of -0.7306 with credit risk, indicating that manufacturing companies with high credit risk tend to have low returns on equity. ROE also has a weak positive correlation of 0.3015, 0.1088, and 0.1506 with ROA, liquidity risk, and firm size respectively. While ROE has weak negative correlations with leverage of -0.1225, ROA has a negative correlation of -0.2064 and -0.5413 respectively. A moderate positive correlation exists between liquidity risk (0.5862) and firm size (0.4831) with ROA. Liquidity risks are -0.1799 and -0.6251 correlated with credit risk and leverage respectively, while 0.4118 correlated with firm size. Credit risk is negatively correlated with firm size by -0.1551 and positively correlated by 0.1924 with leverage. Firm size has a -0.4490 correlation with leverage. Overall, the correlation matrix indicates statistically significant relationships between the financial performance variables, consistent with finance theory. It is a useful starting point for further regression modeling to understand the drivers of manufacturing companies' financial performance.

Multicollinearity test

The tables below show the results from the multicollinearity test for the variables used in this study.

Table 4: Multicollinearity test

	Model 1		Model 2	
Variable	VIF	1/VIF	VIF	**1/VIF**
Liquidity risk	1.71	0.561153	1.71	**0.561153**
Credit risk	1.05	0.953091	1.05	**0.953091**
Firm size	1.3	0.766933	1.3	**0.766933**
Leverage	1.78	0.561153	1.78	**0.561153**
Mean	**1.46**		**1.46**	

Table 4 above shows that the VIF value for all is less than 3. This means that the variables used in this study have no multicollinearity problem. The value inflation factor for liquidity risk is 1.71, credit risk is 1.05, firm size is 1.3 and leverage is 1.78 while the mean VIF is 1.46 which is less than 3 indicating data are free from multicollinearity problem (Marobhe & Kansheba, 2022).

Autocorrelation result

The outcome of the Durbin-Watson d-statistic values indicated that the data were free from autocorrelation as the revealed value was 2.260 above 1.5 and less than 2.5. Mazengo and Mwaifyusi, (2021); Magoma et al., (2024)y argued that autocorrelation is believed to be absent if the Durbin-Watson value is greater than 1.5 and less than 2.5. Thus, this study was free from autocorrelation.

4.2 Regression results

Model Selection Test for First Model

The study used the Hausman test to decide on whether random or fixed effect model. The significant Hausman tests compelled the study to use the fixed effect model in model one. The results in Table 2 indicate that in the first model, the difference in coefficients was not systematic. As a result, the models were all in favor of random effect.

Table 5: Hausman test for the first model

Test: Ho: difference in coefficients not systematic

	Model 1
Chi2(6)	**0.69**
P-Value	**0.9526**

Since the p-values are greater than 0.05 it indicates it is statistically tested insignificant. Therefore, the insignificant Hausman tests in this model make the study accept the null hypotheses which are in favor of the random effect model. So, we adopted the random effect model.

Model Estimation Results for the First Model

From Table 7 below, the regression result shows that credit risk has a negative significant influence on return on equity at all levels of confidence. However, the liquidity risk had a negative insignificant impact on ROE, firm size, and leverage had an insignificant positive influence on return on equity.

Table 6: Relationship between financial risks and return on equity

ROE	Coef.	Std. Err.	z	P>z
Liquidity Risk	-5.23898	24.16983	-0.22	**0.828**
Credit Risk	-11.4698	1.091538	-10.51	**0.000**
Firm Size	11.94694	15.29419	0.78	**0.435**
Leverage	45.64256	97.17665	0.47	**0.639**
Constant	**-272.515**	**395.4913**	**-0.69**	**0.491**

Model Selection Test for Second Model

The study used the Hausman test to decide on whether random or fixed effect model. The significant Hausman tests compelled the study to use the fixed effect model in model one. The results in Table 8 indicate that in the second model, the difference in coefficients was systematic. As a result, the models were all in favor of fixed effects.

Table 7: Hausman test for the second model

Test: Ho: difference in coefficients not systematic

	Model 2
Chi2(6)	**11.81**
P-Value	**0.0188**

The p-value is less than 0.05 which indicates it is statistically tested significant. Therefore, the significant Hausman tests in this model make the study reject the null hypotheses which are in favor of the fixed effect model. So, we adopted the fixed effect model.

Model Estimation Results for the first model

From Table 9 below, the regression result shows that liquidity risk has a positive significant influence on ROA at all 1%, 5%, and 10%. On the other hand, credit risk has a negatively insignificant impact on ROA while firm size and growth have a significant positive influence on return on assets.

Table 8: The relationship between financial risks and return on assets

ROA	Coef.	Std. Err.	t	P>t
Liquidity Risk	4.55671	1.706247	2.67	**0.009**
Credit Risk	-0.02157	0.065002	-0.33	**0.741**
Firm Size	-6.83753	2.012918	-3.4	**0.001**
Leverage	-14.7622	6.475112	-2.28	**0.025**
Constant	**184.4155**	**51.33815**	**3.59**	**0.001**

5.0 FINDINGS AND DISCUSSION

5.1 Credit risk with ROA

Results from regression analysis indicate that in manufacturing companies listed in Tanzania, credit risk has a negative influence on ROE, and this influence is statistically significant at all levels. Thus, the alternative hypothesis (H_{a2}) was accepted. This means that a unit increase in credit risk of manufacturing companies leads to a decrease in return on assets by 11.5%. This means that a high level of a company's credit risk can reduce financial performance. The reason is that when the credit risk level is high, credit is considered problematic which can cause manufacturing companies to be hit by financial crises (Ary et al., 2023; Isiaka et al., 2022). In addition, a high level of credit risk can reduce the firm's financial performance (Naibaho et al., (2023) causing the investment capital used by the firm to decrease, which has an impact on reducing company profits/financial performance (Temba et al., 2024).

5.2 Financial risk with ROA

Based on the results of the study it was found that liquidity risk has a positive effect on ROA. These results can be interpreted that the liquidity risk faced by manufacturing companies has been proven to have a positive influence on financial performance, where the level of liquidity risk of a company seen from the comparison of current liability and current assets influences changes in profitability that occur in a company in a period (Chhetri (2021). Companies that have a high level of liquidity risk still can have low company performance, and vice versa. If the first hypothesis (H_{a1}) which proposes that liquidity risk hurts financial performance is not proven, then H3 is rejected. The results of this test are supported by research by Weerasinghe & Ekanayake, (2023) and Adeel et al., (2023) which found that liquidity risk has a positive significant influence on financial performance. However, this is not by the results of research by Onsongo et al., (2020) and Xu, (2022) which found that liquidity risk hurts the stability of a company's financial performance. On the other hand, results for the control variable firm size have a significant and negative influence on return on assets which are similar to the findings of Abbas and Ullah (2023) while Radenovic & Hasani, (2020) found the same results as this study leverage is significantly negatively related to return on assets.

6.0 CONCLUSION AND RECOMMENDATIONS

This study was conducted to fulfill the objective of assessing the impact of financial risk on financial performance, with a sample of eight manufacturing companies listed at DSE covering 15 years from 2008-2022. Based on this result, the study concludes that liquidity risk has a negative and insignificant influence on return on equity while credit risk has a negative and significant influence on

return on equity. However, the result also reveals that return on assets as a proxy of financial performance is affected by liquidity risk. The implications of this study are to guide manufacturing firms on financial decisions aimed to boost the profitability of their firms' performance. Similarly, for DSE, the study is an input to them as regulators on policy review on financial risk management. Risk management companies see the importance of financial risk management and its implication on the financial performance measured by return on equity and return on assets. Failure to manage financial risks can lead to a pervasive problem in the manufacturing company's financial condition. It also suggests that manufacturing companies need to formulate proper credit policy and liquidity policies for them to improve financial performance. Moreover, this research is also beneficial for the investors, as knowing the financial risks facing the manufacturing companies and their implication on profitability makes the investors to become more confident when making the investment decision in the company.

This study has some limitations which can be addressed in future research. This study focuses on listed manufacturing companies in Tanzania; future studies should focus on listed manufacturing firms in East Africa. The study used fixed effect and random effect models to estimate the results; future studies should use the generalized method of movement. This study used ROE and ROA as financial performance metrics. Future studies should use market measures of financial performance like Tobin's Q ratio. Additionally, future studies should also explore other variables such as board committees, compensation structures, and shareholder activism to gain a more complete understanding of the factors that influence listed bank performance in Sub-Saharan Africa.

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