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*What Determines Financial Performance? An Insight of  
Market and Firm level attributes in Tanzania*

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## What Determines Financial Performance? An Insight of Market and Firm level attributes in Tanzania

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### Abstract

Financial performance is a key indicator of a firm's stability, prompting many corporations to regularly evaluate their performance. The study was conducted to investigate the influence of market and firm-level determinants on the financial performance of non-financial firms listed on the Dar es Salaam Stock Exchange (DSE). The study was guided by four specific objectives which confined on the interest rate and foreign exchange rate as market determinants, while firm size and leverage were considered as firm-specific factors. Additionally, the study included GDP as a control variable. The analysis was conducted on a sample of eleven (11) companies for five (5) years, drawn from a population of twenty-eight (28) listed firms. This study analyzed data by using E-View software version 12 whereby random effect Panel regression model used. The study has found interest rate and firm size has a positive influence. Foreign exchange rate has a no influence while Leverage has a negative influence on the financial performance of the non-financial firms listed at DSE. The study recommends listed companies should reduce reliance on debt financing while focusing on scaling firm size. Bank of Tanzania and Capital Market and Security Authority should enforce prudent borrowing practices and maintain favorable lending rates. Investors should prioritize firms with lower leverage and firm size when consider buying stock. Future research should consider a broader range of factors, including government effectiveness, control of corruption, political stability, regulatory environment, technological advancements, market competition, and corporate governance, for a more comprehensive analysis.

**Keywords:** Interest Rate, Foreign Exchange Rate, Firm Size, Leverage, Return on Asset

### Introduction

The financial performance of listed companies refers to the overall evaluation of a company's financial standing, which includes assets, liabilities, equity, expenses, revenue, and overall profitability (Lassala et al., 2021). It is a comprehensive assessment of a company's financial health, efficiency, and profitability, which is crucial for investors, stakeholders, and management to make informed decisions (Ado et al., 2020). Strong financial performance reflects efficient management, robust revenue streams, and effective cost control, which collectively contribute to the firm's ability to generate sustainable profits (Saif-Alyousfi et al., 2020). This, in turn, attracts investors, providing the firm with greater access to capital for expansion and innovation. Moreover, consistently positive financial results enhance a firm's reputation and credibility in the market, enabling it to negotiate better terms with suppliers, creditors, and other stakeholders (Ramli et al., 2019). For shareholders, superior financial performance translates into higher dividends and capital gains, fostering loyalty and encouraging long-term

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investment (Gallegos Mardones & Ruiz Cuneo, 2020). Furthermore, the financial performance of listed firms significantly influences market indices and overall market sentiment, as these firms are often seen as barometers of economic health (Afolabi et al., 2019).

Recognizing the significance of financial performance in listed companies, governments worldwide, through regulatory authorities, have prioritized measures to uphold high standards of financial performance (Gathara et al. 2019). These efforts entail the implementation of policies and regulations aimed at fostering financial stability, transparency, and accountability (Zelalem, 2020). One pivotal aspect of these initiatives involves enhancing corporate governance practices within organizations by instituting frameworks that promote effective oversight and decision-making (Imeokparia et al., 2021). Security market authorities have made significant efforts to foster financial performance of listed companies. One key initiative is ensuring high-quality audits that provide reliable and accurate financial information to investors and other stakeholders (Chen, 2020). Furthermore, regulatory bodies have implemented measures to promote transparency and accountability, such as requiring listed companies to disclose detailed financial information and maintain robust internal controls (Ameraldo & Ghazali, 2021).

Even though financial performance of listed firms is a crucial indicator of their sustainability and the overall health of the stock market, contributors to financial health are complex and multifaceted. On the theoretical stand, dynamic Capability Theory suggests that firms with the ability to adapt and change in response to their environment are more likely to achieve strong financial performance (Pundziene et al., 2021). This involves the capacity to integrate, build, and reconfigure internal and external competencies to address changing market conditions (Eslami et al., 2021). Integral to this adaptability is the effective management of financial leverage and firm size. Firms that adeptly adjust their financial leverage can optimize their capital structure, balancing risk and return to enhance resilience while, leveraging firm size allows organizations to take advantage of economies of scale and scope, enhancing their responsiveness to market opportunities and threats (Akinyi, 2019).

Open Systems Theory posits that firms are open systems that continuously interact with their environment, and their financial performance is significantly influenced by various external factors (Garavan et al., 2021). Market conditions, including supply and demand dynamics and competitive pressures, directly affect a firm's sales, pricing strategies, and profitability (Garavan et al., 2021). Regulatory environments impose legal and compliance obligations that can alter operational costs and

strategic decisions while interest rates remain significantly relevant in determining a firm's cost of borrowing and capital investment decisions, impacting both short-term financial performance and long-term growth prospects (Chick, 2020). Exchange rates can influence the financial stability of firms that deal in multiple currencies, affecting the valuation of their assets and liabilities (Sukesti et al., 2021).

Despite the significance of financial performance within market practices and theoretical frameworks, the factors influencing it are subject to contradictory perspectives and views. Haider et al. (2018) and Merko and Habili (2023) confirmed a negative relationship between interest rates and financial performance, while Wulandari and Harjito (2021) found that interest rates had no influence on banking profitability measured by return on assets (ROA). Regarding the influence of exchange rates on financial performance, Rizwan et al. (2021) and Mohd and Siddiqui (2020) concluded that exchange rate fluctuations do not exert any influence on financial performance. However, Yeboah and Takacs (2019) and Haider et al. (2018) discovered a significant negative impact of exchange rate fluctuations on financial performance. On the financial leverage and financial performance, Kaluarachchi et al. (2021), Daruwala (2023), Nguyen et al. (2019), and Lomwai and Ndede (2023) revealed unfavorable impact of leverage on financial performance. Conversely, Moridu (2024) observed a constructive influence of leverage on financial performance, and Aloshaibat (2021) highlighted an absence of impact of financial leverage on the financial leverage. Cheong and Hoang (2021), Hung et al. (2021), and Akram et al. (2021) reported a positive influence of firm size on profitability, whereas Azhar and Ahmed (2019) observed a negative relationship between firm size and financial performance. Additionally, Larasati and Purwanto (2022) and Abeyrathna et al. (2019) found that firm size has no considerable impact on the profitability of the firms under analysis.

Despite the inconsistencies observed in existing empirical studies, there remains a noticeable scarcity of research focusing on the market and firm level determinants of financial performance of non-financial firms listed at DSE. The existing body of research on firm performance in Tanzania has predominantly centered around the banking sector while other mix both banks and non-banks institutions. Pastory et al. (2013) examined the relationship between bank performance and capital structure, focusing on ROA. Kipesha and Moshi (2014) analyzed capital adequacy's impact on bank performance across 38 banks. Mwenda et al. (2021) explored financial and non-financial factors affecting firm performance in DSE-listed firms. However, a significant gap exists in the exploration of non-financial firms listed on the DSE and how various market and firm-specific factors influence their financial performance. Therefore, the

current study was conducted to examine the influence of market and firm level determinants of financial performance of non-financial firms listed at DSE.

This paper will be various sections, Section 2 contains the literature review and the development of hypotheses. Section 3 describes the methodology used to collect and analyze data. Section 4 covers the findings and results discussion and Section 5 presents the study's conclusion and recommendations.

## **Literature Review**

Numerous empirical studies have examined the factors that influence a company's financial performance in a variety of nations, with a special emphasis on the effect that financial leverage has on profitability, specifically regarding ROA. In food and beverage firms registered on the Indonesia Stock Exchange, Moridu (2024) found a favorable correlation between ROA and the debt-to-equity ratio (DER), suggesting that greater DER levels are linked to higher profitability in this industry. In a similar vein, Nalarreason et al. (2019) discovered that, for manufacturing companies listed on the same market between 2013 and 2017, leverage shows a beneficial impact on profitability. Financial leverage significantly increased return on assets (ROA) in manufacturing businesses listed on the Ghana Stock Exchange between 2007 and 2015, as validated by Hongli et al. (2019). Additionally, Egbunike and Okerekeoti (2018) found that leverage had a statistically significant beneficial impact on ROA for Nigerian listed manufacturing firms.

In contrast, financial gearing was found to have a detrimental impact on the performance of Sri Lankan manufacturing enterprises by Kaluarachchi et al. (2021), with higher financial leverage being associated with lower profitability. Similar detrimental effects of financial gearing on ROA were discovered by Daruwala (2023) in the worldwide cement sector. Lomwai and Ndede (2023) found that greater debt leverages reduced profitability in Kenyan commercial and services companies listed on the Nairobi Securities Exchange. Nguyen et al. (2019) observed a negative influence of financial leverage on ROA in real estate firms listed on the Vietnam Stock Exchange. Gearing shows a detrimental impact on profitability for industrial companies listed on the Amman Stock Exchange, according to Zaitoun and Alqudah (2020) research. Financial leverage had no effect on ROA, according to several research. Asraf and Desda (2020) discovered no effect of financial leverage on ROA in Indonesian consumer goods companies, and Aloshaibat (2021) reported that financial leverage did not significantly damage the profitability of Jordanian financial enterprises listed on the Amman Stock Market.

Haider et al. (2018) observed that higher interest rates had a negative association with ROE, ROA, and

GPM for vehicle firms in Pakistan. This finding pertained to interest rates and financial performance. On the other hand, Yeboah and Takacs (2019) found that interest rates had a considerable beneficial effect on ROA for businesses engaged in manufacturing and mining. According to Merko and Habili (2023), finance cost has a detrimental effect on ROA in commercial banks in Albania, implying that higher interest rates have a negative effect on profitability. Susan et al. (2022) observed that interest rates have a detrimental impact on the profitability of manufacturing firms in Indonesia.

According to other research, finance costs have no discernible influence of financial gains. Interest rates had no effect on the profitability of Indonesia's state-owned and private banking institutions, according to Wulandari and Harjito (2021). Merko and Habili (2023) concluded that interest rates had no bearing on ROA in Albanian commercial banks, while Egbunike and Okerekeoti (2018) also found no discernible impact of interest rates on ROA for Nigerian manufacturing enterprises.

Yeboah and Takacs (2019) examined how exchange rates affected financial performance and discovered that mining and manufacturing companies had a much lower return on assets (ROA). The performance of commercial banks in Sierra Leone was shown to be adversely affected by fluctuations in exchange rates, as noted by Jackson et al. (2021) and Haider et al. (2018), who also found a negative association between ROA and exchange rates in Pakistani automakers.

However, some research revealed that exchange rates had no appreciable effect on profitability. According to Rizwan et al. (2021), the profitability of Indonesian consumer products manufacturing enterprises was not considerably impacted by exchange rates. Exchange rates had little effect on the profitability of the Pakistani ceramics sector, according to Mohd and Siddiqui (2020). Additionally, Egbunike and Okerekeoti (2018) discovered that exchange rates had no discernible impact on ROA for manufacturing companies in Nigeria. According to Susan et al. (2022) and Yeboah and Takacs (2019), exchange rates had no discernible effect on ROA in the mining and manufacturing sectors of Indonesia respectively.

Numerous research investigations have indicated a strong correlation between the corporation size and its profitability. According to Cheong and Hoang (2021), firm performance in Singapore and Hong Kong was strongly positively correlated with prior profitability, firm size, and leverage. According to Hung et al. (2021), a significant factor influencing performance for Vietnamese private businesses was company size as determined by total assets. In Pakistani enterprises, Akram et al. (2021) likewise discovered a

favourable relationship between firm size and ROA. According to Nguyen and Nguyen (2020), firm size has a favourable effect on ROA for Vietnamese businesses operating in a variety of industries.

Conversely, a negative correlation between firm size and profitability was shown in other investigations. For listed textile companies in Pakistan, Azhar and Ahmed (2019) discovered a negative correlation between company size (as determined by total assets) and ROA. Susan et al. (2022) found that business size has a comparable detrimental impact on profitability for manufacturing firms in Indonesia. According to certain research, firm size has no discernible effect on profitability. According to Larasati and Purwanto (2022), the performance of Indonesian food and beverage enterprises was not considerably impacted by the size of the company. Additionally, Abeyrathna et al. (2019) discovered no discernible relationship between firm size and profitability for Sri Lankan listed manufacturing enterprises.

These inconsistent findings from earlier research led to the development and testing of the following null hypotheses in the study.

*H<sub>1</sub>: There is significant relationship between interest rate and financial performance*

*H<sub>2</sub>: There is significant relationship between foreign exchange rate and financial performance*

*H<sub>3</sub>: There is significant relationship between firm leverage and financial performance*

*H<sub>4</sub>: There is significant relationship between firm size and financial performance*

## **Methodology**

The study was conducted in Tanzania by considering non-financial firms listed at Dar es salaam stock exchange. Population of the study is twenty-eight (28) companies listed in DSE as of June 2022 from which 11 companies (DSE, National Investment Plc, Precision Air, Swissport Tanzania, Tanzania Breweries Limited, Tanga Cement Company Limited, Tol Gase Tanzania Tea Packer Limited, Vodacom Plc, TCCIA Investment Plc and Tanzania Cigarette company limited) were selected with the coverage of five (5) years (2018-2022).

We employed a purposively sampling method to select 11 listed companies out of 28 publicly listed firms in DSE. The selection criteria, as outlined by Mwambuli (2016), guided the process. Initially, all financial-oriented firms, including banks and insurance companies, were excluded as the study focused on non-financial firms only. Additionally, the current study set standard by include other non-financial companies which were excluded by many empirical studies in the context of Tanzania. The study

utilized secondary data extracted from the selected firm’s annual reports over a five-year period from 2018 to 2022 sourced from the DSE and annual reports of specifically chosen companies. Utilizing this secondary data was a strategic choice for several reasons. Firstly, annual reports contain audited financial statements, renowned for their reliability and precision, thereby ensuring the credibility of the study's data and bolstering the validity of its findings. Additionally, these reports serve as a comprehensive repository of vital financial information, shedding light on various aspects of the companies' operations.

The study was guided by independent variable and Dependent variables as indicated by Table 1.

**Table 1 Study Variables Measurements**

Type of Variable	Key Term	Variables	Measurement	References
Independent Variable	Market Determinants	Interest rate	Lending rate	Merko and Habili (2023)
		Foreign Exchange	Annual Official Foreign exchange rate of TZS and USD	Yeboah and Takacs (2019)
	Firm Determinants	Leverage	Total Debt/ Total Assets	Kaluarachchi et al. (2021)
		Firm size	Natural Logarithm of Total Asset	Hung et al. (2021)
Dependent Variables	Financial Performance	Return on Asset	Net Income/Total Assets	Lomwai and Ndede (2023)
Control Variable		Gross Domestic Product	Annual GDP growth rate	Afolabi et al (2019)

The study analyzed data using EViews Software Version 12 and employing a panel regression model. The panel regression model is particularly appropriate for this study due to its ability to handle data that involves multiple entities observed over time. This approach sanction for the examination of both cross-sectional and time-series dimensions, providing a more comprehensive analysis of the variables' impacts. By employing a panel regression model, the study can account for individual heterogeneity, capturing unique characteristics of each firm that might influence financial performance. Additionally, this method improves the efficiency of econometric estimates by leveraging the increased number of data points from combining cross-sectional and time-series data. Furthermore, the panel regression model is effective in controlling for unobserved variables that vary across firms but are constant over time, thereby reducing potential bias in the results. This comprehensive approach ensures that the relationships between leverage, interest rates, GDP, exchange rates, and firm size on financial



performance are accurately captured, making the panel regression model the most suitable choice for the current study. The study panel regression model specified as follows.

$$FP_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 INT_{it} + \beta_3 EXR_{it} + \beta_4 FS_{it} + \beta_5 GDP_{it} + \epsilon_{it}$$

Where:

*FP* represents the Financial Performance

*LEV* represents the Leverage

*INT<sub>i</sub>* represents the Interest Rate

*EXR* represents the Exchange Rate

*FS* represents the Firm Size

*GDP* represents the Gross Domestic Product

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ ; are the coefficients to be estimated.

$\epsilon_{it}$ ; represents the error term for firm.

## Findings and Discussion of Results

We have two parts under this section, firstly the descriptive statistics and secondly the regression results and discussions.

### Descriptive Analysis

The study findings in Table 4.1 indicate the descriptive analysis of the listed companies at DSE. The mean Return on Assets (ROA) of 0.288 indicates that, on average, these companies are generating a return of 28.8% on their total assets, which is a positive indicator of operational efficiency and profitability. The maximum ROA of 3.446 suggests that some companies are exceptionally profitable, while the minimum ROA of -0.279 indicates that some firms are experiencing losses, highlighting a disparity in financial performance across the market. This disparity is not a good sign for listed companies regarding wealth creation and investor confidence, as it underscores the inconsistency in financial health and profitability. This observation is consistent with the study of Nguyen and Nguyen (2020), which confirmed similar disparities in financial performance among firms.

Leverage, with a mean of 0.871, shows that on average, the firms rely on debt for 87.1% of their capital structure. This moderate level of leverage suggests that while debt is a significant part of their financing strategy, it is not excessively high, which is generally good for financial stability. The maximum leverage of 8.009 indicates that some companies are highly leveraged, which could pose financial risks, while the minimum leverage of 0.012 shows that some firms have minimal debt, reflecting a

conservative approach to financing. This is a good sign since not all companies are highly leveraged, but the extremes may erode investor confidence and elevate bankruptcy risks. This observation is consistent with the study of Zimny (2021), which confirmed similar patterns in corporate leverage and associated risks.

The interest rate has the mean of 16.962% suggests that borrowing costs are relatively high, which could impact the firms' profitability by increasing their financial expenses. The narrow range between the maximum interest rate of 17.860% and the minimum of 16.410% indicates a relatively stable interest rate environment. In conclusion, while the stability of the interest rates is a positive sign of an efficient banking system, the overall high borrowing costs may pose challenges for firms, potentially hindering their financial performance and growth. This observation is consistent with the study of Mbowe et al. (2020), which also highlighted the detrimental effects of high interest rates on corporate profitability and growth prospects.

The exchange rate has a mean of 2305.376, reflects the local currency's value against a benchmark currency of USD. The small range between the maximum of 2332.000 and the minimum of 2277.000 indicates a relatively stable exchange rate environment, which reduces the exchange rate risk for these companies. Such stability is advantageous as it leads to predictable asset values, allowing firms to plan and budget more effectively. Additionally, a stable exchange rate boosts confidence among cross-border investors by providing assurance against potential currency volatility. This positive environment for financial stability and investor confidence is consistent with the findings of Yeboah and Takacs (2019), who highlighted the benefits of exchange rate stability on profitability and investor sentiment.

The firm size as measured by total assets, exhibits significant variability with the mean of TZS 447,650.3 million, indicating that on average, these companies hold substantial assets. However, the disparity between the maximum and minimum values is striking, with the largest firm having assets worth TZS 1,122,701 million and the smallest firm having only TZS 17,827 million in assets. This wide range highlights a considerable variation in firm sizes, reflecting a diverse market where a few very large firms dominate, but smaller firms also play a significant role. The significant variability in firm sizes on the DSE underscores the market's diversity, offering opportunities for growth and investment variety. However, this diversity also presents challenges, such as potential market dominance by a few large firms, which can skew competition and influence market dynamics. Additionally, smaller firms may face resource allocation issues, struggling to compete with their larger counterparts. This observation is

consistent with the study of Isik et al. (2017), which also identified that the implications of varying firm sizes can lead to losses for some listed companies due to the dominance of a few large firms.

The GDP growth rate, with a mean of 4.435, indicates a generally positive economic environment over the observed period. The maximum value of 5.800 reflects periods of robust economic growth, highlighting times when the economy expanded significantly and businesses likely thrived. Conversely, the minimum value of 1.992 suggests periods of significantly lower economic performance, pointing to times of economic challenges and slower growth. This range illustrates that while the economy experienced strong growth phases, it also faced substantial slowdowns. Overall, this trend is favorable, as the economy tends to skew towards positive growth. This observation is consistent with the study of Ardyansyah (2021), which indicates a stable macroeconomic environment that supports firm performance and encourages business stability and growth.

**Table 2 Descriptive Analysis Results**

	ROA	Leverage	Interest	GDP	Exchange Rate	Firm Size (Millions)
Mean	0.288	0.871	16.962	4.435	2305.376	96,478
Median	0.038	0.413	16.800	4.558	2307.000	1,127,48
Maximum	3.446	8.009	17.860	5.800	2332.000	2,395,889
Minimum	-0.279	0.012	16.410	1.992	2277.000	20,392
Std. Dev.	0.834	1.514	0.515	1.354	17.775	0.745804
Skewness	2.988	3.344	0.769	-0.896	-0.145	0.0730
Kurtosis	10.384	14.058	2.254	2.493	2.393	6.174
Jarque-Bera	206.817	382.717	6.698	7.944	1.037	2.48
Probability	0.475	0.185	0.351	0.019	0.595	0.457
Sum	15.813	47.880	932.910	243.915	126795.700	610.714
Sum Sq. Dev.	37.525	123.707	14.301	98.996	17060.550	21.769
Observations	55	55	55	55	55	55

### Regression Model Analysis

The study adopted random effect panel regression model given the results of Housman. The regression results, detailed in Table 3 Indicates an R-squared value of 0.876, implying that 87.6% of the variance in the financial performance of the firms, as measured by the dependent variable, is explained by the independent variables included in the model. This high R-squared value suggests that the model has strong explanatory power and that the selected market and firm-specific factors are significantly associated with financial performance. Furthermore, the adjusted R-squared value of 0.863, adjusts for

the number of predictors in the model, corroborates this finding by indicating that 86.3% of the variance is still explained after accounting for the number of variables. This demonstrates the robustness of the model and the relevance of the variables chosen for the study. The standard error of regression (SE) 0.512 which confirm true representation of the sample. Additionally, the significant F-statistic value of 69.398, with a probability of 0.000, confirms the overall validity of the model, indicating that the independent variables collectively have a statistically significant effect on the dependent variable.

**Table 3 Random Effect Regression Results**

Variable	Coefficient	Std. Error	<i>t-Statistic</i>	Prob.
Leverage	-0.030	0.006	-5.181	0.000
Firm Size	0.311	0.077	4.020	0.000
Interest Rate	0.074	0.020	3.722	0.000
Exchange Rate	0.147	0.741	0.199	0.422
Gross Domestic Product	0.189	0.072	2.625	0.000
C	-5.466	0.657	-8.315	0.001
Weighted Statistics				
R-squared	0.876	Mean dependent var	5.997	
Adjusted R-squared	0.863	S.D. dependent var	1.389	
S.E. of regression	0.512	Sum squared resid	12.893	
F-statistic	69.398	Durbin-Watson stat	1.997	
Prob(F-statistic)	0.000			

The study's results, which are presented in Table 3, show that interest rates have a positive statistically significant impact on the financial performance of non-financial firms listed at the DSE (B = 0.07, P-value<0.05). This influence is examined with regard to the non-financial firms listed at the DSE. This suggests that a 7% increase in the non-financial firms listed at the DSE's financial performance corresponds with a 1% increase in interest rates as assessed by lending rates. This is explained by Tanzania's manageable loan rate environment, which is a crucial component that allows listed companies to leverage borrowing for calculated investments and so improves their financial performance. As long as financing rates stay within reasonable parameters, these businesses can take advantage of investment possibilities and profit from favourable outcomes. This conducive lending environment promotes investment in profitable assets as well as business innovation and expansion, all of which add to improved financial success. Furthermore, loan rates' consistency and predictability foster an environment where businesses may carefully plan and carry out long-term investment initiatives, thereby strengthening their financial position.

In contrast to the current study, Haider et al. (2018) and Merko and Habili (2023) affirmed there's a negative relationship between interest rates and ROA. Similarly, contradicting the findings of this study, Wulandari and Harjito (2021) confirmed that interest rates had no influence on banking profitability measured by return on assets (ROA). The current study's findings, indicating a positive and statistically significant influence of interest rates on the financial performance of non-financial firms listed at the DSE, align well with the principles of the Open System Theory. According to this theory, organizations are viewed as open systems that interact with their environment, including economic factors such as interest rates. In an open system perspective, changes in external factors, like interest rates, are expected to impact the organization's performance. The observed positive influence of interest rates on financial performance suggests that firms operating within a manageable lending rate environment can effectively leverage borrowing for strategic investments, thereby enhancing their financial performance. This outcome underscores the notion that organizations adapt to and interact with their external environment, utilizing available resources and responding to stimuli such as interest rate fluctuations to optimize their performance and achieve their objectives. Therefore, the study concludes that interest rate has a positive influence on the non-financial firms listed at DSE.

Furthermore, Table 3 shows that the foreign exchange rate has a positive statistically insignificant influence on the financial performance of the non-financial firms listed at DSE ( $B = 14.$ ,  $P\text{-value} > 0.05$ ). This influence was examined in order to determine how the foreign exchange rate affected the financial performance of the non-financial firms listed at DSE. This suggests that the financial performance of the non-financial companies listed on the DSE is unaffected by a percentage increase in the foreign exchange rate. This could be the result of a number of things, including the fact that the companies may have put in place efficient hedging techniques to lessen the impact of foreign exchange swings and so offset any possible negative effects on financial performance. Rizwan et al. (2021) and Mohd and Siddiqui (2020) came to the same conclusion as the current study—that exchange rate variations have no effect on ROA. Conversely, Haider et al. (2018) and Yeboah and Takacs (2019) found a considerable negative influence of exchange rate changes on ROA, which is in contradiction to the findings of this study.

The results of this study appear to deviate from the Open System Theory in that they indicate that changes in foreign exchange rates have no appreciable impact on the financial performance of non-financial companies listed at the DSE. This idea holds that organisations are seen as open systems that

engage with their surroundings, including financial elements like exchange rates. Changes in external elements, such as foreign currency rates, are anticipated to have an impact on the functioning of the organisation from an open system perspective. The study's found lack of significant influence, however, might indicate that other internal or external factors—like market dynamics or successful hedging strategies are offsetting the expected effects of swings in foreign exchange rates on financial performance. This disparity emphasizes how intricate and multidimensional organizational dynamics are, and how many elements interact to generate outcomes that occasionally deviate from theoretical assumptions. The study concludes, therefore, that the foreign currency rate has no bearing on the non-financial companies listed on the DSE.

Table 3 also presents the study's findings regarding the impact of leverage on the financial performance of non-financial firms listed at the DSE. The results show that leverage has a statistically significant negative influence on the financial performance of the non-financial firms listed at the DSE ( $B = -0.03$ ,  $P\text{-value} < 0.05$ ). This suggests that for every 1% rise in leverage, the non-financial companies listed on the DSE will see a 3% decline in their financial performance. Leverage has expenses that reduce the financial performance of non-bank and non-financial companies listed on the DSE, which explains why. Increased leverage usually results in higher interest costs since companies have to spend more money paying down their debt, which lowers profitability. Furthermore, high levels of leverage increase financial risk, making businesses more vulnerable to downturns in the economy as well as changes in interest rates or currency rates. This elevated risk profile could raise investor concerns, which could result in increased borrowing costs and a decline in market confidence. Excessive leverage can also reduce a company's financial flexibility, making it harder for them to take advantage of development opportunities or weather challenging market conditions. Moreover, a high level of debt might be a symptom of financial instability, which could damage investor confidence and restrict access to funding. The results of this investigation are consistent with those of studies by Lomwai and Ndede (2023), Nguyen et al. (2019), Kaluarachchi et al. (2021), and Daruwala (2023), all of which showed that debt leverage had a negative impact on financial performance. In contrast to the findings of this investigation, Moridu (2024) found that leverage had a positive impact on return on assets. Furthermore, Aloshaibat (2021) observed no influence of financial leverage on ROA, which is in contradiction to the current study.

The results of this study, which show that leverage has a negative and statistically significant impact on the financial performance of non-financial companies listed on the DSE, are consistent with the ideas of

dynamic capability theory. In this view, maintaining a competitive edge depends on a firm's capacity for innovation and adaptation in the face of changing surroundings. Higher debt levels in the context of leverage might limit a company's capacity to react quickly to changes in the market and take advantage of new possibilities. Given the shown detrimental effect of leverage on financial performance, companies with more debt financing may find it difficult to reallocate resources, make innovative investments, or react to changes in the market. Moreover, high levels of leverage raise financial risk and may make it more difficult for businesses to adjust quickly to changing market conditions. As a result, the study concludes that firm leverage hurts non-financial companies listed on the DSE.

Moreover, in Table 3, firm size shows a positive statistically significant impact on the financial performance of non-financial firms listed at the DSE ( $B = 0.31$ ,  $P\text{-value} < 0.05$ ). This suggests that the size of the firm influences the financial performance of the non-financial firms listed at the DSE. This suggests that for every 1% rise in business size, the financial performance of non-financial firms listed on the DSE increases by 30%. There are a number of underlying reasons for the observed positive relationship between firm size and the financial success of non-financial companies listed on the DSE. First off, a rise in asset size is probably correlated with a business size increase. This increase in assets could be a sign of better economies of scale, which would enable the business to increase profitability by distributing its fixed expenses over a wider range of revenue. Furthermore, larger businesses frequently have a higher level of credibility and market recognition, which can boost investor confidence and provide them access to financing on more advantageous conditions. Larger businesses are able to spend in market expansion, R&D, and strategic initiatives thanks to this access to cash, all of which have the potential to eventually improve their financial performance. Larger businesses may also win from having more negotiating power with clients and suppliers, which will allow them to get better terms and cheaper input prices. This cost advantage can improve overall financial performance and profitability even further. Moreover, larger companies typically have a wider range of revenue sources and business ventures, which lessens their vulnerability to hazards related to certain product or market niches. Increased resilience and stability are brought about by this diversification, especially in times of economic turbulence or industry-specific difficulties. The results of this investigation are consistent with studies by Cheong and Hoang (2021), Hung et al. (2021), and Akram et al. (2021), all of which found that business size increases profitability. In contrast to the findings of this investigation, Azhar and Ahmed (2019) found a substantial and negative correlation between ROA and business size. Furthermore, the present study is contradicted by findings from Larasati and Purwanto (2022) and

Abeyrathna et al. (2019), which indicate that business size does not significantly affect the profitability of the enterprises that are the subject of the investigation.

The present investigation's results, which demonstrate that the size of the firm has a positive and statistically significant impact on the financial performance of non-financial enterprises listed at the DSE, are consistent with the tenets of Dynamic Capability Theory. This hypothesis states that larger businesses typically have more resources and abilities to take advantage of new possibilities and adjust to shifting market conditions. The correlation between firm's size and financial performance has been discovered to be positive. This shows that larger firms may possess better dynamic capabilities, which enables them to take advantage of their size advantage and increase profitability and market competitiveness. Furthermore, larger businesses are in a better position to finance strategic projects, R&D, and market expansion—all crucial elements of dynamic capacities. Furthermore, larger companies' increased reputation and market recognition make it easier for them to obtain financing on advantageous conditions, allowing them to make more investments in expansion and innovation. Consequently, the study concludes that the size of firm positively affects the non-financial companies listed on the DSE.

### **Robustness Test**

To establish the robustness of the original model results, the study conducted robust tests by examining how changes in the input parameters or assumptions affect the study's outcomes. To achieve this, the study replaced the parameter of financial performance from ROA to ROE. The robust test model specified as follows;

$$FP_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 INT_{it} + \beta_3 EXR_{it} + \beta_4 FS_{it} + \beta_5 GDP_{it} + \epsilon_{it}$$

Where:

*FP* represents the Financial Performance represented by ROE

*LEV* represents the Leverage

*INT* represents the Interest Rate

*EXR* represents the Exchange Rate

*FS* represents the Firm Size

*GDP* represents the Gross Domestic Product

*;* represents the error term

The outcome presented in Table 4 indicates consistent results, with all variables exhibiting similar outcomes despite being slightly lower than those in the original model. Therefore, it can be concluded



that the random effects model is appropriate for providing reliable results on the effect of market and firm-level determinants on the financial performance of non-financial firms listed on the DSE.

**Table 4 Robust Test Results**

Variable	Coefficient	Std. Error	<i>t-Statistic</i>	Prob.
Leverage	-0.076	0.044	-1.730	0.000
Firm Size	0.122	0.010	12.063	0.006
Exchange Rate	0.066	0.915	0.072	0.478
Gross Domestic Product	0.129	0.012	10.750	0.000
Interest	0.061	0.026	2.365	0.022
C	10.657	2.227	4.785	0.000
Weighted Statistics				
R-squared	0.859	Mean dependent var		4.618
Adjusted R-squared	0.844	S.D. dependent var		0.830
S.E. of regression	0.327	Sum squared resid		5.248
F-statistic	59.822	Durbin-Watson stat		1.240
Prob(F-statistic)	0.000			

### Conclusions, Implications and Recommendations

The review comprehensively examined the impact of market and firm-level determinants on the financial performance of non-financial firms listed on the DSE over a five-year period from 2018 to 2022. Utilizing a random effects panel regression model and robust testing through the E-View software, the findings reveal that interest rates and firm size positively influence financial performance, whereas leverage has a negative impact. Conversely, the foreign exchange rate was found to have no significant effect. The robustness of these results was confirmed by substituting the financial performance metric from ROA to ROE, yielding consistent outcomes. Thus, the study concludes that both market and firm-specific factors, particularly interest rates, leverage, and firm size, play significant roles in shaping the financial performance of non-financial firms on the DSE, and the random effects model proves to be a reliable analytical approach for this context. The study's findings have significant practical implications for listed companies, investors, the Bank of Tanzania (BOT), and the Capital Markets and Securities Authority (CMSA). The positive influence of interest rates on financial performance suggests that companies should closely monitor and manage interest rate exposure, while investors can use this insight to make informed investment decisions during periods of fluctuating interest rates. The finding that foreign exchange rates have no significant influence underscores the importance of hedging strategies for companies exposed to foreign exchange risk and indicates that investors should consider a company's exposure to such risks. The negative impact of leverage highlights the necessity for prudent capital

structure management, urging companies to balance growth opportunities with financial stability. Regulators should promote transparency and disclosure regarding leverage levels to aid informed decision-making and enhance market stability.

The study's findings suggest several policy implications for listed companies, the BOT, and the CMSA. The positive impact of interest rates on financial performance indicates that maintaining a stable and conducive interest rate environment is beneficial, implying that the BOT should focus on implementing monetary policies that encourage borrowing and investment among firms, fostering economic growth. The insignificance of foreign exchange rates suggests that current policies may effectively mitigate potential negative impacts, highlighting the importance of supporting mechanisms that help firms manage foreign exchange exposures. The negative effect of leverage emphasizes the need for prudent debt management policies, suggesting that the CMSA should implement stricter guidelines on corporate borrowing and enhance oversight to ensure companies maintain healthy debt levels, thereby protecting financial stability. The study's findings have important theoretical implications, particularly in relation to Open Systems Theory and Dynamic Capability Theory. The positive influence of interest rates on financial performance supports Open Systems Theory by demonstrating that external economic variables significantly impact firm performance, suggesting that Tanzanian non-financial firms are responsive to changes in the interest rate environment. However, the lack of significant influence of foreign exchange rates challenges the comprehensive applicability of the theory, indicating that these firms may have effective hedging strategies or limited exposure to foreign exchange risks. Additionally, the negative influence of leverage and the positive influence of firm size align with Dynamic Capability Theory, highlighting that high levels of debt can constrain a firm's flexibility and dynamic capabilities, while larger firms are better positioned to leverage their resources and adapt to market changes effectively.

Based on the findings of this research, the following recommendations are tailored to investors, listed companies, BOT and capital market and security authorities: Based on the study findings, the non-financial firms listed at the DSE: firstly, considering that leverage has a negative influence on financial performance, listed companies should reduce their reliance on debt. High leverage increases financial risks and interest expenses, thereby diminishing profitability. Firms should explore alternative financing options such as equity financing or reinvesting profits to fund operations and growth. Additionally, implementing stringent debt management practices and improving operational efficiencies can help mitigate the adverse effects of high leverage. Although the study found that foreign exchange rate

fluctuations have no significant influence on financial performance, firms should continue to employ effective hedging strategies to protect against potential future volatility, ensuring they remain resilient to unforeseen market fluctuations. Secondly, the positive influence of interest rates on financial performance suggests that listed firms should strategically leverage the favorable lending rate environment in Tanzania. Companies should take advantage of manageable interest rates to secure funding for strategic investments that can drive growth and enhance profitability. Careful planning and monitoring of interest rate trends will enable firms to optimize their borrowing costs and capitalize on investment opportunities effectively. Additionally, the positive impact of firm size on financial performance highlights the importance of growth and scalability. Listed companies should focus on expanding their asset base and increasing their market presence through mergers and acquisitions, diversification of revenue streams, and investment in innovation and technology. By leveraging economies of scale, firms can enhance their profitability and competitive advantage in the market.

Based on the study findings, the following recommendations are made for the BOT and the CMSA: Firstly, given the negative influence of leverage on the financial performance of non-financial firms listed at the DSE, it is crucial for the BOT and CMSA to implement regulations that encourage prudent borrowing practices. This could include setting stricter leverage limits for listed firms and promoting transparency in financial reporting. By ensuring that firms maintain manageable debt levels, these regulatory bodies can help mitigate financial risks and enhance overall market stability. Additionally, even though the foreign exchange rate was found to have no significant impact on financial performance, it remains important for the BOT to monitor exchange rate fluctuations and support firms in adopting effective hedging strategies to safeguard against potential future volatility. Secondly, the positive influence of interest rates and firm size on financial performance highlights the need for policies that foster a favorable lending environment and support the growth of firms. The BOT should continue to ensure that lending rates remain within manageable bounds, facilitating access to affordable credit for firms to invest in strategic initiatives. The CMSA can support this by encouraging investment in larger firms through initiatives that boost market confidence and attract more investors. Additionally, both bodies should work together to create a conducive environment for firm expansion, such as through incentives for mergers and acquisitions or support for infrastructure development, thereby enabling firms to achieve economies of scale and enhance their financial performance.

Based on the study findings, the following recommendations are made for investors considering non-financial firms listed at the DSE: Firstly, given the negative influence of leverage on financial

performance, investors should be cautious of firms with high debt levels. High leverage increases financial risks and reduces profitability due to higher interest expenses. Investors should prioritize firms with lower leverage ratios, indicating better debt management and financial stability. Additionally, even though the study found that foreign exchange rate fluctuations have no significant impact on financial performance, investors should still consider firms that employ effective hedging strategies to mitigate potential future risks from currency fluctuations, ensuring long-term resilience. Secondly, the positive influence of interest rates on financial performance suggests that investors should seek out firms that effectively leverage the favorable lending environment. Firms that can secure funding at favorable interest rates and utilize it for strategic investments are likely to demonstrate enhanced profitability and growth. Furthermore, the positive impact of firm size on financial performance indicates that larger firms tend to perform better. Investors should consider investing in larger firms with significant assets and market presence, as they are likely to benefit from economies of scale, greater market credibility, and diversified revenue streams, all contributing to more stable and robust financial performance.

Despite its valuable insights, the current study has several limitations that should be acknowledged. One primary limitation is the use of only a few market determinants (interest rate and foreign exchange rate) and firm-specific factors (firm size and leverage) to assess their influence on the financial performance of non-financial firms listed on the DSE. This restricted focus may overlook other critical determinants that could significantly impact financial performance. Additionally, while GDP was included as a control variable, other relevant macroeconomic factors were not considered. Nevertheless, it is crucial to acknowledge that despite the constraints, the findings of the current study can still be generalized. This is because the study covers a relatively recent period (2018 to 2022) and includes a sample of companies that are representative of the non-financial firms listed on the DSE. The selection of factors was also guided by empirical studies from emerging markets that share similarities with Tanzania, thereby enhancing the relevance and applicability of the results. For future research, it is recommended to include a broader range of market and firm-specific factors to provide a more comprehensive analysis. Additional factors such as government effective, control of corruption, political stability, regulatory environment, technological advancements, market competition, and corporate governance practices should be considered.

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