CAPITAL STRUCTURE AND FIRM PERFORMANCE: A STRATEGIC INSIGHT INTO THE ROLE OF DIRECTOR REMUNERATION IN THE EMERGING ECONOMY

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Abstract

This study examines the role of directors' remuneration on the capital structure and performance of manufacturing companies listed on the Indonesia Stock Exchange (IDX). The Indonesian manufacturing industry is one of the pillars of state revenue, but in recent years, it has experienced a delay in performance (IDX, n.d.). This study aims to explore the role of directors' remuneration in the relationship between capital structure and company performance. This data covers 952 manufacturing companies listed in Indonesia during the period 2015–2020. Moderation regression analysis is used to test data from company websites and annual reports. This study generally provides evidence that capital structure has a negative effect on company performance. In addition, directors' remuneration can weaken the relationship between short-term debt (STD) and total debt (TTD) on company performance but is unable to moderate long-term debt (LTD). High remuneration motivates directors to make the best decisions for the company. This study provides important implications for companies in making debt decisions and provides input for companies in considering management incentives for decision-makers. To the best of our knowledge, this is the first study to examine the moderating role of directors' remuneration on the relationship between capital structure and company performance.

Keywords: Capital Structure, Firm Performance, Remuneration

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1. INTRODUCTION

Currently, many businesses are struggling to maintain optimal firm performance (Memarista & Gestanti, 2018). It cannot be denied that crises are something to worry about in the business world, as in 2007, there was financial turmoil in the USA, which was triggered by subprime mortgages (Duca,

2013). This is not desirable in every country. However, in Indonesia itself, there are also financial problems in the manufacturing industry, which show performance delays (Paschalia & Judith, 2023). This is based on Adharsyah (2019), which shows that there is still a weak gross domestic product (GDP) trend in the second quarter of 2019, namely only 19.52%. Indonesia Stock Exchange (IDX) statistics data also shows that the return on assets (ROA) of manufacturing companies from 2015 to 2016 decreased, while from 2016 to 2017 it rose drastically, then fell in 2018 before rising in 2019 and falling again sharply in 2020.

Based on IDX (n.d.), it is known that the debt-to-equity ratio (DER) tends to increase from year to year, which means that the debt level of manufacturing companies tends to increase every year. However, there is a trend that tends to decrease naturally by ROA. The purpose of increasing debt is to increase performance.

One way to significantly improve firm performance is by formulating an optimal combination of equity and debt (Ahmed & Afza, 2019). Capital structure is one of the most important factors in a company's decisions (Wulandari & Setiawan, 2020). Debt and equity are substitutes for financing and have broad implications (Muslim et al., 2022).

Effective capital structure decisions will result in low capital costs and vice versa. This policy is built for selecting funding sources so that they are in line with firm goals (Mangondu & Diantimala, 2016). Research literature proves that there are inconsistent results on the relationship between capital structure and firm performance. Research conducted by Ayaz et al. (2021) proves that there is a positive relationship between capital structure and firm performance. This could be because management is efficiently able to allocate funds for profitable investments. However, previous research by Das et al. (2021) proves that capital structure has a negative impact on firm performance, possibly because the firm uses debt beyond the threshold. Meanwhile, other research by Vieira (2017) proves that capital structure has no impact on firm performance.

To increase consistency, the authors added a moderating variable for director remuneration. Scholtz and Smit (2012) prove that firm performance is also influenced by executive remuneration. The existence of effective remuneration is expected to encourage senior employees to maximize their performance and the firm's performance (Harymawan et al., 2020). A good level of remuneration is a big factor for directors to carry out their duties optimally (Talha et al., 2009).

Probohudono et al. (2016) stated that the average remuneration of Indonesian directors is still below that of Malaysia and Singapore. However, directors are likely more responsible for their policies and activities than for the interests of shareholders (Fasoulas et al., 2024; Salin et al., 2024; Svartefoss & Klitkou, 2024). Companies need an optimal board role in managing and supervising operational activities, so that the amount of remuneration is important (Puspasari & Sujana, 2021). Apart from that, the board system that applies in Indonesia is a two-tier system, namely, there is a separation of roles between the board of commissioners as supervisors and the directors as executors. This is different from countries such as Singapore and Malaysia, with a one-tier system where the board of commissioners and directors have combined roles (Probohudono et al., 2016). The director's remuneration referred to in this research is a one-tier system. This research is important considering that the level of director remuneration in Indonesia in 2011–2013 still looks lower compared to Southeast Asian countries such as Singapore and Malaysia. Attractive remuneration can encourage directors to use their abilities optimally in management to achieve company targets (Razali et al., 2018).

In addition, director compensation contributes to increasing the value of the corporate entity. Therefore, appropriate remuneration is a motivation for directors in determining optimal capital structure decisions and can later improve performance. Although there are several factors that determine the selection of the right capital structure, such as growth opportunities, interest rates, and asset forms. However, the author believes that remuneration is the main thing to increase director loyalty and motivate them to achieve goals well. On the other hand, there are supporting factors for improving the quality of directors, ranging from director characteristics and director independence to gender.

Research literature explores the direct impact of capital structure on performance. However, no research has been found on the role of remuneration in looking at the relationship between capital structure and company performance. Based on this, this study attempts to solve the problem by exploring the following questions:

RQ1: Does capital structure affect company performance?

RQ2: Does remuneration play a role in capital structure on company performance?

This study contributes to filling this gap by selecting a sample of Indonesian manufacturing companies for the period 2015–2020 to examine the direction of remuneration in capital structure on company performance. Secondary data is used in this study, the data source is the annual report of companies listed on the IDX. The findings prove that capital structure has a negative relationship with company performance. Meanwhile, from another perspective, the existence of remuneration direction adds a negative influence of capital structure on company performance.

The paper is structured as follows. The literature review and establishment of the hypotheses are provided in Section 2. The research methodology is explained in Section 3. The results of the study are discussed in Section 4. The discussion of the findings is discussed in Section 5. The conclusion is outlined in Section 6.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Academic researchers and corporate managers have endeavoured to formulate an optimal capital structure; however, there is no universal and comprehensive understanding of this concept and its dynamics. However, it is seen that the notion of a firm-level optimal capital structure is a mirage due to the ever-changing business and firm-specific environment (Hundal & Eskola, 2020). Capital structure optimization is a very important and complex area in corporate financial management, as the success of a firm's performance, survival, and future ability to survive depend on financing decisions (Kontus et al., 2023). Regardless of

the industry, as the business grows, the need for capital also increases, so funds are needed that can come from any of these sources (debt, equity, or a combination of both). Sources of funds should be considered on a cost-benefit basis. The source of funds preferred by an organization should generate more profits for the company than other sources of funds (Mudany et al., 2020).

In addition, issues in the financial and accounting literature emerged starting from the work of Modigliani and Miller (1958) relating to capital structure theory and its relationship to company value and performance (El-Sayed Ebaid, 2009). Modigliani and Miller (1958) stated that the market value of each firm does not depend on its capital structure. This is different from the agency theory of Jensen and Meckling (1976), which states that there is an influence of capital structure on firm value. There is a conflict of interest between shareholders (principals) and management (agents), where agents are expected to make optimal decisions from the principal's point of view, which will have an impact on a firm's profits and can affect firm value. Myers (1984) The optimal debt ratio is presented in trade-off theory, where debt optimization is determined by the trade-off between the benefits and costs of borrowing, asset ownership, and company investment planning. Myers' (1984) packing order theory states that companies prefer internal funding. If external finance is necessary, the firm issues the safest securities first.

The development of another study, by Ayaz et al. (2021), shows that there is a positive relationship between capital structure and firm performance. Another study conducted by Elnahass et al. (2022) proves that the presence of remuneration can improve firm performance. According to Ahmed et al. (2020), providing remuneration plays an important role in motivating directors to improve firm performance. Razali et al. (2018) stated that the presence of high remuneration can encourage directors to manage the firm optimally with the abilities they have.

On the other hand, some studies prove a significant negative relationship between capital structure and firm performance, for example, Ahmed and Afza (2019). Otekunrin et al. (2020) state that an inappropriate combination of debt and equity in financing methods has a negative impact on performance. According to Sadeghian et al. (2012), if a firm's assets only come from debt without paying attention to its size, its performance will not increase substantially. According to Das et al. (2021) when having debt, the firm must bear interest obligations periodically. These liabilities reduce the firm's marginal returns because of the fixed costs of leverage. According to Foong and Idris (2012), high leverage implies higher firm risk. If a product segment is excessively high risk, then its performance is negatively affected.

2.1. Capital structure and firm performance

One of the keys to financial strategy is determining and utilizing appropriate capital (Velnampy & Niresh, 2012). Funding decisions in the form of capital structure have a major influence on company performance (Nazir et al., 2021). The most effective type of debt in the capital structure starts with long-term debt (LTD), followed by short-term debt (STD), and then convertible debt (Chang et al., 2009). Each company certainly has different choices and proportions in determining capital structure (Dawar, 2014). High debt increases the risk of bankruptcy or default (Bon & Hartoko, 2022). Increasing debt capital has the consequence that the company must have a larger amount of its own capital reserves in order to cover the debt (Nihayah & Aryani, 2022).

A previous study by Campbell and Mínguez-Vera (2008) states that leverage is negatively related to firm performance because high levels of debt can imply greater control over insiders by creditors, but can also be associated with higher bankruptcy costs. High leverage can increase shortages by reducing product quality (Matsa, 2011). Excessive debt levels can burden debt costs and can lead to poor finances (Chen, 2020). Previous research by Das et al. (2021) shows that capital structure has a negative impact on firm performance. Based on this literature, this research developed the following hypothesis:

H1: Capital structure hurts firm performance.

2.2. Capital structure, remuneration, and firm performance

Manufacturing companies usually choose debt financing. Management has a key role in this matter so that capital structure decisions can be correct and a balance of equity and debt is created (Nazir et al., 2021). Managers determine capital structure policies in a way that can increase firm profitability (Ayaz et al., 2021). Apart from that, leverage also plays an important role in optimal company operations (Goel et al., 2015).

Corporate governance has become an international issue due to the globalization of business. Corporate governance is the way management runs a business and is measured by firm performance (Vu et al., 2018). Control of director remuneration is a reflection of good and healthy governance (Nahar Abdullah, 2006). Directors will usually try to maximize growth to maximize firm value (Padia & Callaghan, 2021). Better remuneration can motivate executives and managers to produce higher performance (Harymawan et al., 2020).

According to Aggarwal and Ghosh (2015), remuneration has a positive effect on performance. Meanwhile, research results (Aslam et al., 2019) show that remuneration has a positive effect on performance. Directors make more efforts to achieve the firm's operational goals and objectives if they have been provided with sufficient incentives. Director rewards also improve the quality of supervision and advisory giving. The company generates extraordinary profits with commensurate payments to directors (Rampling, 2011).

H2: Board of directors remuneration weakens the influence of capital structure on firm performance.

3. METHODOLOGY

This study aims to examine the moderating role of director remuneration on the relationship between capital structure and performance by selecting manufacturing companies listed in Indonesia. Manufacturing companies were selected considering the gap where the DER level tends to increase from year to year. However, ROA performance tends to decline. The gap occurred in the period 2015–2020, which made that year the research period. On the other hand, manufacturing companies were selected because they are companies with high

operational levels, and their activities require high funding so that various types of capital can occur in manufacturing companies. The number of research samples was 952 companies with 1,023 company observations. Financial data was obtained from the company's annual report. In addition, the IDX also publishes financial data of listed companies. So both sources can be used in data collection. The data analysis technique used in this study is moderated regression analysis, using unbalanced panel data and selecting ordinary least squares to find out how the picture of the influence of capital structure and company performance: the role of director remuneration. Data analysis was carried out four times as a description of separate tests between independent variables. In addition, this study provides additional tests on the dependent variable using the return on sales (*ROS*) proxy as a robustness test.

3.1. Empirical model

This research uses panel data. The analysis techniques used include descriptive statistical analysis and building relationships between variables. Building relationships between variables using moderated regression analysis using the STATA 14.2 test tool using the equation as follows:

$$Perform_{i,t} = \beta_0 + \beta_1 LEV_{i,t} + \beta_2 REM_{i,t} + \beta_3 LEV * REM_{i,t} + \beta_4 COVID_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 AGE_{i,t} + \beta_7 GROW_{i,t} + \beta_8 LIQ_{i,t} + \beta_9 INV_{i,t} + \varepsilon_{i,t} \quad (1)$$

where, *Perform* is the firm's performance, *LEV* is the capital structure (*STD*, *LTD*, total debt [*TTD*]), the *REM* is the director's remuneration, and the control variable *COVID* is the year COVID-19, *SIZE*, *AGE*, growth (*GROW*), liquidity (*LIQ*), and investment (*INV*).

3.2. Research variables

The compiling this study, the authors use the measurements presented in Table 2, which presents details of the measurement variables, including operational definitions, measurements, and references. This table is expected to provide clear information about the dependent (*ROA*), independent (*STD*, *LTD,* and *TTD*), moderator (*REM*), and control (*COVID*, *SIZE*, *AGE, GROW*, *LIQ,* and *INV*) variables.

Table 1. Operational variables and measurements

Variable	*Measurement*	*Reference*
ROA	Profit after interest and taxes on total assets	Le and Phan (2017)
ROS	Profit after tax on sales	Nguyen and Nguyen (2020)
STD	Short-term debt to total assets	Salim and Yadav (2012)
LTD	Long-term debt to total assets	
TTD	Total debt to total assets	El-Sayed Ebaid (2009)
REM	Natural log of total director remuneration	Nahar Abdullah (2006)
COVID	1 if in the year of COVID-19 and 0 if not in the year of COVID-19	Hwang et al. (2021)
SIZE	Log total firm assets	Ahmed and Afza (2019)
AGE	The difference between the year of observation and the year of establishment	
GROW	Percentage change in net sales	Mathur et al. (2021)
LIQ	The ratio of cash and cash equivalents to total assets	Le and Phan (2017)
INV	The ratio of capital expenditure to total assets	Le and Phan (2017)

4. RESULTS

4.1. Descriptive statistics

The results of descriptive statistics are presented in Table 3. It is known that the average value of the dependent variable of this study is *ROA* (0.035). The independent variables are *STD*, *LTD,* and *TTD* with average values of 0.359, 0.182, and 0.542, respectively. Moderation variables were *REM* (23.089), control variables *COVID* (0.189), *SIZE* (12.609), *AGE* (36.982), *GROW* (3.527), *LIQ* (0.092), and *INV* (0.049).

Table 2. Descriptive statistics

Variable	*Obs.*	*Mean*	*Std. dev.*	*Min*	*Max*
ROA	952	0.035	0.155	-2.641	1.247
ROS	952	-0.164	11.406	-310.458	155.443
STD	952	0.359	0.430	0.002	4.833
LTD	952	0.182	0.248	0.000	3.429
TTD	952	0.542	0.500	0.003	5.168
REM	952	23.089	1.321	17.998	27.893
COVID	952	0.189	0.392	0	1
SIZE	952	12.609	3.330	6.767	41.559
AGE	952	36.982	15.194	2	103
GROW	952	3.527	21.111	-35.030	35.261
LIQ	952	0.092	0.126	0.000	2.105
INV	952	0.049	0.665	0	0.758

Source: Authors' elaboration using STATA 14.2.

This study proposes four models based on firm-specific dependent, independent, and moderator variables presented in Table 3. Model 1 tests *STD* on performance, Model 2 tests *LTD* on performance, Model 3 tests *STD* and *LTD* on performance, and Model 4 tests *TTD* on performance.

4.2. Analysis of test results

The results displayed in Table 3 report that the results of the regression analysis of the dependent variable *ROA* with Model 1 have an explanatory power of around 17.80%, and a significant F value indicates the suitability of the model. Evidence suggests that the relationship between *STD* and *ROA* is negative and significant at the 0.1% level. Model 2 has an explanatory power of 16.50%, proving that the relationship between *LTD* and *ROA* is negative. Model 3 has an explanatory power of 20.00%, proving that the relationship between *STD* and *LTD* on ROA is negative. Model 4 has an explanatory power of 20.6%, proving that the relationship between *TTD* and *ROA* is negative.

The results of the moderation relationship are presented in Table 3, which reports the results of the regression analysis of remuneration moderation on capital structure and *ROA*. Evidence from Model 1 shows that the interaction variable *STD * REM* weakens the effect of STD on *ROA* at the level of 0.1%. Model 2 shows that the interaction variable *LTD * REM* cannot moderate the effect of *LTD* on *ROA*. Model 3 shows that the interaction variable *STD * REM* weakens the effect of *STD* on *ROA*, while *LTD * REM* cannot moderate the effect of *LTD* on *ROA*. Evidence from Model 4 shows that the interaction variable *TTD* * REM weakens the impact of *TTD* on *ROA*.

Table 3. *ROA* regression analysis

ROA	*Model 1*	*Model 2*	*Model 3*	*Model 4*
STD	0.000***		0.000***	
	-6.59		-6.47	
LTD		0.000***	0.000***	
		-5.07	-3.56	
TTD				0.000***
				-8.22
REM	0.852	0.291	0.943	0.803
	0.19	1.06	0.07	-0.25
*STD * REM*	0.009***		0.016***	
	2.61		2.41	
*LTD * REM*		0.151	0.539	
		1.44	-0.61	
*TTD * REM*				0.005***
				2.83
COVID	0.563	0.555	0.590	0.666
	0.58	0.59	0.54	0.43
SIZE	0.033**	0.100*	0.144	0.098
	-2.14	-1.65	-1.46	-1.66
AGE	0.000***	0.000***	0.000***	0.000***
	4.58	4.48	4.38	4.57
GROW	0.000***	0.000***	0.000***	0.000***
	6.44	6.59	6.13	6.20
LIQ	0.000***	0.000***	0.000***	0.000***
	6.52	6.16	5.82	6.08
INV	0.245	0.100*	0.132	0.218
	1.16	1.65	1.51	1.23
F	0.000	0.000	0.000	0.000
Adj. R-square	0.178	0.165	0.200	0.206

*Note: Significance level: * 10%, ** 5%, *** 1%.*
Source: Authors' elaboration using STATA 14.2.

4.3. Robustness test results

Table 4 reports the results of the regression analysis of the dependent variable *ROS*, with Model 1 having an explanatory power of approximately 1.04% and a significant F value indicating model suitability. Evidence shows that there is no relationship between *STD* and *ROS*. Model 2 has an explanatory power of 14.51%, proving that the relationship between *LTD* and *ROS* is negative. Model 3 has an explanatory power of 16.02%, proving a positive relationship between *STD* and *ROS*. Model 4 has an explanatory power of 2.24%, proving a negative relationship between *TTD* and *ROS*.

Based on Table 4, the report on the results of the moderation regression analysis of remuneration on capital structure and company performance, it is known that Model 1 proves that the interaction variable *STD * REM* cannot moderate the effect of *STD* on *ROS*. Model 2 proves that the interaction variable *LTD * REM* weakens the effect of *LTD* on *ROS*. Model 3 proves that the interaction variables *STD * REM* and *LTD * REM* weaken the effect of *STD* and *LTD* on *ROS*. Model 4 shows that the interaction variable *TTD * REM* cannot moderate the effect of *TTD* on *ROS*.

Table 4. *ROS* regression analysis

ROS	*Model 1*	*Model 2*	*Model 3*	*Model 4*
STD	0.660		0.006***	
	0.44		2.78	
LTD		0.000***	0.000***	
		-12.12	-12.74	
TTD				0.000***
				-4.53
REM	0.660	0.001***	0.040***	0.779
	0.44	-3.44	-2.05	-0.28
*STD * REM*	0.641		0.000***	
	0.47		-4.03	
*LTD * REM*		0.000***	0.000***	
		5.23	6.59	
*TTD * REM*				0.293
				1.05
COVID	0.075*	0.155	0.215	0.112
	1.78	1.42	1.24	1.59
SIZE	0.990	0.072*	0.115	0.697
	-0.01	1.80	1.58	0.39
AGE	0.309	0.136	0.289	0.288
	-1.02	-1.49	-1.06	-1.06
GROW	0.407	0.938	0.727	0.741
	0.83	0.08	0.35	0.33
LIQ	0.111	0.337	0.350	0.309
	1.59	0.96	0.93	1.02
INV	0.307	0.323	0.479	0.413
	1.02	0.99	0.71	0.82
F	0.356	0.000	0.000	0.000
Adj. R-square	0.010	0.145	0.160	0.022

*Note: Significance level: * 10%, ** 5%, *** 1%.*
Source: Authors' elaboration using STATA 14.2.

5. DISCUSSION

5.1. Capital structure and firm performance

Much literature emphasizes the importance of capital structure as a determinant of firm performance, for example (Das et al., 2021; Mathur et al., 2021). The results displayed in Table 3 report the results of the regression analysis of the dependent variable *ROA*. Evidence suggests that the relationship between *STD* and *ROA* is negative; it is possible that the costs of *STD* are not as high as the benefits received by the firm. The increasing number of *STD*s with the repayment period getting closer means that there is a possibility that the firm will experience difficulty paying or have financial difficulties, so in carrying out its operational activities, the firm may face obstacles that reduce its performance. This evidence is not in line with Modigliani and Miller (1958), who stated that capital structure does not affect firm value, assuming a perfect capital market allows for homogeneity, shares must be proportional to the expected return. This may happen because Modigliani and Miller's (1958) theory applies to ideal capital markets. However, in reality, there is no perfection in the capital market.

Model 2 proves that the relationship between *LTD* and *ROA* is negative. High *LTD* can have an impact on increasing the debt burden that the firm must bear. On the other hand, there is the threat of non-payment of the firm's *LTD* due to uncertainty in the business world, which allows for the risk of debt default. Model 3 proves that the relationship between *STD* and *LTD* on *ROA* is negative. You must be careful in choosing the type of *STD* and *LTD* because high debt can reduce firm performance. Therefore, companies must determine debt according to proportions to minimize the negative impact on firm performance. Model 4 proves that the relationship between *TTD* and *ROA* is negative. There is a possibility that a high *TTD* will make the firm focus on resolving debt rather than developing the firm.

5.2. Capital structure, director remuneration, and firm performance

Director remuneration is also considered a significant determinant that can change firm performance (Elnahass et al., 2022). The results of the moderation relationship are presented in Table 3, which reports the results of the remuneration moderation regression analysis on capital structure and *ROA*. Evidence from Model 1 shows that the interaction variable *STD * REM* weakens the effect of *STD* on *ROA*. The presence of remuneration can reduce the negative impact of *STD*s on performance. Razali et al. (2018) argue that company performance also depends on the remuneration received by directors. It is possible that a high amount of remuneration can motivate directors to determine the proportion of *STDs* appropriately and have a good impact on performance. These results support the agency theory of Jensen and Meckling (1976), which states that deviations can be limited by the principal by setting incentives to agents appropriately and monitoring costs function as restrictions on deviant activities carried out by agents. High remuneration will make agents maximize debt decisions appropriately and have an impact on improving performance.

Model 2 shows that the *LTD * REM* interaction variable cannot moderate the effect of *LTD* on *ROA*. Evidence shows that the *REM* variable cannot moderate the effect of *STD* on company performance. This may be due to the low remuneration received by the directors, so *STD* and *LTD* decision-making is still not optimal. Model 3 shows that the interaction variable *STD * REM* weakens the effect of *STD* on *ROA*, while *LTD*REM* cannot moderate the effect of *LTD* on *ROA*. Evidence from Model 4 shows that the interaction variable *TTD * REM* weakens the impact of *TTD* on *ROA*. It is possible that when directors have high remuneration, decision-making on *TTD* will be better and can have an impact on improving performance.

5.3. Robustness test

5.3.1. Capital structure and firm performance

Table 4 reports the results of the regression analysis of the dependent variable *ROS*. Evidence shows that there is no relationship between *STD* and *ROS*. It is possible that the firm has not been able to maximize *STD* to improve firm performance in the form of increased sales. This less-than-optimal utilization may be caused by inadequate financial management in carrying out operational activities, so that the firm's sales cannot increase. This result is in line with Modigliani and Miller (1958), although not in a perfect capital market, the possibility of non-influence of debt can occur when there is no management role in maximizing profits from the debt.

Model 2 proves that the relationship between *LTD* and *ROS* is negative. The firm may focus on being able to pay off *LTD*, thereby ignoring the need to develop infrastructure and facilities for production activities and making it difficult for the firm's products to compete. Model 3 proves the existence of a positive relationship between *STD* and *ROS*. The possibility of *STD*s can increase production activities and have an impact on increasing firm sales. On the other hand, there is a negative relationship between *LTD* and *ROS*. Model 4 proves the existence of a negative relationship between *TTD* and *ROS*. Management may be under tremendous pressure when the amount of debt is high. This may be because the certainty of having to bear the burden of paying debts is inversely proportional to the level of sales, making management focus on prioritizing debt settlement and paying less attention to other matters in the firm. Based on this, indirectly, the concentration on the firm's main activities decreases and also makes the firm's performance low.

5.3.2. Capital structure, director remuneration, and firm performance

Based on Table 4, the report on the results of the remuneration moderation regression analysis on capital structure and company performance, it is known that Model 1 proves that the interaction variable *STD * REM* cannot moderate the effect of *STD* on *ROS*. Evidence shows that the *REM* variable cannot moderate the impact of *STD* on company performance as a proxy for *ROS*. Model 2 proves that the interaction variable *LTD * REM* weakens the effect of *LTD* on *ROS*. High remuneration will reduce the negative impact of *LTD* on sales performance. Appropriate remuneration will generate extraordinary company profits (Rampling, 2011). It is possible that directors feel more appreciated for their work when they receive appropriate remuneration. This will have an impact on decision-making to determine the right amount of *LTD* to have a good impact on company performance.

Model 3 proves that the interaction variables *STD * REM* and *LTD * REM* weaken the effect of *STD* and *LTD* on *ROS*. Evidence shows that remuneration moderates the effect of *STD*s on performance. Attractive remuneration will encourage the optimization of achieving company targets (Razali et al., 2018). High remuneration may encourage directors to make *STD* and *LTD* decisions according to needs, so that these decisions have a positive impact on improving company performance. Model 4 shows that the *TTD * REM* interaction variable cannot moderate the impact of *TTD* on *ROS*. These results prove that the *REM* variable cannot moderate the effect of *TTD* on company performance.

In short, the results in Table 4 and Table 5 show that the choice of capital structure in general has a significant effect and has no relationship with the performance of companies listed in Indonesia. These results are in line with the results of previous

studies by Ayaz et al. (2021) that capital structure has a positive relationship with company performance. The results of this study are not in line with research (Das et al., 2021; Mathur et al., 2021), which shows a negative relationship between capital structure and company performance, as well as research results (Vieira, 2017), which prove that capital structure does not affect company performance.

The results of the study in Tables 3 and 4 show that remuneration generally has a significant effect and has nothing to do with the performance of issuers in Indonesia. These results are in line with the results of previous research (Aslam et al., 2019), which showed that remuneration has a positive effect on performance. This shows that directors will make more effort to achieve the company's operational goals and targets if they have been given sufficient incentives. The results of this study are not in line with the opinion (Ruparelia & Njuguna, 2016), which states that remuneration is detrimental to performance. This shows that high remuneration cannot motivate and retain directors to carry out their duties and work harder for the best interests of the company. Research conducted by Angula and Makasi (2021) shows that remuneration does not affect performance. A company can run very well regardless of the remuneration of the board members. Board members may receive high salaries and benefits, but the company's performance may not be good.

6. CONCLUSION

This study attempts to contribute to the existing literature in two ways. First, to examine the impact of capital structure on firm performance. Second, to explore the moderating role of remuneration in the relationship between capital structure and firm performance. Based on data covering 194 manufacturing companies in 2015–2020, empirical results are obtained that generally prove that capital structure variables have a negative effect on firm performance.

These empirical results generally prove that remuneration variables can weaken the effect of STD and TTD on firm performance. However, this cannot moderate the relationship between LTD and firm performance. Based on the moderation analysis, the results obtained prove that capital structure is detrimental to firm performance, but the presence of director remuneration can reduce the negative impact of capital structure on firm performance.

The evidence suggests that capital structure negatively affects firm performance. Choosing an inappropriate capital structure will have a negative impact on the firm, therefore, this decision must be made appropriately. Directors with high remuneration tend to do their jobs optimally when directors are faced with determining the capital structure. This is proven by the presence and decisions of directors appropriately, which will be able to suppress the negative effects of debt, so that company performance can be achieved optimally.

Good director remuneration will be able to improve appropriate decision-making both in terms of debt and determining performance success. Therefore, the results of this study can be used as a consideration for determining the best remuneration, as a form of appreciation for directors to improve performance and strategic policymaking. Given, the activity of determining debt that is too inappropriate will reduce performance. The existence of remuneration is expected to enable directors to determine the right time to determine the appropriate type of debt.

This research is important to do considering the inconsistency of the company's financial capital problems, and the search for the best alternatives in supporting the right decisions in certain circumstances. In addition, this study has limitations. It cannot be known whether high remuneration should be paid when the company is in financial difficulty. Further research may be able to see the role of remuneration in the relationship between capital structure and company performance from the perspective of companies in financial difficulty.

REFERENCES

Adharsyah, T. (2019, August 7). Manufaktur tak bisa diharapkan, mesin ekonomi cuma konsumsi? [Manufacturing cannot be expected, is consumption the only economic engine?]. *CNBC Indonesia*. https://www.cnbcindonesia.com/news/20190806161048-4-90223/manufaktur-tak-bisa-diharapkan-mesin-ekonomi-cuma-konsumsi

Aggarwal, R., & Ghosh, A. (2015). Director's remuneration and correlation on firm's performance: A study from the Indian corporate. *International Journal of Law and Management*, *57*(5), 373–399. https://doi.org/10.1108/IJLMA-08-2011-0006

Ahmed, A. D., Bahamman, S. M., & Abdulkarim, H. (2020). Directors' remuneration and financial performance: Moderating role of board attributes of listed insurance companies in Nigeria. *Journal of Economics and Trade, 5*(2), 23–34. https://ikprress.org/index.php/JET/article/view/5657/5258

Ahmed, N., & Afza, T. (2019). Capital structure, competitive intensity and firm performance: Evidence from Pakistan. *Journal of Advances in Management Research*, *16*(5), 796–813. https://doi.org/10.1108/JAMR-02-2019-0018

Angula, N., & Makasi, A. (2021). An investigation into the effect of board members' remuneration on the performance of public enterprises in Namibia. *BOHR International Journal of Financial Market and Corporate Finance*, *1*(1), 18–26. https://doi.org/10.54646/bijfmcf.004

Aslam, E., Haron, R., & Tahir, M. N. (2019). How director remuneration impacts firm performance: An empirical analysis of executive director remuneration in Pakistan. *Borsa Istanbul Review*, *19*(2), 186–196. https://doi.org/10.1016/j.bir.2019.01.003

Ayaz, M., Zabri, S. M., & Ahmad, K. (2021). An empirical investigation on the impact of capital structure on firm performance: Evidence from Malaysia. *Managerial Finance*, *47*(8), 1107–1127. https://doi.org/10.1108/MF-11-2019-0586

Bon, S. F., & Hartoko, S. (2022). The effect of dividend policy, investment decision, leverage, profitability, and firm size on firm value. *European Journal of Business and Management Research*, *7*(3), 7–13. https://doi.org/10.24018/ejbmr.2022.7.3.1405

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, *83*, 435–451. https://doi.org/10.1007/s10551-007-9630-y

Chang, C., Lee, A. C., & Lee, C. F. (2009). Determinants of capital structure choice: A structural equation modeling approach. *The Quarterly Review of Economics and Finance*, *49*(2), 197–213. https://doi.org/10.1016/j.qref.2008.03.004

Chen, H. (2020). The impact of financial leverage on firm performance — Based on the moderating role of operating leverage. In *Proceedings of the Fifth International Conference on Economic and Business Management (FEBM 2020)* (pp. 464–473). Atlantis Press. https://doi.org/10.2991/aebmr.k.201211.079

Das, N. C., Chowdhury, M. A. F., & Islam, M. N. (2021). The heterogeneous impact of leverage on firm performance: Empirical evidence from Bangladesh. *South Asian Journal of Business Studies, 11*(2), 235–252. https://doi.org/10.1108/SAJBS-04-2020-0100

Dawar, V. (2014). Agency theory, capital structure and firm performance: Some Indian evidence. *Managerial Finance*, *40*(12), 1190–1206. https://doi.org/10.1108/MF-10-2013-0275

Duca, J. V. (2013, November 22). *Subprime mortgage crisis: 2007–2010.* Federal Reserve History. https://surl.lu/hsrjty

Elnahass, M., Salama, A., & Trinh, V. Q. (2022). Firm valuations and board compensation: Evidence from alternative banking models. *Global Finance Journal, 51,* Article 100553. https://doi.org/10.1016/j.gfj.2020.100553

El-Sayed Ebaid, I. (2009). The impact of capital-structure choice on firm performance: Empirical evidence from Egypt. *Journal of Risk Finance*, *10*(5), 477–487. https://doi.org/10.1108/15265940911001385

Fasoulas, M., Chytis, E., Lekarakou, E., & Tasios, S. (2024). Auditor choice, board of directors' characteristics and ownership structure: Evidence from Greece. *Journal of Governance & Regulation*, *13*(1), 147–159. https://doi.org/10.22495/jgrv13i1art13

Foong, S.-Y., & Idris, R. (2012). Leverage, product diversity and performance of general insurers in Malaysia. *Journal of Risk Finance*, *13*(4), 347–361. https://doi.org/10.1108/15265941211254462

Goel, U., Chadha, S., & Sharma, A. K. (2015). Operating liquidity and financial leverage: Evidences from Indian machinery industry. *Procedia — Social and Behavioral Sciences*, *189*, 344–350. https://doi.org/10.1016/j.sbspro.2015.03.230

Harymawan, I., Agustia, D., Nasih, M., Inayati, A., & Nowland, J. (2020). Remuneration committees, executive remuneration, and firm performance in Indonesia. *Heliyon*, *6*(2), Article e03452. https://doi.org/10.1016/j.heliyon.2020.e03452

Hundal, S., & Eskola, A. (2020). Board of directors, capital structure, investment decisions and firm-performance: An empirical study of Nordic firms [Special issue]. *Corporate Ownership & Control*, *17*(4), 377–390. https://doi.org/10.22495/cocv17i4siart14

Hwang, J., Kim, H., & Jung, D. (2021). The effect of ESG activities on financial performance during the COVID-19 pandemic — Evidence from Korea. *Sustainability, 13*(20), Article 11362. https://doi.org/10.3390/su132011362

Indonesia Stock Exchange (IDX). (n.d.). *Statistic.* https://www.idx.co.id/id/data-pasar/laporan-statistik/statistik/

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kontus, E., Soric, K., & Sarlija, N. (2023). Capital structure optimization: A model of optimal capital structure from the aspect of capital cost and corporate value. *Economic Research-Ekonomska Istrazivanja*, *36*(2), Article 2147565. https://doi.org/10.1080/1331677X.2022.2147565

Le, T. P. V., & Phan, T. B. N. (2017). Capital structure and firm performance: Empirical evidence from a small transition country. *Research in International Business and Finance*, *42*, 710–726. https://doi.org/10.1016/j.ribaf.2017.07.012

Mangondu, R., & Diantimala, Y. (2016). Pengaruh struktur modal terhadap nilai perusahaan dan kinerja perusahaan pada perusahaan perbankan yang terdaftar di bursa efek Indonesia [The influence of capital structure on company value and company performance in banking companies listed on the Indonesian Stock Exchange]. *Jurnal Dinamika Akuntansi dan Bisnis*, *3*(1), 62–69. https://surl.li/rblhtb

Mathur, N., Tiwari, S. C., Sita Ramaiah, T., & Mathur, H. (2021). Capital structure, competitive intensity and firm performance: An analysis of Indian pharmaceutical companies. *Managerial Finance*, *47*(9), 1357–1382. https://doi.org/10.1108/MF-01-2020-0009

Matsa, D. A. (2011). Competition and product quality in the supermarket industry. *The Quarterly Journal of Economics*, *126*(3), 1539–1591. https://doi.org/10.1093/qje/qjr031

Memarista, G., & Gestanti, L. (2018). Sunk cost dilemma behavior: The contribution marketing expenses towards financial performance. *Jurnal Keuangan dan Perbankan*, *22*(4), 625–642. https://doi.org/10.26905/jkdp.v22i4.1871

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, *48*(3), 261–297. https://www.aeaweb.org/aer/top20/48.3.261-297.pdf

Mudany, J. O., Letting, N. K., & Gituro, W. (2020). Effects of capital structure on performance: A critical review. *Journal of Finance and Accounting*, *4*(3), 29–44. https://www.stratfordjournals.com/journals/index.php/journal-of-accounting/article/view/575

Muslim, A. I., Setiawan, D., Aryani, Y. A., & Gantyowati, E. (2022*).* Real earnings management and capital structure decision: The role of minority interest. In *Proceedings of the International Colloquium on Business and Economics (ICBE 2022)* (pp. 4–12). Atlantis Press. https://doi.org/10.2991/978-94-6463-066-4_2

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, *39*(3), 575–592. https://doi.org/10.2307/2327916

Nahar Abdullah, S. (2006). Directors' remuneration, firm's performance and corporate governance in Malaysia among distressed companies. *Corporate Governance*, *6*(2), 162–174. https://doi.org/10.1108/14720700610655169

Nazir, A., Azam, M., & Khalid, M. U. (2021). Debt financing and firm performance: Empirical evidence from the Pakistan Stock Exchange. *Asian Journal of Accounting Research*, *6*(3), 324–334. https://doi.org/10.1108/AJAR-03-2019-0019

Nguyen, T. N. L., & Nguyen, V. C. (2020). The determinants of profitability in listed enterprises: A study from Vietnamese Stock Exchange. *The Journal of Asian Finance, Economics and Business*, *7*(1), 47–58. https://doi.org/10.13106/jafeb.2020.vol7.no1.47

Nihayah, I., & Aryani, Y. A. (2022). Implementation of risk management and capital structure on financial performance: A study of Islamic banking in Indonesia. *Journal of Business and Management Studies*, *4*(3), 48–62. https://doi.org/10.32996/jbms.2022.4.3.5

Otekunrin, A. O., Nwanji, T. I., Eluyela, D., Olowookere, J. K., & Fagboro, D. G. (2020). Capital structure and profitability: The case of Nigerian deposit money banks. *Banks and Bank Systems*, *15*(4), 221–228. https://doi.org/10.21511/bbs.15(4).2020.18

Padia, N., & Callaghan, C. W. (2021). Executive director remuneration and company performance: Panel evidence from South Africa for the years following King III. *Personnel Review*, *50*(3), 829–844. https://doi.org/10.1108/PR-08-2019-0429

Paschalia, M., & Judith, J. (2023, August 31). *Kinerja industri manufaktur melambat* [The performance of the manufacturing industry slowed down]. Kompas.id. https://www.kompas.id/baca/ekonomi/2023/08/31/lesunya-china-dan-daya-beli-ri-dapat-gerus-kinerja-industri

Probohudono, A. N., Perwitasari, D., & Putra, R. P. (2016). Faktor-faktor yang memengaruhi remunerasi direksi: Studi komparasi perusahaan di Australia, Singapura, Indonesia, dan Malaysia [Factors influencing directors' remuneration: A comparative study of companies in Australia, Singapore, Indonesia and Malaysia]. *Jurnal Akuntansi dan Keuangan Indonesia*, *13*(1), Article 3. https://doi.org/10.21002/jaki.2016.03

Puspasari, N. K., & Sujana, I. K. (2021). The effect of corporate social responsibility disclosure and board remuneration on financial performance with the presence of woman in the good corporate governance structure. *American Journal of Humanities and Social Sciences Research*, *5*(1), 637–642. https://www.ajhssr.com/wp-content/uploads/2021/01/ZZV21501637642.pdf

Rampling, P. N. (2011). *CEO and executive director remuneration and firm performance*. https://doi.org/10.2139/ssrn.1969656

Razali, M. W. M., Joslin, F. E., Rahman, N. A., Tak, A. H., & Sahari, S. (2018). Directors remuneration and firm performance in property and construction industries listed on Bursa Malaysia's main board. *EPH — International Journal of Business & Management Science*, *4*(3), 15–24. https://doi.org/10.53555/eijbms.v5i3.71

Ruparelia, R., & Njuguna, A. (2016). Relationship between board remuneration and financial performance in the Kenyan financial services industry. *International Journal of Financial Research*, *7*(2), 247–255. https://doi.org/10.5430/ijfr.v7n2p247

Sadeghian, N. S., Latifi, M. M., Soroush, S., & Aghabagher, Z. T. (2012). Debt policy and corporate performance: Empirical evidence from Tehran Stock Exchange companies. *International Journal of Economics and Finance*, *4*(11), 217–224. https://doi.org/10.5539/ijef.v4n11p217

Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia — Social and Behavioral Sciences*, *65*, 156–166. https://doi.org/10.1016/j.sbspro.2012.11.105

Salin, A. S. A. P., Ismail, Z., & Smith, M. (2024). Board responsibility and corporate performance. *Corporate Board: Role, Duties and Composition*, *20*(1), 23–32. https://doi.org/10.22495/cbv20i1art2

Scholtz, H. E., & Smit, A. (2012). Executive remuneration and company performance for South African companies listed on the Alternative Exchange (AltX). *Southern African Business Review*, *16*(1), 22–38. https://www.ajol.info/index.php/sabr/article/view/85454

Svartefoss, S. M., & Klitkou, A. (2024). The role of board interlocks in increasing the use of wood in Norwegian construction. *Corporate Board: Role, Duties and Composition*, *20*(1), 8–22. https://doi.org/10.22495/cbv20i1art1

Talha, M., Sallehhuddin, A., & Masoud, S. (2009). Directors remuneration, firm performance and board committee relationship in Malaysia [Special issue]. *Corporate Ownership & Control*, *6*(3–5), 553–560. https://doi.org/10.22495/cocv6i3sip4

Velnampy, T., & Niresh, J. A. (2012). The relationship between capital structure & profitability. *Global Journal of Management and Business Research*, *12*(13), 66–73. https://globaljournals.org/GJMBR_Volume12/7-The-Relationship-between-Capital.pdf

Vieira, E. S. (2017). Debt policy and firm performance of family firms: The impact of economic adversity. *International Journal of Managerial Finance*, *13*(3), 267–286. https://doi.org/10.1108/IJMF-03-2016-0062

Vu, M.-C., Phan, T. T., & Le, N. T. (2018). Relationship between board ownership structure and firm financial performance in transitional economy: The case of Vietnam. *Research in International Business and Finance*, *45*, 512–528. https://doi.org/10.1016/j.ribaf.2017.09.002

Wulandari, T. R., & Setiawan, D. (2020). Capital structure manufacturing companies in Indonesia: In review. *Jurnal Keuangan dan Perbankan*, *24*(4), 485–493. https://doi.org/10.26905/jkdp.v24i4.4312