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Original Article

The Role of Financial Metrics and ESG Involvement in Shaping Cost of Debt

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Abstract: *This study aims to analyze the influence of financial and non-financial performance on the cost of debt in manufacturing companies listed on the Indonesia Stock Exchange between 2017-2022. Financial performances are indicated by profitability, liquidity, and leverage. Whereas non-financial performance is proxied by ESG disclosure score. Purposive sampling is used as a sampling technique to obtain 33 companies out of 345 total which provide annual reports on the Indonesia Stocks Exchange website and ESG Disclosure Score at Bloomberg Terminal. To examine the linkage, panel data regression is applied by Stata 17 software. The result of this study shows that profitability has a significant positive effect on the cost of debt. While leverage and ESG disclosure scores significantly negatively affect the cost of debt. Furthermore, liquidity has no significant effect on the cost of debt. The result also shows that COVID-19 distort the influence of profitability, leverage, and ESG disclosure score on cost of debt.*

Keywords: *Cost of Debt, Covid-19, ESG Disclosure Score, Leverage, Liquidity, Profitability.*

I. INTRODUCTION

A manufacturing company requires capital to produce goods in order to achieve profit. Issuing credits to increase capital, which will be used for business operation, growth, and development, is common practice for public firms. Debt in capital structure empirically improves company performance comprehensively. An increase in debt financing also offers advantages, such as reducing the tax burden; however, it simultaneously increases the company's default risk and exposure to market fluctuations(Abraham et al., 2020). Failure to repay debt may lead to a firm exit and trigger a crisis of investor trust and agency conflicts between debt holders and shareholders. Hence, the company should establish their financial performance from its credit policy.

Company performance to repay all indebtedness is measured by the cost of debt. The cost of debt represents a firm's interest expense to pay its debt, making it a crucial benchmark in evaluating debt financing against internal financing options (Tanin et al., 2024). Existing studies have discovered significant roles of firm financial performance on the cost of debt, including profitability, liquidity, and leverage. Nonetheless, the empirical evidence regarding the correlation between financial performance and the cost of debt remains inconsistent.

Gerwanski (2020), Eliwa et al. (2021), and Malik & Kashiramka (2024) found a negative relationship between profitability and cost of debt. Firms will be charged lower costs from debt financing as their profitability increases. This finding is in accordance with the pecking order theory, where profitable firms prioritize self-financing, lowering debt financing. On the other hand, Ayu et al. (2022) and Tanin et al. (2024) show a positive correlation, implying companies are charged with a higher cost of debt when their profitability increases.

The discrepant relationship is also found in the impact of liquidity and the cost of debt. Kozak (2021), Orazalin & Akhmetzhanov (2019), and Malik & Kashiramka (2024) discovered that liquidity negatively affects the cost of debt, while Tanin et al. (2024) found a positive relationship. The adverse correlation indicates lower debt cost as a firm has greater coverage of its outstanding indebtedness. Otherwise, high liquidity is due to increasing illiquid assets, which are usually sold at a premium, thus increasing the costs associated with liquidation, debt, and bankruptcy.

Leverage impact on debt financing cost empirically found contradict. Studies like Eliwa et al. (2021) and Kozak (2021) show a positive association between leverage and the cost of debt, implying higher leverage will increase the cost charged by financial institutions as the firm default risk rises. Conversely, some studies show leverage has a negative impact on debt financing costs, where the majority of indebted firms hold larger amounts of funds and receive loans at lower interest rates due to economies of scale (Orazalin & Akhmetzhanov, 2019; Sánchez-Ballesta & Yagüe, 2023; Tanin et al., 2024).

According to listed manufacturing firms in Indonesia stock exchange data from 2017 to 2022, the total debt increased yet the debt financing cost fluctuated.

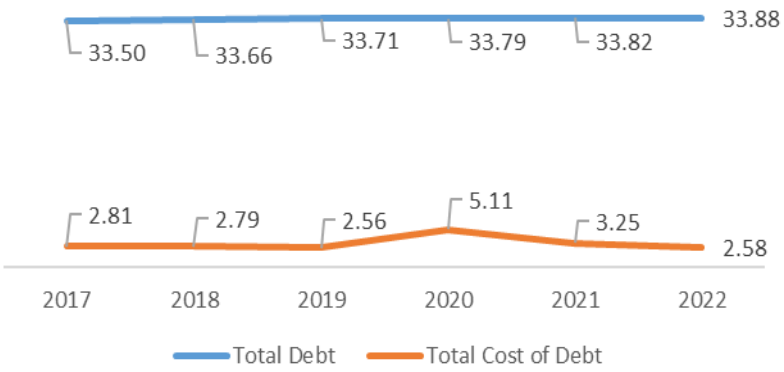

Figure 1. Total debt and cost of debt growth of Indonesia manufacturing firms

The cost of debt between 2017 and 2019 tends to decrease as the debt increases. However, the cost significantly raised about two times in 2020, then declining in 2021-2022. This condition suggests the presence of another mediator which affects debt financing costs for manufacturing companies. In 2020, Covid-19 started to strike in Indonesia and caused economic growth contraction. The pandemic caused an economic downturn and heightened global and local uncertainties, particularly in key sectors such as manufacturing (Maula, Tarique, Astuti, Anggara, & Harahap, 2025). Hence, the firm cost of debt is also influenced by Covid-19.

Recent studies addressing non-financial performance influence the firm cost of debt, known as sustainability practice or Environment, Social, And Governance (ESG). The concept of ESG underlined firm ethics, social responsibility, and environmental preservation of its operation whilst maintaining firm performance, profitability, and social prosperity (Bouchmel et al., 2024). High energy consumption and production by manufacturers lead to high pollution, forcing them to commit to their impacts on the environment, social, dan governance through ESG practices.

From ESG practices globally, governments, NGOs, and third-party organizations worldwide are paying great attention to the evaluation and disclosure of ESG information (Luo et al., 2023). ESG information disclosure is a form of company communication to stakeholders regarding ESG practice(Deegan, 2017). Disclosure of ESG practices is pivotal in disseminating information among stakeholders, including creditors, and adding insights to support decision-making (Malik & Kashiramka, 2024). It also significantly alleviates agency conflicts, enhances transparency, and effectively addresses stakeholders' interests and expectations.

Research by Eliwa et al. (2021), Zhao et al. (2024), Malik & Kashiramka (2024), Raimo et al. (2021), and Gerwanski (2020) indicates a negative correlation of ESG disclosure score toward cost of debt. Otherwise, Zulhansyah & Nahartyo (2024) and Roudotul & Purwanto (2024) show no significant correlation between ESG disclosure score and the cost of debt in Indonesia. It may occur in developing countries that disclosure of corporate sustainability practices is not highly valued (Kaakeh & Gokmenoglu, 2022) due to environmental uncertainty, political unsteadiness, and inadequate transparency in corporate culture.

The inconsistency of previous studies in exploring the determinants of debt financing costs highlights the need for this research to provide a more comprehensive understanding. This research also contributes to the study's novelty by examining the moderating effect of COVID-19 and the control role of the interest coverage ratio.

II. LITERATURE REVIEW

A) Pecking order theory

Pecking order theory states that a company prioritize internal capital, such as retained earnings, due to the smaller cost, then seeks external funds, namely debt and equity (Myers, 1984). Debt issuance is riskier than issuing equity; investors will receive a fixed return if financial distress can be avoided (Ross et al., 2016). Pecking order theory is based on information asymmetry, where firm management acquires more information about firm risks than external parties since the manager is responsible for firm financial decision-making. Therefore, higher information asymmetry companies prefer debt financing instead of equity financing (Myers, 1984).

B) Agency theory

Agency theory explains the interaction between agent and principal (Jensen & Meckling, 1976). The manager, as an agent in this theory, does not always act in accordance with the aspiration of the principal in the contract agreed upon, which invokes interest conflict and information inequality. Aman & Nguyen (2013) found that agency conflict and external parties' perceived risk may be reduced through higher information disclosure, so the information asymmetry would be low. High-quality financial disclosure might reduce information asymmetry and conflict by assessing firm liquidity solvability and default risks (Carmo et al., 2016). Non-financial information disclosure and financial information would also alleviate information asymmetry and external stakeholder uncertainty**.**

C) Conceptual framework and hypotheses development

In the pecking order theory, firms prioritise self-funding, such as retained earnings, then seek debt first and equity as the last option of external funding (Myers, 1984). This preference is based on the cost of using that capital, with retained earnings having the lowest cost and equity as a higher cost of capital rather than debt. High high-profitability company indicates a large amount of retained earnings. Therefore, they opt for internal funding, so the reliance on debt financing decreases. High profitability led to higher dependent on self-financing and low cost of debt (Tanin et al., 2024).

Financial institutions are considered profitable firms with low uncertainty and better at repaying their debt compared to low-profitability firms (Gerwanski, 2020). The greater the firm's profitability, the lower its default risk, resulting in a low cost of debt charged to the company. Creditors charge lower risk premiums to borrowers with high profitability, thus lowering debt financing costs (Eliwa et al., 2021; Malik & Kashiramka, 2024). Hence, the correlation between profitability and cost of debt is hypotheses as follows:

H_1: Profitability negatively affects the cost of debt

Pecking order theory also states that firms with sufficient liquid assets tend to utilize them for operation. The high liquidity of a firm indicates its adequate current assets, which leads to a decreased need for external capital. Nonetheless, if the company needs to raise funds, it will take on debt due to the lower costs and the benefit of tax protection. Creditors will assess the company's ability as a debtor to repay its debts. The debtor's liquidity is a particular indicator in assessing the ability (Kozak, 2021). The firm with sufficient liquid has an adequate asset to fulfil its obligations consistently. High liquidity companies imply a better capacity to pay their debt, and therefore, they're charged with low debt financing costs (Orazalin & Akhmetzhanov, 2019; Malik & Kashiramka, 2024). Based on the arguments, the following hypothesis is proposed:

H_2: Liquidity has a negative relationship with the cost of debt

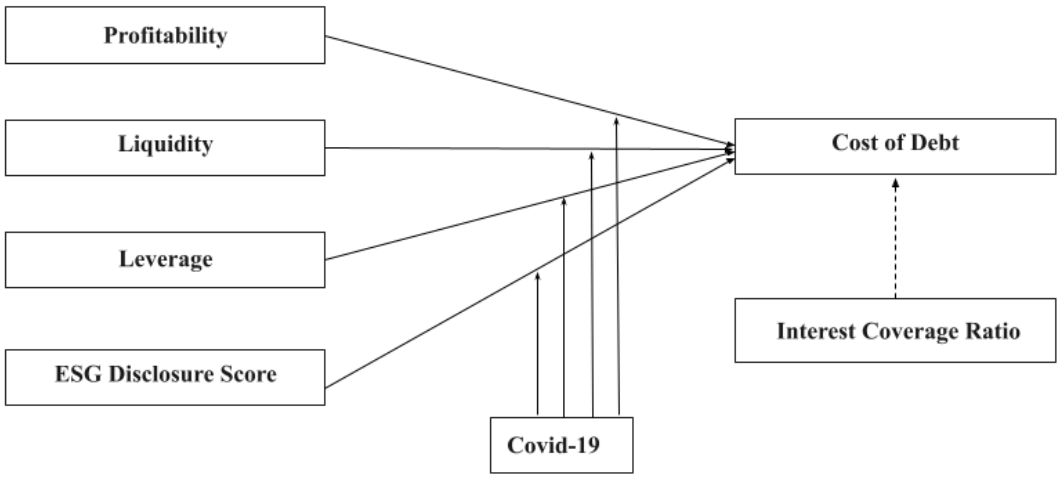

Figure 2. Conceptual framework

According to the pecking order theory, a company will issue debt as their internal financing is insufficient. Debt issuance is prioritized due to its lower cost of capital and the tax benefit received by the company. In addition, a large amount of leverage in capital structure increased firm value to a certain point (Modigliani & Miller, 1958). Nevertheless, a higher leverage ratio is also followed by higher financial risk of a firm, which causes a lower leverage gain (Malik & Kashiramka, 2024). Thus, firms encounter an increased financial distress cost and agency problems.

Theoretical and experimental evidence shows that raised leverage will escalate a firm's default risk, thus increasing its risk premium in the cost of debt form. Kozak (2021) found a positive correlation between leverage and the cost of debt since the

default risk increased. Likewise, Eliwa et al. (2021) and Malik & Kashiramka (2024) show a raised in leverage increasing debt financing cost and default risk. It also escalated agency problems between firm managers, creditors, and investors. Therefore, the hypothesis for this relationship is:

H_3: Leverage effect on cost of debt is positive

Agency theory addresses agency conflict and information asymmetry among creditors as principals and firm managers as agents in the issuance of debt (Jensen & Meckling, 1976). Creditor handed their fund to the firm with the expectation of receiving back the funds and an amount of interest to compensate for the risk of providing capital. As an outside party, creditors will establish covenants and restrictions in the loan agreement, resulting in higher agency costs, which in this term are debt financing costs (Raimo et al., 2021). Accordingly, the firm should provide detailed information so the adverse information asymmetry among agents and principals decreases, lowering debt financing costs and mitigating adverse selection.

ESG disclosure complements financial disclosure in order to reduce the asymmetry of information. Detailed ESG reports may convince creditors of firm commitment toward sustainability practices, thus reducing perceived risk and potentially lower borrowing costs (Apergis et al., 2022). Higher ESG disclosure firms are considered low-default risk debtors, so they can obtain less stringent requirements, more competitive interest rates, and higher credit ceilings (Zhao et al., 2024). A high level of ESG disclosure is associated with lower information asymmetry between debtor firms and financial institutions, thereby reducing the cost of debt (Eliwa et al., 2021). In this study, the cost of debt is considered an agency cost that arises due to information asymmetry. Therefore, the ESG disclosure score reduces information asymmetry, which, in turn, lowers agency costs. Based on this rationale, the hypothesis is as follows:

H_4: ESG disclosure is negatively associated with the cost of debt

III. METHODOLOGY

A) Data

This research obtained panel data from Bloomberg for Indonesia's publicly listed manufacturing firms during 2017-2022. The final 33 samples from 345 populations were selected using a non-probability sampling method and purposive sampling, with the criteria that is manufacture company listed from 2017-2022 on the Indonesia Stock Exchange (IDX) and has an ESG disclosure score on Bloomberg. We adjusted the outliers following the Winsorization technique.

B) Variables measurement

Variable	Proxy	Measurement
Dependent		
Cost of Debt	COD	$\frac{\text{Interest expense}}{\text{Average debt}} \times 100\%$
Independent		
Profitability	ROA	$\frac{\text{Net Profit (Loss)}}{\text{Total assets}} \times 100\%$
Liquidity	QR	$\frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} \times 100\%$
Leverage	DAR	$\frac{\text{Debt}}{\text{Assets}} \times 100\%$
ESG Disclosure Score	ESGS	$\frac{\text{Bloombergg's ESG Disclosure Score}}{100} \times 100\%$
Moderacy		
Dummy Covid-19	Covid	Score 0 for 2017, 2018, 2019 and score 1 for 2020, 2021, 2022
Control		
Interest Coverage Ratio	ICR	$\frac{\text{EBIT}}{\text{Interest expense}}$

Table 1. Measurement of variables

C) Method and model specification

To analyze the correlation between variables, this study used the panel data regression method of its ability to capture the effect of independent variables within a certain time span on changes in the dependent variable. Stata 17 is used to run the analysis. The panel data regression equation model for this study is:

Equation 1

$$COD_{i,t} = \alpha + \beta_1 ROA_{i,t} + \beta_2 QR_{i,t} + \beta_3 DAR_{i,t} + \beta_4 ESGS_{i,t} + \beta ICR_{i,t} + \varepsilon_{i,t}$$

Equation 2

$$COD_{i,t} = \alpha + \beta_1 ROA_{i,t} + \beta_2 QR_{i,t} + \beta_3 DAR_{i,t} + \beta_4 ESGS_{i,t} + \beta_5 ROA*Covid_{i,t} + \beta_6 QR*Covid_{i,t} + \beta_7 DAR*Covid_{i,t} + \beta_8 ESGS*Covid_{i,t} + \beta ICR_{i,t} + \varepsilon_{i,t}$$

IV. RESULTS AND DISCUSSION

A) Descriptive statistic

Table 2 displays the descriptive statistics of 198 datasets from 33 entities and 6 years of observation. The result shows that the majority of the dataset has a high variability and wide distribution. It can be seen by its standard deviation value that exceeds the mean value. High data distribution variables in this study are cost of debt, return on assets, and interest coverage ratio.

Table 2. Descriptive statistic result

Variable	Observation	Mean	Std. dev.	Min	Max
COD	198	9.645808	22.09962	.92	285.74
ROA	198	5.588586	11.0555	-87.51	44.68
QR	198	132.6887	83.80332	13.35	476.49
DAR	198	46.55131	24.4577	.44	202.15
ESGS	198	43.69106	11.56121	18.59	71.69
ICR	198	31.96631	85.51908	-12.73	630.44

B) Diagnostic test

The classical assumption tests of this study indicate that the data are free from issues of normality, multicollinearity, heteroscedasticity, and autocorrelation. Table 3 presents the normality test results after outlier detection and data transformation. In this study, outliers were not removed but treated using winsorizing, which replaces extreme values with specified percentiles. Following these treatments, the data are free from normality issues, as indicated by the skewness-kurtosis (Jarque-Bera) test, which yields a p-value of 0.1037.

The variance inflation factor (VIF) tests for multicollinearity in Table 4 indicate that all VIF values are well below 10, hinting at the absence of multicollinearity. The Breusch-Pagan/Cook-Weisberg test for heteroscedasticity reveals the presence of homoscedasticity. However, the Wooldridge test for autocorrelation shows the presence of first-order autocorrelation. Therefore, we employed "xtgls" to estimate the Generalized Least Squares (GLS) model, which is used when the assumptions of Ordinary Least Squares (OLS) are violated—particularly in the presence of heteroskedasticity or autocorrelation.

Table 3. Normality test

				Joint test	
Variable	**Observation**	**Pr(skewness)**	**Pr(kurtosis)**	**Adj chi2(2)**	**Prob>chi2**
res	198	0.8843	0.0347	4.53	0.1037

Table 4. VIF test for multicollinearity

	ROA	QR	DAR	ESGS	ICR
VIF	2.22	1.42	1.61	1.01	2.25
1/VIF	0.451362	0.703065	0.621369	0.987555	0.444217

Table 5. Heteroscedasticity test result

Breusch-Pagan/Cook-Weisberg test for heteroscedasticity		
Assumption: Normal error terms		
Variable: Fitted values of COD		
H0: Constant variance		
chi2(1)	=	1.77
Prob > chi2	=	0.1834

C) Hypothesis testing

According to the panel data model test result, the Chow test shows the fixed effects model is selected as the most appropriate model. While the Hausman test indicates that the suitable model is the random effect model. Furthermore, the Lagrange Multiplier test also discovers the random effect model as the appropriate model to test the research's regression. Based on the results of the three tests, it can be concluded that the random effects model is the appropriate panel regression model to be used in this study. The following are the random effects model estimation results for Equation 1 and Equation 2:

Table 6. Hypothesis test result

	Equation 1		Equation 2	
	β	Sig.	β	Sig.
Constant	3.765903	0.000	2.761926	0.000
ROA	0.0247002	0.010	0.0327327	0.002
QR	0.0070342	0.604	0.0103616	0.492
DAR	-0.0079124	0.000	-0.0042566	0.075
ESGS	-0.2867548	0.023	-0.043386	0.793
ROA*Covid			-0.019598	0.072
QR*Covid			-0.0052938	0.207
DAR*Covid			-0.005612	0.008
ESGS*Covid			0.1163532	0.087
ICR	-0.0125193	0.005	-0.0125196	0.004

D) Discussion

The analysis result of this study shows that profitability has a significant positive effect on the cost of debt. This relationship indicates that manufacturing firms incur higher costs from debt issuance as their profitability increases, consistent with the findings of Ayu et al. (2022) and Tanin et al. (2024). These results underlined that firms tend to take on more debt to finance high-risk expansions when they have a higher ability to generate profit. As a result, they are charged higher debt costs as compensation for the increased risk.

Table 6 presents the random effect model regression result and shows the insignificant effect of liquidity on debt financing cost, supporting the finding of Dirman (2020). This suggests that creditors' assessment of debt costs imposed on borrowing firms is not significantly affected by the firms' liquidity position. It's possible as the financial institutions assess the default risk based on the debtor's collateral during the loan application process. In this study, we applied a quick ratio, which doesn't include inventories, to calculate a firm's liquidity. Inventory can serve as collateral in a loan agreement, which aligns with the test results indicating that liquidity does not significantly affect the cost of debt, as firms have offered collateral.

Benmelech & Bergman (2009) argue that firms with higher collateral redeployability receive lower debt financing costs loan. Redeployability refers to the asset's ability to be transferred or reused by another party if the initial owner no longer requires it or defaults on their obligations. Manufacture firm: a company that transforms raw materials into finished goods and has machines and technology for operation. These productive assets with higher resale value reduce the risk for creditors and consequently lower the borrowing costs borne by the manufacturing firm. Therefore, the firm's cash-on-hand amount does not affect the cost of debt; instead, it is determined by the firm's high-value collateral.

Analyses also reveal the significant negative effect on the cost of debt. This finding aligns with the research of Orazalin & Akhmetzhanov (2019), Sánchez-Ballesta & Yagüe (2023), and Tanin et al. (2024). The inverse relationship between leverage and cost of debt can be explained by the fact that highly leveraged firms, which hold larger amounts of funds, are able to obtain bank loans at lower interest rates due to economies of scale.

The negative impact is also found in the correlation between ESG disclosure score and the cost of debt. Firms with higher ESG disclosure scores incur a lower cost of debt when applying for loans (Gerwanski, 2020; Eliwa et al., 2021; Raimo et al., 2021; Apergis et al., 2022; Zhao et al., 2024; Malik & Kashiramka, 2024). This occurs because ESG disclosure reduces information asymmetry and uncertainty, as argued in agency theory stated by Jensen & Meckling (1976). Hence, creditors perceive firms with strong ESG disclosures as lower-risk borrowers, enhancing their creditworthiness and resulting in more favorable loan terms.

COVID-19 as a moderating variable distorted the impact of explanatory variables on the cost of debt. The pandemic weakens the positive effect of profitability on the cost of debt. Indonesia government through POJK No. 48/POJK.03/2020 provided credit relief for debtors during a pandemic, including interest rate adjustments. Hence, lenders charged and eased the cost of debt too high profitability borrowers. The pandemic also weakened the effect of leverage, where the decreased cost of debt due to the high level of leverage was less pronounced compared to the pre-COVID-19 period. This situation occurred as the economic uncertainty increased, raising the firm's default risk.

Furthermore, the COVID-19 dummy and ESG interaction toward the cost of debt was positive. Nevertheless, this relationship lacks statistical significance. Hence, ESG disclosure does not significantly affect borrowing costs as the pandemic occurs. This finding aligns with the study of Tanjung (2023) and Malik & Kashiramka (2024). During a pandemic, firms' profitability decreased and brought ESG practices and disclosure became costly. This confirms agency theory, which posits that the ESG implementation consumes resources and intensifies agency conflicts.

This study control variable—namely interest coverage ratio, has a significant negative effect on the cost of debt, supports the findings of Orazalin & Akhmetzhanov (2019), Eliwa et al. (2021), and Malik & Kashiramka (2024). A higher interest coverage ratio results in a lower cost of debt for the company, as creditors assess firms with higher coverage as more likely to meet their interest obligations. Furthermore, high coverage is often viewed as an indicator of lower default risk, thus lowering debt financing costs.

V. CONCLUSION

A) Summary of findings

This study analyses the impact of profitability, liquidity, leverage, and ESG disclosure score on the cost of debt in publicly manufactured firms from 2017 to 2022 in the Indonesia Stock Exchange. Panel data regression is employed to examine the relationship between those variables. The results indicate that profitability positively correlates with the cost of debt. While leverage and ESG disclosure scores negatively affect the company's cost of debt. However, we didn't find a significant correlation between liquidity and the cost of debt.

B) Implications

This study offers several implications for manufacturing companies and financial institutions. First, manufacturing firm managers may increase their disclosure of ESG practices since it would reduce information asymmetry and agency problems. They also need to enhance their financial performance such as profitability, leverage, and interest coverage ratio. Increased profitability led to higher retained earnings to fund their operation. Consequently, firms may reduce their reliance on debt financing, which in turn lowers the cost of debt. In conditions where the cost of debt increases alongside the rise of profitability, firms need to analyze their sensitivity to interest rate fluctuations and assess their ability to meet debt obligations under various economic scenarios. Furthermore, manufacturers should aim to improve their interest coverage and leverage ratios, supported by economies of scale, as these can contribute to reducing the cost of debt.

Secondly, the findings of this study suggest that creditors should not only evaluate the financial performance of debtor firms in determining the cost of debt but also consider their sustainability practices. Integrating ESG factors into credit assessments allows creditors to evaluate risk more comprehensively and set interest rates that better reflect the actual risk profile of the firm. Therefore, encouraging ESG transparency may benefit both parties—by providing creditors with more accurate risk indicators and enabling firms to potentially access financing at a lower cost.

C) Limitations and recommendations

The four independent variables in this study only unveil a 7.41 percent explanation for the cost of debt. Despite including COVID-19 dummy variables, the coefficient of determination remains relatively low. Therefore, future research could add another explanatory variable that significantly affects the cost of debt. For instance, firm size (Yazdanfar & Öhman, 2020), bank competition (Wang et al., 2020), and CEO social capital (Chen et al., 2024). Alternative proxies for measuring the independent and dependent variables may also be considered for future research. The sample of this study is restricted to public manufacturing companies in Indonesia from 2017-2022. As a result, the findings of this study may not be generalizable to other industries. Thus, future research could also expand the sample industry, location, and observation year.

VI. REFERENCES

[1] Abraham, F., Cortina, J. J., & Schmukler, S. L. (2020). *Growth of Global Corporate Debt Main Facts and Policy Challenges*. http://www.worldbank.org/prwp.

[2] Aman, H., & Nguyen, P. (2013). Does good governance matter to debtholders? Evidence from the credit ratings of Japanese firms. *Research in International Business and Finance*, *29*(1), 14–34. https://doi.org/10.1016/j.ribaf.2013.02.002

[3] Apergis, N., Poufinas, T., & Antonopoulos, A. (2022). ESG scores and cost of debt. *Energy Economics*, *112*. https://doi.org/10.1016/j.eneco.2022.106186

[4] Ayu, M., Soebagyo, W., & 2∗, I. (2022). Pengaruh kepemilikan institusional, kepemilikan manajerial, profitabilitas, dan ukuran perusahaan terhadap cost of debt. *Online) KINERJA: Jurnal Ekonomi Dan Manajemen*, *19*(2), 345. https://doi.org/10.29264/jkin.v19i2.11686

[5] Benmelech, E., & Bergman, N. K. (2009). Collateral pricing. *Journal of Financial Economics*, *91*(3), 339–360. https://doi.org/10.1016/j.jfineco.2008.03.003

[6] Bouchmel, I., Ftiti, Z., Louhich, W., & Omri, A. (2024). Financing sources, green investment, and environmental performance: Cross-country evidence. *Journal of Environmental Management*, *353*. https://doi.org/10.1016/j.jenvman.2024.120230

[7] Carmo, C. R., Moreira, J. A. C., & Miranda, M. C. S. (2016). Earnings quality and cost of debt: evidence from Portuguese private companies. *Journal of Financial Reporting and Accounting*, *14*(2), 178–197. https://doi.org/10.1108/jfra-08-2014-0065

[8] Chen, Y., Shan, Y. G., Wang, J., Yang, X., & Zhang, J. (2024). Social capital and cost of debt: Evidence from Chinese CEO network centrality. *Emerging Markets Review*, *60*. https://doi.org/10.1016/j.ememar.2024.101131

[9] Deegan, C. (2017). Twenty-five years of social and environmental accounting research within Critical Perspectives of Accounting: Hits, misses and ways forward. *Critical Perspectives on Accounting*, *43*, 65–87. https://doi.org/10.1016/j.cpa.2016.06.005

[10] Dirman, A. (2020). *COST OF DEBT: THE IMPACT OF FINANCIAL FACTORS AND NON-FINANCIAL FACTORS*. *1*(4). https://doi.org/10.38035/DIJEFA

[11] Eliwa, Y., Aboud, A., & Saleh, A. (2021). ESG practices and the cost of debt: Evidence from EU countries. *Critical Perspectives on Accounting*, *79*. https://doi.org/10.1016/j.cpa.2019.102097

[12] Gerwanski, J. (2020). Does it pay off? Integrated reporting and cost of debt: European evidence. *Corporate Social Responsibility and Environmental*

Management, *27*(5), 2299–2319. https://doi.org/10.1002/csr.1965

[13] Jensen, M. C., & Meckling, W. H. (1976). THEORY OF THE FIRM: MANAGERIAL BEHAVIOR, AGENCY COSTS AND OWNERSHIP STRUCTURE. In *Journal of Financial Economics* (Vol. 3). Q North-Holland Publishing Company.

[14] Kaakeh, M., & Gokmenoglu, K. K. (2022). Environmental performance and financial performance during COVID-19 outbreak: Insight from Chinese firms. *Frontiers in Environmental Science*, *10*. https://doi.org/10.3389/fenvs.2022.975924

[15] Kozak, S. (2021). Will the reduction of CO2 emissions lower the cost of debt financing? The case of EU countries. *Energies*, *14*(24). https://doi.org/10.3390/en14248361

[16] Luo, C., Wei, D., & He, F. (2023). Corporate ESG performance and trade credit financing – Evidence from China. *International Review of Economics and Finance*, *85*, 337–351. https://doi.org/10.1016/j.iref.2023.01.021

[17] Malik, N., & Kashiramka, S. (2024). "Impact of ESG disclosure on firm performance and cost of debt: Empirical evidence from India." *Journal of Cleaner Production*, *448*. https://doi.org/10.1016/j.jclepro.2024.141582

[18] Maula, H., Tarique, K.M., Astuti, R.Y., Anggara, F.S.A., Harahap, S.A.R. (2025). Impact and resilience strategy of MSMEs facing the COVID-19 pandemic: An empirical study of MSMEs in Indonesia. DIJB: Diponegoro International Journal of Business 7(2), 99-114. https://doi.org/10.14710/dijb.7.2.2024.99-114

[19] Modigliani, F., & Miller, M. H. (1958). *The Cost of Capital, Corporation Finance and the Theory of Investment* (Vol. 48, Issue 3).

[20] Myers, S. C. (1984). The Capital Structure Puzzle. In *Source: The Journal of Finance* (Vol. 39, Issue 3).

[21] Orazalin, N., & Akhmetzhanov, R. (2019). Earnings management, audit quality, and cost of debt: evidence from a Central Asian economy. *Managerial Auditing Journal*, *34*(6), 696–721. https://doi.org/10.1108/MAJ-12-2017-1730

[22] Raimo, N., Caragnano, A., Zito, M., Vitolla, F., & Mariani, M. (2021). Extending the benefits of ESG disclosure: The effect on the cost of debt financing. *Corporate Social Responsibility and Environmental Management*, *28*(4), 1412–1421. https://doi.org/10.1002/csr.2134

[23] Ross, S. A., Westerfield, R. W., Jaffe, J., Jordan, B. D. (2016). *Corporate finance* (11th ed.). McGraw-Hill.

[24] Roudotul, I., & Purwanto, J. A. (2024). PROFITABILITAS TERHADAP COST OF DEBT SERTA COST OF CAPITAL PADA PERUSAHAAN YANG TERDAFTAR DI BURSA EFEK INDONESIA (Studi Kasus pada Perusahaan yang Terdaftar di Bursa Efek Indonesia Tahun 2020-2022). *DIPONEGORO JOURNAL OF ACCOUNTING*, *13*(4), 1–15. http://ejournal-s1.undip.ac.id/index.php/accounting

[25] Sánchez-Ballesta, J. P., & Yagüe, J. (2023). Tax avoidance and the cost of debt for SMEs: Evidence from Spain. *Journal of Contemporary Accounting and Economics*, *19*(2). https://doi.org/10.1016/j.jcae.2023.100362

[26] Tanin, T. I., Sarker, A., Hammoudeh, S., & Batten, J. A. (2024). The determinants of corporate cost of debt during a financial crisis. *British Accounting Review*. https://doi.org/10.1016/j.bar.2024.101390

[27] Tanjung, M. (2023). Cost of capital and firm performance of ESG companies: what can we infer from the COVID-19 pandemic? *Sustainability Accounting, Management and Policy Journal*, *14*(6), 1242–1267. https://doi.org/10.1108/SAMPJ-07-2022-0396

[28] Wang, X., Han, L., & Huang, X. (2020). Bank competition, concentration and EU SME cost of debt. *International Review of Financial Analysis*, *71*. https://doi.org/10.1016/j.irfa.2020.101534

[29] Yazdanfar, D., & Öhman, P. (2020). The 2008–2009 global financial crisis and the cost of debt capital among SMEs: Swedish evidence. *Journal of Economic Studies*, *48*(6), 1097–1110. https://doi.org/10.1108/JES-02-2020-0064

[30] Zulhansyah, M. I., Nahartyo, E. (2024). *Pengaruh Skor ESG terhadap Cost of Debt pada Perusahaan yang Terdaftar di Bursa Efek Indonesia selama Tahun 2020 hingga 2022* (Undergraduate thesis, Universitas Gadjah Mada). Yogyakarta: Faculty of Economics and Business, Universitas Gadjah Mada.

[31] Zhao, Y., Gao, Y., & Hong, D. (2024). Sustainable Innovation and Economic Resilience: Deciphering ESG Ratings' Role in Lowering Debt Financing Costs. *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-024-02129-y