THE INFLUENCE OF INTEREST PAYMENT ABILITY TO RELATION BETWEEN COMPANY RISK AND DEBT LEVEL

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ABSTRACT

Trade off theory suggests that as business risk increases (decreases), company debt level will decrease (increase). This is because companies compensate for higher business risk with lower debt level as debt is riskier than equity. Companies also avoid higher interest rate charged for debt to companies with higher business risk. We found that company's ability to pay for interest expense mitigate the negative relation between business risk and debt level among manufacture companies in Indonesia. As the ability to pay interest expenses increases, bankruptcy risk decreases. Lenders will perceive the company as a low-risk company, even though business risk is high. Another mechanism is that the ability to pay interest acts as a signal that the company has lower risk than what business risk suggests. The result is lower interest rate that leads to higher debt level.

Keywords: Trade off, debt level, business risk, interest payment

INTRODUCTION

Trade-Off Theory states that the relation between business risk and debt level is negative. The higher the business risk of a company, the higher also the bankruptcy risk. Thus, the company will lower its debt level to reduce this risk. Creditors might also assign higher interest to companies with higher business risk, discouraging such companies from taking on more debt. Eleftheriadis (2018) found negative relation between business risk and debt level among food and beverages companies in Greece. The finding supports trade off theory where a company has its own desired risk level, and thus balancing between business risk and risk due to leverage. Whenever business risk is high, the company reduces its leverage and vice versa creating negative relation between business risk and debt level. However, business risk might not be the only factors both companies and creditors consider assigning bankruptcy risk. A company might have high business risk but has a higher capability to pay interest expenses. Vice versa, a company might have lower business risk but lower capability to pay interest expenses, leading to bankruptcy. It is then posited that the ability to pay interest on debt influence the relation between business risk and debt level.

LITERATURE REVIEW

There are two main theories used to explain the debt level of a company. They are Trade-Off Theory and Pecking Order theory. Pecking Order theory (Myers and Majluf, 1984) suggests that companies have preferences on the source of capital. A company will first use internal sources in the form of retained earnings, followed by debt, and then equity. The hierarchy is due to the presence of different levels of information asymmetry among the three financing sources, that cause different financing costs. Managers and owners of a company possess more

information about the company compared to external parties like creditors or investors. For internal financing sources, there is no external party involved, thus there is no information asymmetry problem. The condition is different if there is an external party involved. Information asymmetry between internal and external parties causes external parties to demand additional return for the financing provided, causing higher financing cost for external financing compared to internal financing. Between the two types of external financing, debt and equity, debt has a lower cost. It is because the issuance of debt is a signal from the internal party that the company is in good financial condition and confident that it can honor the debt obligations. Issuance of equity on the other hand signals that the internal party might believe that future cash flow is not very high, and thus does not mind sharing it with other stockholders. It might also signal that the company is not confident that it can honor any debt obligation. Thus, investors will demand higher return of the financing compared to creditors, causing cost of equity financing to be higher than debt financing.

Trade-Off Theory (Modigliani and Miller, 1958) suggests that companies balance the tax benefit of debt and financial distress cost caused by debt (Ahn, 2019; Eleftheriadis, 2018; Liu, 2017; among others). Debt reduces tax payment of a company. The higher the debt, the higher interest expense. Interest expense reduce taxable income, thus lowering tax payment. The value of tax reduction due to debt for a particular year is interest payment times tax rate of the company. This tax reduction due to debt is called tax shield. The total value of tax shield for a company is the present value of all future tax shields if the company still exists. Thus, the total tax shield value of a company is quite significant. In the other end of the trade-off is the bankruptcy cost, or financial distress cost. A company gets its capital either from equity or from debt. Equity financing carries less risk to the company compared to debt financing. In equity financing, there is no obligation for the company to pay dividends. Thus, during periods of financial difficulty, a company does not need to pay dividends. On the other hand, payment of debt interest is a must. It can cause bankruptcy when a company is unable to pay debt obligations, either the interest or the debt itself. Bankruptcy carries various costs for the company, for example legal costs, loss business cost, and reputation cost. It follows that there is an optimal debt level for each company, where the company achieves the right mix between the advantage and disadvantage of debt. The relation between company value and debt level is thus n shaped curve, where the debt level is not supposed to be too low or too high.

From the Trade-Off Theory, various factors can influence the debt level that is optimal for a particular company. Factors that increase tax shield advantage will make the company choose higher debt level. On the other hand, factors that increase (decrease) bankruptcy risk will reduce (increase) debt level. For example, higher tax rate will increase debt level (Graham, 1996; Harwood and Manzon, 2000; Gordon and Lee, 2001; among others). Higher profitability reduces bankruptcy risk, thus increases debt level (Akhmadi et. al., 2021; Fitrianti et. al., 2021). Company size positively affects debt level as bigger sized companies are more robust against bankcruptcy (pascale, 2018). Fix asset ratio is also positively related to debt level as more fix asset can act as collateral for the debt, thus reducing the potential loss of creditor in the event of bankcruptcy (Hidayat et. al., 2019). Business risk also affect company debt level. Kale et. al. (1991) found that business risk has u shaped relation with debt level. In lower business risk the relation is negative, in accordance with Trade-Off theory. Company with lower (higher) business risk increase (reduce) debt level to compensate for the risk. In higher business risk, the relation is positive because companies try to optimized tax shield as compensation of assuming high business risk. Alnajjar (2015) found negative relation between business risk and debt leve, supporting Trade-Off Theory. However, Sofat dan Singh (2017) and Albart et.

al. (2020) found positive relation between business risk and debt level. The argument is that companies with higher business risk need more capital, thus increase debt.
In this paper, it is hypothesized that the relation between business risk and debt level is different among companies with high capability to pay interest and companies with low capability. In companies with high capability to pay interest, the effect of business risk to debt level is likely to be lower than among companies with low capability. Both the company and creditor might overlook business risk as proxy for bankruptcy potential if the company has higher capability to pay interest.

RESEARCH METHOD

The object of this research is manufacturing companies listed in Indonesia stock market continuously from 2018 to 2022. Companies with negative profit are excluded from the sample. Altogether there are 124 data collected. The data are separated between companies with high capability to pay interest and low capability to pay interest.
The following is the research model used to test hypothesis.

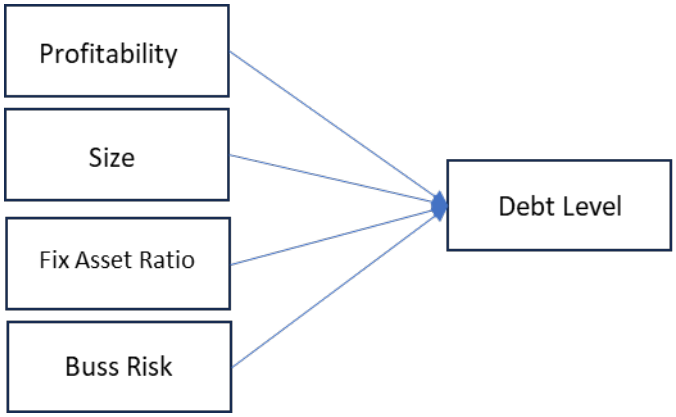

Image 1: Research Model

For each variable, the following proxy is used:

- Proxy for Profitability is ROA
- Proxy for Size is Ln Total Asset
- Proxy for Fix Asset Ratio is Fix Asset divided by Total Asset
- Proxy for Business Risk is Standard Deviation of quarterly EBIT
- Proxy for Debt Level is Liability divided by Equity

Proxy for ability to pay interest in Times Interest Rate (TIE), calculated as EBIT divided by Interest Expense. Companies with TIE above median TIE are grouped as high ability to pay interest, and TIE below median are grouped as low ability to pay interest. Regression analysis is performed in both groups using the research model, and the results are compared to determine whether hypothesis is accepted.

RESULT AND DISCUSSION

Regression results from both set of data is as follows

	Low TIE	High TIE
Adjusted R square	0.368	0.487
F sig	0.000	0.000

Table 1: F test results for Low TIE and high TIE data

	Low TIE		High TIE	
	Standardize Coef	t Sig	Standardize Coef	t Sig
Profitability	-.119	.287	-.045	.653
Size	.558	.000	.533	.000
Fix Asset Ratio	-.015	.898	-.416	.000
Buss Risk	-.209	.057	.393	.000

Table 2: t test results for low TIE and high TIE data

From table 1 it can be seen adjusted R square for both low and high TIE are quite high. The F sig also shows all independent variables are significant to dependent variable for both high and low TIE data. The result suggests that the model is suitable to examine hypothesis.
From table 2 Profitability has no significant effect on debt level. Moreover, the coefficient is negative, showing a negative relation between profitability and debt level. The result differs from what Trade-Off Hypothesis suggests. It can be explained using Pecking Order Theory, where higher profitability enables higher retained earnings, thus reducing the requirement of the company to raise debt. Size has a positive and significant relation with debt level, as suggested by Trade Off Theory. Fix Asset Ratio has a negative relation with debt level. One possible explanation is that high Fix Asset Ratio means lower liquidity, causing creditors to be less willing to lend to the company.
As hypothesized, there is difference on how Business Risk will affect debt level between companies with high TIE and companies with low TIE. In companies with low TIE, thus lower ability to pay interest, there is negative relation between business risk and debt level. Higher business risk makes companies compensate by lowering debt level, thus reducing risk. The result is in accordance with Trade-Off Theory. However, in companies with higher TIE, thus higher ability to pay interest, there is positive relation between business risk and debt level. It can be argued that in such companies, business risk is not an important factor to determine bankruptcy risk. Both the company and creditor might overlook business risk and assume that bankruptcy risk is low as ability to pay interest is high. The positive relation between business risk and debt level can be explained either by management trying to maximize tax shield for highly risky business (Kale et. al., 1991) or the company need higher level financing to support higher business risk (Sofat dan Singh, 2017; and Albart et. al., 2020).

CONCLUSION

The relationship between business risk and debt level can be either negative or positive, depending on company ability to pay interest expense. The result enrich understanding of debt level determinant, especially in Trade-Off Theory.

APPENDIX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.068	4	.517	9.881	.000[b]
	Residual	2.982	57	.052		
	Total	5.050	61			

a. Dependent Variable: DER

b. Predictors: (Constant), BRISK, ROA, TANG, SIZE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.721	.568		-3.031	.004
	ROA	-1.080	1.005	-.119	-1.075	.287
	SIZE	.089	.018	.558	4.897	.000
	TANG	-.022	.173	-.015	-.128	.898
	BRISK	-.250	.129	-.209	-1.945	.057

a. Dependent Variable: DER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.345	4	.336	15.480	.000[b]
	Residual	1.238	57	.022		
	Total	2.582	61			

a. Dependent Variable: DER

b. Predictors: (Constant), BRISK, TANG, SIZE, ROA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.577	.377		-4.181	.000
	ROA	-.142	.315	-.045	-.452	.653
	SIZE	.069	.012	.533	5.538	.000
	TANG	-.553	.129	-.416	-4.292	.000
	BRISK	.366	.092	.393	3.990	.000

a. Dependent Variable: DER

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