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Factors influencing the capital structure of sharia construction and building companies

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Abstract

This study aims to amine the effect of tangibility, non-debt tax shields, firm size, profitability, and receivables to the capital structure by using panel regression based on the Common Effect model, fixed effect model and random effect model. The results of this study showed that there was a negative influence of tangibility and firm size on the capital structure. Research implication concludes that investors should be more careful choosing a company, to invest their capital by

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looking at reliability, non-debt tax shields, firm size, profitability, and receivables to improve the expected capital structure.

Keywords: Tangibility, tax shields, firm, profitability.

Factores que influyen en la estructura de capital de las compañías de construcción y construcción de la Sharia

Resumen

El objetivo de este estudio es analizar el efecto de la tangibilidad, la protección fiscal sin deuda, el tamaño de la empresa, la rentabilidad y las cuentas por cobrar a la estructura de capital mediante el uso de regresión de panel basada en el modelo de efectos comunes, el modelo de efectos fijos y el modelo de efectos aleatorios. Los resultados de este estudio mostraron que hubo una influencia negativa de la tangibilidad y el tamaño de la empresa en la estructura de capital. La implicación de la investigación concluye que los inversionistas deben ser más cuidadosos al elegir una compañía, para invertir su capital al analizar la confiabilidad, las garantías fiscales sin deuda, el tamaño de la empresa, la rentabilidad y las cuentas por cobrar para mejorar la estructura de capital esperada.

Palabras clave: tangibilidad, escudos fiscales, empresa, rentabilidad.

1. INTRODUCTION

Capital structure is one of the building blocks in financial management that should not be missed by anyone who enters higher education. In general, the capital structure explains the mechanism in choosing to fund from the company. The mechanism for selecting financing linked to two approaches, namely the tradeoff theory and

pecking order theory. Trade-off theory is a theory put forward by Modigliani and Miller (1963) stating that companies attempt to balance the tax saving benefits of using debt at bankruptcy costs.

In Egypt, Allini et al. (2018) stated that companies in Egypt tended to use the pecking order theory. A large number of companies made priorities in using profitability, tangibility assets, size and opportunities for the company's growth in debt ownership. While in Taiwan, like Chen et al, (2013) claimed that companies were apt to avoid applying pecking order theory. It means companies prefer debt rather than using internal funding sources. Meanwhile, in Europe, Koralun (2018) argues that long-term funding is more in line with pecking order theory while short-term funding is for trade-off theory. However, substantially these two theories are the implementation of capital structure theory that is obtaining debt as optimal capital to maximize the welfare of the company's shareholders.

Sharia construction and building companies require a considerable amount of capital. The construction companies have significantly contributed to Indonesia's economic growth. In 2016, the contribution of construction companies was 0.51% following the input of the processing and trade industry sectors. Also, the construction sector also contributed significantly to the gross domestic product with a value of 10.38% following the industrial, agricultural and trade areas. Besides, the Shariah construction company also contributed to the development of the Indonesian Syariah Stock Index. Sharia construction stocks in the last five years

experienced a capitalization increase of 42%, which is 2012 was around 2,451 trillion rupiahs to 3,437 trillion rupiahs. Here is a debt to equity ratio (DER) of construction companies and sharia buildings on the Indonesia Stock Exchange (IDX) from 2013 to 2016 that showed a significant difference (Figure 1).



Figure 1: DER. Sharian construction and building companies in IDX 2013-2016

Source: Indonesia Capital Market Directory (2018)

Figure 1. Shows a tendency for changes in the capital structure of sharia construction and building companies in IDX for 2013-2016 at certain DER levels which are more than 1. Therefore, it is necessary to research why the change took place in the capital structure, and influential factors More than 1 DER number indicates Construction Company have higher debt than capital which means DER ratio above 1, so funds used for operational activities are more likely to be originated from liability. Increased capital in large construction companies will undoubtedly shift the capital structure of the construction company. The level of DER will eventually

determine the size of the company's risk which has implications for the use of company funds in each of its operational activities.

Several empirical studies carried out in various countries lately show the rise of low DER in companies. Müller (2015) who researched in Germany claimed that the capital structure was determined by the size and tangibility of assets in the company rather than by profitability, liquidity and company growth. A study in America by Kieschnick and Moussawi (2018) reveals the age of companies age-old companies determine the use of debt by considering the risks of the company as the company ages. Research in several European countries by Koralun (2018) stated the existence of industry influence and company size on capital structure. As Chandra (2018) who researched American restaurant companies claimed that long-term financing requires understanding the behaviour of management or CEOs to use long-term debt when companies see better opportunities.

Some other factors that influence capital structure also need to be considered. Acaravci (2014) using Turkish data revealed that positive firm capital structure is determined by growth opportunities, while size, profitability and the number of fixed assets negatively affect the capital structure. Meanwhile, the nondebt tax shield does not change the capital structure. In India, Chadha and Sharma (2015) found that size, age, tangibility assets, growth, profitability, non-debt tax shield, business risk, ownership structure as determinants of capital structure but dividend payments,

liquidity, interest ratio, ratio cash in, inflation and GDP do not affect the capital structure in the manufacturing company.

Chandra (2018) who studied energy companies in Pakistan also claimed that profitability, size and tangibility are positively related while taxes have a negative effect on debt levels. This research supports the trade-off theory. Research on Islamic banking by Dwidjaja et al. (2017) found that profitability, bank size and fixed assets determine the capital structure of Islamic and commercial banks except for earnings growth and volatility in conventional commercial banks. Dwidjaja et al. (2017) who analysed non-financial companies in Sub-Saharan revealed a negative relationship between profitability and tangibility of assets and supported pecking order theory and trade-off theory.

In the context of Indonesia, some studies have produced findings that are inconsistent and highly dependent on the company is being analysed. Dwidjaja et al. (2017) who analysed in nonfinancial companies on the Indonesia Stock Exchange revealed positive tangibility affecting the capital structure while size, growth and liquidity have a negative and significant effect. Guna and Sampurno (2018) who researched food and beverage companies found profitability, company size, asset structure and sales growth placed no impact on the capital structure except liquidity. Chandra (2018) who studied banking data explained that the capital structure in banks was primarily determined by liquidity, institutional ownership, bank age,

while profitability, business risk and dividends and management ownership are not factors affecting capital structure.

Based on several empirical reviews discussed previously, the factors that influence the capital structure was very diverse and inconsistent. Thus, more in-depth research needed in Indonesia. The purpose of this study is to test the determination of capital structure in sharia construction companies and buildings operating in Indonesia. This research applies tangibility research objects, nondebt tax shields, firm size, and profitability, accounts receivable and capital structure. This study adds accounts receivable as an independent variable to test capital structure. Use of accounts receivable is required because accounts receivable are a characteristic part of the company in its ability to compensate debt.

2. METHODOLOGY

This quantitative study used the panel data collected from the sharia construction and building companies listed in IDX over the period of 2013 - 2016. We use the company's financial statement, including the income and balance sheet published on www.idx.co.id. The data will be analysed panel data regression model. Further, to the effect of the leverage variable (debt ratio), it uses three types of estimation models, namely the common effect model (CEM), fixed effect method (FE) and random effect method (RE). Based on

guidelines from the study of Chandra (2018), the mathematical equations of the three estimation models of panel data processing PLS, FE and REM as seen as below:

$$LEV_{it} = \alpha_0 + \beta_1 TNG_{it} + \beta_2 NDT_{it} + \beta_3 SZE_{it} + \beta_4 PRO_{it} + \beta_5 PTG_{it} + \varepsilon_{it}$$

$$LEV_{it} = \alpha_1 + \beta_1 TNG_{it} + \beta_2 NDT_{it} + \beta_3 SZE_{it} + \beta_4 PRO_{it} + \beta_5 PTG_{it} + \mu_{it}$$

$$LEV_{it} = \alpha_3 + \beta_1 TNG_{it} + \beta_2 NDT_{it} + \beta_3 SZE_{it} + \beta_4 PRO_{it} + \beta_5 PTG_{it} + \mu_{it} + \varepsilon_{it}$$

Where: LEV_{it} is the first company leverage in the period t which is proxied by DER; TNG_{it} represented tangibility of company i in the period t ; NDT_{it} is The first non-Debt Tax Shields of the company in the period t ; SZE_{it} is firm Size of the first company in the period t ; PRO_{it} is the profitability of the i -company in the period t ; PTG_{it} is the first company receivables in the period t ; α_0 is Intercept; $\beta_1 - \beta_5$ is the coefficient for each independent variable; μ_{it} is residual term for each unit cross section i in the period t ; ε_{it} is component error (error cross, time series and combination) for each unit cross section i in the period t .

The Chandra (2018) test results largely determine the choice of model in this study. The Chow test is the best model selection between common effects and the fixed effect. It is necessary to do a Hausman Test to choose the best model between fixed effects with random effects. The best model is a random effect if H_0 fails to be

rejected, but if H_0 is rejected, the best model is the fixed effect model (Avazzadeh, 2015).

3. RESULTS AND DISCUSSION

Before discussing the study results, this section first describes descriptive data and classical assumptions.

Table 1: Result of Descriptive analysis and classical assumption test

Descriptive	DER	TNG	NDTS	SZE	PRO	PTG
Mean	2.100	0.093	0.067	6.778	0.063	1934493.
Std. Dev.	1.309	0.052	0.051	0.478	0.067	2033362.
Classical Assumption	Test				Value	Prob.
Normality	Jarque Berra				3.567	0.168
Heteroscedasticity	Heteroskedasticity Test: White (Obs*R-squared)				2.789	0.732
Autocorrelation	Breusch-Godfrey Serial Correlation LM: (Obs*R-squared)				4.084	0.129
Multicollinearity	VIF	TNG	NDTS	SZE	PRO	PTG
		2.300	5.191	7.528	1.454	5.063
Pearson Correlation	Variables	TNG	NDTS	SZE	PRO	PTG
	TNG	1.000	0.486	-0.003	0.032	-0.100
	NDT	0.486	1.000	-0.698	-0.228	-0.669
	SZE	-0.003	-0.698	1.000	-0.068	0.890
	PRO	0.032	-0.228	-0.068	1.000	-0.076
	PTG	-0.100	-0.669	0.890	-0.076	1.000

Based on Table 1 above can be explained in general the model and data used in this study are acceptable. The average value of all

variables used in this study is higher than the standard deviation value except the level of accounts receivable. It proves that the data in this study is normally distributed, and these results supported the normalization test using Jarque Berra. The value of Jarque Berra is not significant at 5 percent, meaning that the data is normal. Also, the results of this study have also been free from the problems of autocorrelation, heteroscedasticity, and multicollinearity. The R-squared observation value for the heteroskedasticity test and the autocorrelation are not significant at the 5 percent level. While the value of multicollinearity also shows that this research model is free from multicollinearity problems, it shows that the VIF value is less than 10 and the correlation value between independent variables is no greater than 0.80 percent.

The results of the study using a regression model can be shown in Table 1 below. In Table 1 the following regression has been done using CEM, FEM and REM, Chow test and Hausman test. The test results provide a Chow value of -8.22 *** meaning that a good model is a fixed effect model because the Chow test value is significant 1 percent. This result required that the Hausman test is tested to choose the FEM or REM model. The Hausman test results obtained a value of 5 ***, meaning that because the Hausman value is significant 1 percent, the best model is the fixed effect model.

Table 2: Result of determinant capital structure in sharia construction and building companies in IDX

Variables	CEM	FEM	REM
Constant	6.231	20.061***	8.543**
TNG	0.165	-14.908**	-2.568
NDT	-22.094***	-7.889	-0.433***
SZE	0.333	-2.005***	-0.196
PRO	-3.838	-4.150	-4.272*
PTG	-0.787*	0.279	-0.520
R ²	0.640	0.869	0.498
F_Statistic	10.711***	11.307***	5.972***
Chow test= (8.22) ***			Hausman test= 5***

Note: *** significance level 1%, ** significance level 5%. CEM = Common Effect Model; FEM = Fixed Effect Model; and REM = Random Effect Model

Based on Table 1 above by using five variables, namely tangibility assets, non-debt tax shields, size, profitability and accounts receivable. The fifth is an independent variable tested against the capital structure as the dependent variable. The panel regression results obtained as follows:

$$DER_{it} = 20.061 - 14.908TNG_{it} - 7.889NDT_{it} - 2.592SZE_{it} - 2.005PRO_{it} + 0.279PTG_{it}$$

Several observations can explain the model equation above. In general, the results of this study show that all the independent variables namely tangibility assets, non-debt tax shields, size, profitability and accounts receivable affect the level of debt. It can be

seen from the significance value of tangibility assets 5 percent and company size with a significance value of 1 percent. While non-debt tax shields and profitability also has a negative effect but it is insignificant. It can be seen in the non-significant coefficient values at level 1 percent, 5 percent and 10 percent, while accounts receivable have a positive but not significant effect. Furthermore, the estimated coefficient of determination (R^2) is 0.869 or 86.9 percent. It means that the level of debt or capital structure of the construction and building companies of sharia can be explaining using the five variables used in this study is strong (Alkhateeb, 2019)

Also, the above equation can also be interpreted into several items (Indriastuti, 2019). First, the constant value is 20,061 which means if the tangibility asset coefficient, non-debt tax shield, company size, profitability and receivables do not change, the intercept value is fixed at 20. 061. Second, the tangibility asset coefficient value is -14,908 which means that if the value Tangibility assets rose 1 percent, reducing the debt level by 14.908 percent. Third, the coefficient of non-debt tax shields is -7,889, which means that if the value of the coefficient of non-debt tax shields increases by 1 percent, it decreases the debt level by 7. 889 percent. Fourth, the company size coefficient is -2,592, which means that if the size of the company rises 1 percent, it will reduce the debt level by 2,592 percent.

Fifth, the profitability coefficient is -2.005, which means that if the size of the company increases by 1 percent, the level of debt

increases by 2.005 percent. Finally, the receivable coefficient is 0.279, which means that if the receivables rise 1 percent, the debt level will increase by 0.279 percent. There have been numerous studies concerning the variables used to find out the effects of debt levels of sharia construction and building companies in Indonesia. Two variables that affect the capital structure of sharia construction and building companies in Indonesia are assets tangibility and firm size. Variable tangibility assets indicate a negative influence on capital structure (Yang et al., 2019). This finding is in line with several studies that state a negative impact and although it contradicts some reviews that claimed the opposite result (Lee, 2019).

This finding is following the pecking order theory approach which explains the negative tangibility of its relationship to shortterm financing. However, this research contradicts the results of other studies that reveal positive relationships such as (Chadha and Sharma, 2015; Chen et al., 2013). Firm size variables show a negative relationship with capital structure. This finding is by the results of (Acaravci, 2014). These findings mean sharia construction and building companies applies to peck order theory more consistently. It indicates a negative relationship between company size and debt ratio because asymmetric information is not a problem for large companies. This finding is conflicting with several studies that explain positive relationships, in general, finding a positive relationship between company size and debt ratio so that it supports trade-off theory (Chadha and Sharma, 2015; Chandra, 2018).

While the Non-Debt-Tax Shield (NDTS) variable, profitability and accounts receivable does not affect the capital structure of sharia construction and building companies at IDX, the Non-Debt-Tax Shield (NDTS) variable does not show any influence on the capital structure of sharia construction and building companies in IDX even though the direction is negative (Soo et al., 2019). This finding is by Acaravci (2014), Chadha and Sharma (2015) which stated that the Non-Debt-Tax Shield does not affect the capital structure even though the regression results show a negative direction and this explanation supported trade-off theory.

The variable profitability does not affect the capital structure in a negative direction. The results of this study are by Guna and Sampurno (2018) who stated that profitability placed no effect on the level of debt in sharia construction and building companies in Indonesia. The occurrence of a negative relationship is caused by the construction company and a relatively good level of profitability. It makes the company make finance with its internal costs or retained earnings, then debt and eventually issues equity. This condition is by the financing order in pecking order theory.

The receivable variable also does not affect the capital structure even though the direction is positive. In theory, capital structure is an illustration of the form of financial proportions in the company, which consists of capital owned by sources of long-term liabilities and shareholders' equity as sources of financing within the company while accounts receivable are assets or wealth that arise as a result of the

implementation of credit sales practices. So that in this case the capital structure is not influenced by accounts receivable because the receivables are on the side of the company's balance sheet while the capital structure is on the liabilities side of the company's balance sheet. Nevertheless, it is essential to keep in mind the high value of these accounts uncontrolled by company management can result in losses for the company later.

4. CONCLUSION

The results of this study provide the outcome that tangibility asset factors and firm size determine the defining factors of capital structure in sharia construction and building companies in Indonesia. It indicates that in the case of sharia construction and building companies it is more suitable for pecking order theory. In the case of company size, this finding is not consistent with most other studies that support the trade-off theory. Nevertheless, in general, the results of this study show that all independent variables affect the level of the capital structure of construction companies and sharia buildings. Furthermore, the findings of this study become a signal for investors in determining investment in companies, especially sharia construction and building companies. Thus investors are advised to consider tangibility assets, non-debt tax shields, firm size, profitability, and receivables.

REFERENCES

- ACARAVCI, S. 2014. **The determinants of capital structure: Evidence from the Turkish manufacturing sector.** International Journal of Economics and Financial Issues. Vol. 5, N^o 1: 158-171. Turkey.
- ALLINI, A., RAKHA, S., MCMILLAN, D., & CALDARELLI, A. 2018. **Pecking order and market timing theory in emerging markets: The case of Egyptian firms.** Research in International Business and Finance. Vol. 44, pp. 297-308. doi: <https://doi.org/10.1016/j.ribaf.2017.07.098>. Netherlands.
- CHADHA, S., & SHARMA, A. 2015. **Determinants of capital structure: an empirical evaluation from India.** Journal of Advances in Management Research. Vol. 12, N^o 1: 314. doi: doi:10.1108/JAMR-08-2014-0051. UK.
- CHANDRA, T. 2018. **Factors Affecting Capital Structure in Property and Real Estate Companies in Indonesia.** Ekuitas: Jurnal Ekonomi dan Keuangan. Vol. 18, N^o 4: 507-523. Indonesia.
- CHEN, D., CHEN, C., CHEN, J., & HUANG, Y. 2013. **Panel data analyses of the pecking order theory and the market timing theory of capital structure in Taiwan.** International Review of Economics & Finance. Vol. 27, pp. 1-13. doi: <https://doi.org/10.1016/j.iref.2012.09.011>. Netherlands.
- DWIDJAJA, S., MURHADI, W., & UTAMI, M. 2017. **Factors**

- that influence the capital structure and its effect on the performance of companies listed on the Indonesian stock exchange period 2011-2015.** CALYPTRA. Vol. 6, N° 2: 793–810-793–810. Netherlands.
- GUNA, M., & SAMPURNO, R. 2018. **Analysis Of Factors Affecting Capital Structure (Case Study In Food And Beverage Companies Listed On Bei, 2012-2016).** Diponegoro Journal of Management. Vol. 7, N° 2: 236247. Indonesia.
- INDRIASTUTI, H. 2019. **Entrepreneurial inattentiveness, relational capabilities and value co-creation to enhance marketing performance.** Giap journals. Vol 7. N° 3. India.
- KIESCHNICK, R., & MOUSSAWI, R. 2018. **Firm age, corporate governance, and capital structure choices.** Journal of Corporate Finance. Vol. 48, pp. 597-614. doi: <https://doi.org/10.1016/j.jcorpfin.2017.12.011>. Netherlands.
- KORALUN, J. 2018. **Determinants of Capital Structure Across European Countries.** Cham. Germany.
- MODIGLIANI, F., & MILLER, M. 1963. **Corporate income taxes and the cost of capital: a correction.** The American economic review. Vol. 53, N° 3: 433-443. USA.
- MÜLLER, S. 2015. **Determinants of capital structure: Evidence from the German market.** The University of Twente. Netherlands.

- SOO, M., SHELBY, R., & JOHNSON, K. 2019. **Optimizing the patient experience during breast biopsy.** Journal of Breast Imaging. wbz001, <https://doi.org/10.1093/jbi/wbz001>. UK.
- YANG, Y., PAN, T., & ZHANG, J. 2019. **Global optimization of Norris derivative filtering with application for nearinfrared analysis of serum urea nitrogen.** Scientific Research Publishing. Vol 10. N° 5. China.
- LEE, M. Y. (2019). **A Case Study Examining Links between Fractional Knowledge and Linear Equation Writing of Seventh-Grade Students and Whether to Introduce Linear Equations in an Earlier Grade.** International Electronic Journal of Mathematics Education, 14(1), 109-122. <https://doi.org/10.12973/iejme/3980>
- AVAZZADEH, E. (2015). **The Effect of Corporate Governance Components on Dividend and Financing Policies.** UCT Journal of Management and Accounting Studies, 3(2), 10-16.
- Alkhateeb, M. (2019). **Multiple Representations in 8th Grade Mathematics Textbook and the Extent to which Teachers Implement Them.** International Electronic Journal of Mathematics Education, 14(1), 137-145. <https://doi.org/10.12973/iejme/3982>



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