

THE IMPACT OF PROFITABILITY, ACTIVITY STRUCTURE, AND BUSINESS RISK TO CAPITAL STRUCTURE (Study of the Building Construction Sub Sector Listed on the Indonesia Stock Exchange Period 2014-2018)

Exchange Period 2014-2018)

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ABSTRACT

The purpose of this study is to study whether there is a significant effect of profitability, asset structure, and business risk on capital structure. Capital structure is an important issue for companies because capital structure will have a direct effect on the company's financial condition. The use of debts by companies can incur interest costs which can make risk the company's payments being unstable. Therefore, a policy is needed in determining the fulfillment of capital needs. The research period used was 2014-2018. This type of research is explanatory research with quantitative research methods. The population in this study are all Building Construction subsector companies listed on the IDX. While the sample of this study was determined by the purposive sampling method. Data collection techniques used are panel data regression, classic assumption tests, F test and t test. The results showed that the Asset Structure proved to be significant towards the Capital Structure. While Profitability and Business Risk does not affect the Capital Structure.

Keywords: Profitability, Asset Structure, Business Risk, Capital Structure



INTRODUCTION

Sources of funding for operational can come from internal and external companies. Companies usually use internal funds compared to external funds for their operational. However, if the use of internal funds in the form of retained earnings is relatively small, the company should use external funds also. On the other hand, the use of debt by companies can incur interest costs which can be risky if the company's situation is unstable.

Therefore, a policy is needed in determining the fulfillment of capital needs. A financial manager in a company is required to be able to make funding decisions. A decision taken by a manager must be considered carefully and structured, because if it is not done carefully and structured it will cause high capital costs, which will turn the result in a low profitability of the company (Nurrohim, 2008).

Construction services have an important role for Indonesia country, because in addition to playing a role in the field of construction services construction also plays a role in supporting the growth and development of various industrial goods and services needed in carrying out construction work activities. The development of the building construction sub-sector is partly because the government has begun to realize that the infrastructure sector will help to growth the activities of other sectors, it will contribute to the economy and is predicted to grow better in the following years. The building construction subsector need external funds to increase capital and to support the trust of the public and the government in the company.

As explained in the Sectoral Assessment Semester I-2018 in the Construction Business Category, the Construction business category obtains financing from domestic banks, the issuance of debt securities in the domestic market and the withdrawal of foreign loans to support all the activities. At the end of 2017, financing from domestic banks tended to slow down, while financing from issuance of debt securities and foreign loans increased. Loans provided by banks (commercial banks and rural banks) to the business field category Construction in 2017 stood at Rp 260.5 trillion. Based on the type of use, loans granted to the Construction business category are dominated by the type of use for working capital (72% share).

With the large use of external funds or debt by building construction service companies, it can trigger a greater magnitude of the company's capital structure. Especially with the large number of projects undertaken by construction service companies making the DER ratio creep up. Debt To Equity Ratio (DER) ratio is a comparison between the total debt owned by the company and its own capital. If the company's debt is higher than its own capital, the DER ratio is above one, which means that the funds used by the company in carrying out its operational activities use debt more than using its own capital.





Graphic 1. Debt to Equity Ratio Average

The average of Cebt to Equity Ratio of Building Construction Company from 2014-2018, we can see that the DER ratio is fluctuatif. As we can see that the grafik of DER in 2014 and 2018 is very high that can reach 300%. It means the company used a lot of debt rather than their equity. It's not good for company if they are in bad condition because it can make the risk going higher. So, company should make a best decision about their funding to make capital structure become optimal.

Capital structure is a combination of debt and capital in a company that is used to finance its assets (Bayunitri and Malik 2015). In determining the capital structure of a company, it is necessary to consider various variables that influence it both from outside the company and within the company. As according to (Brigham and Houston 2011: 188), factors affecting capital structure include sales stability, asset structure, operating leverage, business risk, growth rates, profitability, taxes, controls, management attitudes, company size and financial flexibility.

LITERATURE REVIEW AND HYPOTHESIS Profitability

Profitability is one of the factors that can affect the company's capital structure. Profitability describes the company's ability to generate profits or corporate profits. The higher profitability indicates that the profits earned by the company are also high. If the company's profit is high, the company has a large enough source of funds so that the company needs less debt. In addition, if retained earnings increase, the debt ratio by itself will decrease, assuming that the company does not increase the amount of debt.

The profitability variable in this study is proxied by ROE (Return On Equity), which is the company's ability to earn profits using its own capital. This ratio is influenced by the size of the company's debt. A high ROE level indicates that the company is able to obtain a high level of profit compared to the level of its equity, in other words the ability of management to utilize the share capital owned for its operations so that it will generate additional profits for the company. Research on the influence of proftability on capital structure ever dilakukan oleh Kartini dan Arianto (2008), Primantara dan Dewi (2016), Prastika dan Candradewi (2019), Salmah and Ermella (2019) say that profitability affects the capital structure while Aisyah (2017), Joni and Lina (2010), and Pertiwi and Darmayanti



(2018) say that profitability has no effect on capital structure.

H₁: Profitability has a significant effect on capital structure

Asset Structure

If a company has a large fixed asset structure, it will tend to have a large amount of debt. Because the amount of fixed assets owned by the company and used as collateral will facilitate the company to get funding sources other than its own capital (Salmah and Ermeila 2019). Pertiwi and Darmayanti (2018) in their research used fixed asset ratio (FAR) as a measure, where FAR is the ratio of fixed assets to total company assets to measure how effective the company is in utilizing its financial resources.

Research on the effect of asset structure on capital structure has been done by Pertiwi and Darmayanti (2018) and Joni and Lina (2010) said that asset structure influences capital structure while Karlina (2010), Sari (2016), and Sofianaya (2013) say that asset structure has no effect on capital structure.

H₂: Asset Structure has a significant effect on the company's capital structure Business Risk

According to Gitman (2003: 215) business risk is one of the risks faced by companies when undergoing operational activities, namely the possibility of the company's inability to fund its operational activities. The greater business risk in a company has an impact on the decline in financing with debt (capital structure) (Mulyadi, and Yusuf 2016).

Companies that have no leverage mean using 100% of their own capital. Business risk measurement tools can be done by looking at the leverage of its operations, namely by using DOL (Istono, 2010). The higher the value of DOL, the higher the business risk of a company.

Research on the effect of business risk on capital structure was conducted by Sawitri and Lestari (2015) and Primantara and Dewi (2016) stated that business risk influences capital structure. Meanwhile according to Aisyah (2017) and Joni and Lina (2010) states that business risk has no influence on capital structure.

H₃: Business Risk has a significant effect on the company's capital structure

RESEARCH METHODS

Type of Research

This type of research is an explanatory research with a quantitative approach, namely research intended to explain a sample generalization to its population or explain the relationship, differences or influence of a variable with other variables (**Bungin, 2011**).

Data and Data Sources

This research was conducted by collecting secondary data that is quantitative. Secondary data used in this study is the publication of financial statements on building construction companies listed on the Indonesia Stock Exchange. The source of the data can beobtained through the official website of the Indonesia Stock Exchange (www.idx.co.id) during the observation period and



related sources.

Populasi dan Sampel 1. Population

Sugiyono (2011: 32) explains, population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by researchers to be studied and then drawn conclusions. The population in this study is the Building Construction sub-sector listed on the Indonesia Stock Exchange for the 2014-2018 period of 16 companies.

Sample

The sampling technique in this study is the purposive sampling technique, which is the method of determining the sample with certain considerations or criteria (**Sugiyono, 2014**). The criteria for determining the sample in this study are:

- a. Building construction companies listed on the Indonesia Stock Exchange (IDX) for the 20142018 period.
- b. Building construction companies that have published annual financial reports as of December 31 during the 2014-2018 period.
- c. Building construction companies that did not experience a loss in the period 2014-2018.
- d. Building construction companies that display data and information needed for this study in the period 2014-2018.
- e. The building construction company publishes annual financial statements using the Rupiah currency during the 2014-2018 research period.

Based on these criteria, 8 companies were sampled in this study.

Operational Variables 1. Capital Structure (DER)

DER is a variable that defines how much proportion of a company's capital comes from loans or credit.

$$DER = rac{Total \ Liabilities}{Total \ Equity}$$

Profitability (ROE)

This ratio examines the extent of the company use resources owned to be able to provide a return on equity (Fahmi 2014).

$$ROE = \frac{Earning After Taxes}{Total Equity}$$

Struktur Aktiva (FAR)

According to **Joni and Lina (2010)** asset structure is a comparison between total fixed assets and total assets used by companies.

$$FAR = \frac{Total \ Fixed \ Assets}{Total \ Assets}$$

Risiko Bisnis

Business risk measurement tools can be done by looking at the leverage of its operations, namely by using DOL (**Istono, 2010**). The higher the value of DOL, the higher the business risk of a company.

$$DOL = \frac{\% EBIT}{\% Sales}$$

Data Analysis Techniques 1. Panel Data Analysis



Panel data is a combination of times series data and cross section. Times series data is data arranged in chronological order, for example daily, weekly, monthly, or annual data. Cross section data is data collected at the same time for example from several companies, regions and countries. Regression analysis using panel data can overcome the limitations of data availability that are often faced by researchers in analyzing data with limited number of objects.

The regression equation in this study can be stated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Information:

Y = Capital Structure

 α = Constant

- X1 = Profitability
- X2 = Asset Structure
- X3 = Business Risk
- β = Regression coefficient independent of each variable.
- *e* = Error Term
 - a. Model Specification Test

In choosing which model is best used in this study, the authors conducted the Chow Test, the Hausman test, and the Lagrange Multiplier test. (Limbong and Ananda, 2017)

b. Selection of Panel Data Estimation Method The estimation method using panel data can be done through three approaches which include: common effect, fixed effect, and random effect.

Classical Assumption Test

The classic assumption test is a prerequisite for panel data regression analysis. Before testing the hypothesis proposed in the study, it is necessary to test the classical assumptions which include the Normality Test, the Multicollinearity Test, the Heteroscedasticity Test and the Autocorrelation Test.

t Test

This test is conducted to determine whether each independent variable (profitability, asset structure, and business risk) partially has a significant effect on the dependent variable (capital structure).

F Test

The F test is a test of the significance of the equation used to find out how much influence the independent variable (profitability, asset structure, and Business risk) together with the dependent variable (Y), which is DER.

Coefficient of Determination

The coefficient of determination (Adjusted R Square) aims to find out how much the ability of the independent variables to explain the dependent variable. The value of R Square is between 0 - 1, the closer the value of R Square to 1, then the regression line drawn describes 100% variation in Y. Conversely, if the value of R Square equals 0 or approaches it, the regression line does not explain the variation in (**Ghozali, 2011**).



RESULTS

Determination of Analysis Model 1. Chow Test

A Chow test is performed to determine whether the model will be analyzed by using the common effect or fixed effect method. This test is carried out by the F-stat test procedure with a hypothesis:

> H₀: Common Effect Model H₁: Fixed Effect Model

The results of the Chow Test are as follows:

Table 2. Chow test results				
Effects Test	Statistic d.:	f. Prob.		
Cross-section F Cross-section Chi- square	4.591303 (7 29.834246	7 0.0001 0.0001		

From the results of processed Eviews 10 it is known that the p-value is 0.0015. With a p-value smaller than α (0.1), the conclusion from the Chow Test results is rejecting H₀, so that the best model between the Common Effect (PLS) and Fixed effect model is the Fixed effect model.

Hausman Test

The Hausman test is used to choose the best approach between the Fixed Effect Model and the Random Effect Model. This test follows the chisquare distribution with a hypothesis:

H₀: Random Effect Model

H₁: Fixed Effect Model

The results of the Hausman Test are as follows:

 Table 3. Results of the Hajman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.292052	3	0.3488

From the results of processed Eviews 10 it is known that the p-value is 0.3488. With a p-value greater than α (0.1), the conclusion of the Hausman Test results is accepting H0, so that the best model between the Random effect model and the Fixed effect model is the Random effect model.

Lagrange Multiplier Test



Model and the Random Effect Model. This test follows the chi-square distribution with a hypothesis:

H₀:Common Effect Model H₁: Random Effect Model

The results of the Lagrange Multiplier Test The Lagrange Multiplier Test is used to choose the best approach between the Common Effect

Table 4. Lagrange multiplier test results are as follows

Null (no rand. effect)	Cross-section	Period	Both
Alternative	One-sided	One-sided	
Breusch-Pagan	10.29685	0.318107	10.61495
	(0.0013)	(0.5727)	(0.0011)

From the results of processed Eviews 10 it is known that the p-value is 0.0013. With a p-value smaller than α (0.1), the conclusion of the Lagrange Multiplier Test results is rejecting H0, so the best model between the Common effect and Random effect is the Random effect model

Based on the three tests above, it can be concluded that the best model used in this study is the Random effect model.

The Panel Data Regression Model Used

Random Effect Model

Random effect estimation results from the influence of Profitability (ROE), Asset Structure (FAR) and Business Risk (DOL) variables on capital structure in the form of equations:

DER = 328,4326 + 0,839614 ROE - 4,403258 FAR + 0,006181 DOL



Variable	Coefficient	Std. Error	t-Statistic	Prob.		
ROE	0.839614	2.455153	0.341980	0.7344		
FAR	-4.403258	1.636293	-2.690996	0.0107		
DOL	0.006181	0.008034	0.769279	0.4467		
С	328.4326	64.13537	5.120929	0.0000		
	Effects S	Specification				
		1	S.D.	Rho		
Cross-	0.4319					
Idiosy	Idiosyncratic random 85.27228					
	Weight	ed Statistics				
R-squared	101.4775					
Adjusted R-squared	0.117877	7 S.D. dependent var		91.15866		
S.E. of regression	85.61747	Sum squared resid		263892.7		
F-statistic	2.737181	Durbin-Watson stat		1.350604		
Prob(F-statistic)	0.057645					
Unweighted Statistics						
R-squared	0.183150	Mean dependent	t var	222.3500		
Sum squared resid	457724.3	Durbin-Watson	stat	0.778667		

Table 4. Random effect estimation results

Classic Assumption Test

Following are the results of VIF output can be seen in the following table:

1. Multicollinearity Test

Tabel 5. Multicollinearity test			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
С	2984.970	9.668686	NA
X1	7.396774	5.215888	1.009575
X2	1.668004	4.723595	1.007767
X3	9.55E-05	1.026993	1.002709

Based on testing the VIF values above, each variable has a VIF value <10, it can be concluded that the model does not experience multicollinearity problems.

2. Heteroscedasticity Test

The required result from the results of this test is Obs * R-squared, with the following hypothesis:



Heteroskedasticity	Test: Breusch-Pagan-		
	Godfrey		
F-statistic	2.191735 Prob.	0.1059	
	F(3,36)		
Obs*R-squared	6.177498 Prob.	0.1033	
Chi-Square(3)			
Scaled explained	4.544542 Prob.	0.2084	
SS	Chi-Square(3)		

Based on the results of the heteroscedasticity test above shows the value of the p-value Obs * R-square 0.1033> 0.1 so that it can be concluded that H₀ is accepted means that in this study there is no heteroscedasticity or the data is homogeneous.

3. Autocorrelation Test

Autocorrelation test can be seen using the Breusch-Godfrey test. Tabel 7. Autocorrelation test

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	1.270032	Prob. F(4,32)	0.3021	
Obs*R-squared	5.480162	Prob. Chi-Square(4)	0.2415	

Based on the above table, the probability Decision making guidelines:

4.Normality Test

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If the significance value > 0.1; then the data distribution is normal

If the value is significant <0.1; then the data distribution is not normal. • In the model value of 0.2415 is greater than 0.1, so it can be concluded that there is no autocorrelation problem

Tabel 8. Normality test			
Series: Residuals	5		
Sample 1 40			
Observations 40			
Mean	2.70e-14		
Median	-10.13456		
Maximum	224.6505		
Minimum	-194.2563		
Std. Dev. 106.5066 Skewness 0.360488			
Kurtosis	2.818611		
Jarque-Bera	0.921179		
Probability	0.630912		



Data normality test results show that the data are normally distributed. This is indicated by the significance value of 0.630912 > 0.1. **F Test**

This test can be done by comparing the probability value with a size of 0.1 If the indicated probability> 0.1 then the model is rejected, whereas if <0.1 the model is accepted.

The results of tests using the Random Effect Model show an F-statistic value of 2.737181 and a probability value (F-statistic) of 0.057645. By looking at the comparison of probability values (Fstatistics) that are smaller than the value of $\alpha = 0.1$, it can be concluded that all independent variables have a significant influence on the dependent variable. significant effect between one independent variable on the dependent variable.

In other words, the Profitability (ROE), Asset Structure (FAR) and Business Risk (DOL) variables have a significant effect on the Capital Structure of the building construction subsector listed on the Indonesia Stock Exchange.

t Test

The test was carried out using significance

level 0.1 ($\alpha = 10\%$). Acceptance or rejection of the hypothesis is carried out with the following criteria:

a. If the significance value of t <0.1, then H0 is rejected, meaning that there is a significant influence between one independent variable on the dependent variable.

b. If the significance value t > 0.1, then H0 is accepted, meaning that there is no

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROE	0.839614	2.455153	0.341980	0.7344
FAR	-4.403258	1.636293	-2.690996	0.0107
DOL	0.006181	0.008034	0.769279	0.4467
С	328.4326	64.13537	5.120929	0.0000

 Table 9. t test results

The results of regression testing on this research model showed that one independent variable was considered significant with a significance value of less than 0.1, namely FAR (prob = 0.0107) and two other independent variables were judged to have no significant effect as indicated by a probability value above 0.1, i.e. ROE (prob = 0.7344), and DOL (prob = 0.4467).

Discussion

As a whole can be interpreted as follows:



1. Effect of profitability (X1) on capital structure (Y)

The partial test results of the calculated t value of 0.341980 and a significance value of 0.7344 which is greater than 0.05 (0.7344 > 0.1). This means that ROE has no significant effect on capital structure in building construction subsector companies listed on the Indonesia Stock Exchange. So the hypothesis which states that ROE has a significant effect on capital structure is rejected (H0 is accepted). This means that if the ROE ratio rises, the DER ratio will not increase.

These results are the same as research conducted by **Pertiwi and Darmayanti (2018)** that the profitability ratio (ROE) has no effect on capital structure. This condition explains that the company does not look big or small at a profit, the company has determined its capital structure first.

2. Effect of asset structure (X2) on capital structure (Y)

The partial test results of the calculated t value of -2.690996 and a significance value of 0.0107 which is smaller than 0.05 (0.0107 <0.1). This means that FAR has a significant effect on capital structure in the building construction subsector company listed on the Indonesia Stock Exchange. So the hypothesis stating that FAR has a significant effect on capital structure is accepted (H0 is rejected).

The results of this study are the same as the results of research conducted by **Pertiwi and Darmayanti (2018)** which states that the asset structure (FAR) has a significant effect on capital structure. This shows that every increase in the asset structure variable will increase the capital structure variable and vice versa. This is because if the company has large fixed assets, it will be used as collateral in the company's capital.

3. Effect of business risk (X3) on capital structure (Y)

The partial test results of the calculated t value of 0.769279 and a significance value of 0.4467 which is greater than 0.05 (0.4467 > 0.1). This means that DOL has no significant effect on capital structure in the building construction subsector company listed on the Indonesia Stock Exchange. So the hypothesis stating that DOL has a significant effect on capital structure is rejected (H0 is accepted).

This result is the same as the result of a study conducted by **Joni and Lina** (2010) which states that the business risk variable does not affect the capital structure variable. This indicates that if a company with high business risk, it will avoid the use of debt. While companies with low business risks will also limit the use of debt because companies generally have sufficient income so that they will choose to use company funds rather than use debt.

CONCLUSION

Based on the results of research on the effect of ROE, FAR and DOL on the capital structure of the building construction subsector company listed on the Indonesia Stock Exchange, the following conclusions can be drawn in this study. Based on the estimation results of the model can be known:



- 1. Based on the F Test it can be concluded that profitability (ROE), asset structure (FAR) and business risk (DOL) together do not have a significant effect on capital structure (DER) in building construction subsector companies listed on the Indonesia Stock Exchange.
- 2. Based on the T Test (Partial) it can be concluded that only the asset structure (FAR) has a significant influence on the capital structure (DER), while the profitability (ROE) and business risk (DOL) does not have a significant effect on the capital structure (DER) of the company the building construction subsector which is listed on the Indonesia Stock Exchange.

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