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The effect of uncertainty on capital structure

Abstract

The purpose of this study is to determine the effect of uncertainty on the capital structure of public listed companies in Indonesia. This study used asset volatility as a method of measuring uncertainty. The researchers use unbalanced panel data from 2009 to 2019 in order to assess and analyse the effect of uncertainty on the company's capital structure. The results of this study indicate a positive relationship between uncertainty and the company's target leverage.

Keywords: uncertainty, target leverage ratio
JEL Classification: D25, G32, E0

Introduction

Capital structure can have a direct impact on the company's financial position. Therefore, determining the right source of funds and determining the size of the proportion of funds is a crucial factor. As explained in the financial theory, capital structure consists of two types of funding, equity and debt. Orlova et al. [2020] argued that capital structure focuses on how the company determines whether to use debt or equity as financing for its assets. Therefore, the company's capital structure is seen as an important factor in its business activities because generally, companies must determine how risky an investment will be so that they are able to decide the best and profitable proportion of funding in order not to suffer losses from high compensation costs. Based on the basic theory of finance, capital structure is said to be optimal if the capital structure used can maximise the value of the company and minimise the cost of capital. However, the company's capital structure is not assumed to be optimal if it does not know how leverage affects the company's debt value [Leland, 1994].

Uncertainty has been commonly faced by companies in various financial conditions. One example of uncertainty is the political environment, as it also has a high level of uncertainty, for example election results that can affect company performance in relation to future economic policy uncertainty [Gungoraydinoglu et al., 2017]. This study will focus on business financial uncertainty, where it can be measured using asset volatility. This research uses firm level asset volatility to explain the company's capital structure or leverage ratio [Im et al., 2020]. Based on the basic theory of finance, the leverage ratio explains the proportion of the amount of debt that the company has when compared to its assets or equity. The leverage ratio is generally used to explain the condition of the structure of the company model.

Therefore, it can be concluded that the existence of uncertainty makes it difficult for companies to make decisions with limited information. Most of the previous studies did not find that asset volatility actually plays an important role in explaining the company's capital structure [Im et al., 2020]. Thus, this topic is interesting to investigate because there are only a few studies that discuss the effect of company level uncertainty using measurement asset volatility on capital structure, especially in Indonesia.

Literature review

Uncertainty and target leverage ratio

Based on the basic theory of finance, the leverage ratio explains the proportion of the amount of debt when compared to its assets or equity. Therefore, the leverage ratio is generally used to explain the condition of the company's capital structure, where the leverage ratio will be referred to as the target leverage ratio if the capital structure is used by the

company to maximise company value and minimise the cost of capital. However, in the research of Im et al. [2020, p. 21] it is explained that high uncertainty has a negative impact on the leverage ratio.

Uncertainty arises when companies have limited information to determine conditions and predict the future [Chung et al., 2013]. High uncertainty can affect the leverage ratio through various channels. Firstly, Im et al. [2020, p. 21] explain that the effect of uncertainty on the leverage ratio is through the debt tax shield, when the effect of uncertainty can be either positive or negative, depending on how much the effects are interdependent with other factors. The effect of uncertainty on the leverage ratio through the debt tax shield will be negative if the effect of uncertainty is related to income volatility. Companies with a high level of uncertainty tend to have an unstable amount of income, therefore, companies have a possibility of getting high tax-free income, so the interest tax shield will be low. Thus, the effect of uncertainty on the optimal leverage ratio through the debt tax shield is negative.

The effect of uncertainty on the leverage ratio through the debt tax shield will be positive if it is related to the uncertainty that arises from the non-debt tax shield. In this case, companies with a high level of uncertainty have depreciation costs and low research and development costs, so that companies get little profit from the non-debt tax shield. However, the company will benefit from the debt tax shield if the company's debt is known, and then the effect of uncertainty on the optimal leverage ratio through the debt tax shield is positive.

Secondly, Im et al. [2020, p. 18] explain the effect of uncertainty on the leverage ratio through potential financial distress costs. Where the effect of uncertainty is expected to have a negative relationship to the leverage ratio because companies that have a high level of uncertainty tend to have unstable income and high indirect costs, suppliers will attract credit trade. Therefore, the possibility of bankruptcy costs will also increase, so that uncertainty and company bankruptcy costs have a positive effect. In the cetaris paribus condition, it can be said that the effect of uncertainty on the optimal leverage ratio through potential financial distress costs is negative.

Im et al. [2020, p. 18] explain the effect of uncertainty on the leverage ratio through the debtholder-shareholder agency problem. The agency problem is a condition where shareholders and debtholders have disproportionate interests, for example, such as asset substitution and under-investment problems. If the company has a high level of uncertainty, the agency problems faced will be more severe because the risks from investment projects and debt will increase. Therefore, the effect of the expected uncertainty is negative [Im et al., 2020].

Finally, Im et al. [2020] explain that the effect of uncertainty on the leverage ratio is through agency benefits of debt, when the effect of uncertainty can also be positive or negative, depending on the composition of the company's free cash flow or comparison between the size of a profitable investment and the number of company assets [Jensen, 1986]. Agency costs will increase if there is free cash flow, but debt can reduce agency cost problems by ensuring that managers do not invest for their own interest, but for company efficiency and disciplined investment decisions.

However, the effect of uncertainty on the company's capital structure concludes that increased uncertainty tends to exacerbate conflicts between debtholders and shareholders, such as conflicts regarding risk transfer and underinvestment problems. Apart from that, uncertainty also increases the potential for financial distress costs, causing a decrease in the optimal leverage ratio.

In their study, Schwartz and Byrne [2011] explained that companies tend to adjust their capital structure when experiencing bad news shocks so that the company's output and investment decrease, which also causes a decrease in leverage, but capital structure adjustments are generally not easy to perform because it needs a lot of money. The company's speed of adjustments can be influenced by the level of uncertainty. Gungoraydinoglu et al. [2017] explained that the speed of adjustment will decrease if uncertainty increases. For example, when uncertainty increases, the intermediary costs for placement of securities will increase, so that the issuance of debt and equity will require higher costs than usual; this can have an impact on a decrease in the leverage ratio.

Lambrecht and Myers [2017] explain that risk aversion management behaviour can also affect how much influence the perceived leverage ratio has on increasing uncertainty. Therefore, it can be said that the negative relationship between uncertainty and the leverage ratio will be more pronounced if a manager is risk-averse. In other words, managers who are risk-averse have a lower optimal leverage ratio when compared to managers who are risk-neutral.

Several previous studies have shown a negative relationship between the level of uncertainty and the company's capital structure. One of them is the research conducted by Qiu and Li [2017], explaining that uncertainty has a negative effect on the capital structure in America. Their research proved that the negative effect of uncertainty on the capital structure of a company will be stronger if the company makes optimal adjustments

Im et al. [2020] explain that uncertainty has a negative effect on the target leverage ratio through several channels, such as agency cost of debt, agency benefit of debt, financial distress cost and debt tax shield. Then these results are also supported by the research of Lambrecht and Myers [2017], which explains that the influence of uncertainty can be influenced by the risk averse characteristics of the top management of a particular company. Lambrecht and Myers [2017] explain that the optimal target leverage ratio of the company follows the trade-off theory. Apart from that, the volatility of future business prospects allows for an increase in the default probability so that the company will reduce the level of leverage to reduce the adverse effects that will occur and maintain company value [Ha et al., 2016; Zhang et al., 2015].

Makololo and Seetharam [2020] in their research summarise different results from previous research; their study proved that companies in countries that have diverse and flexible financial sources show an increase in leverage ratios when uncertainty increases. This can happen because the increased uncertainty makes the country's debt cheaper, so a company will take advantage of this opportunity to increase the company's funding capital as the company knows that uncertainty is unlikely to last for a very long time but only temporarily. Therefore, the increase or decrease in the company's target leverage ratio caused by the impact of

uncertainty is still questionable. Thus, based on the results of previous studies the researchers developed a hypothesis that:

H1: Uncertainty has a negative effect on the target leverage ratio.

Research method

This study used yearly unbalanced panel data from 2009 until 2019. We used public listed companies in Indonesia excluding financial institutions. The total data used in this study is of 260 companies.

Before estimating the effect of uncertainty on the target leverage ratio, we investigate the effect of uncertainty on the company's long run target leverage ratio using the partial adjustment model from Flannery and Rangan [2006], as follows:

$$L_{i,t} - L_{i,t-1} = \lambda\left(L^{*}_{i,t} - L_{i,t-1}\right) + \kappa_t + \upsilon_{i,t} \tag{1}$$

Variable $L_{i,t}$ can be in the form of book leverage ratio $L_{i,t}$ or market leverage ratio $ML_{i,t}$. Then, $L_{i,t} - L_{i,t-1}$ is used to measure the change in leverage or leverage adjustment, while $L^{*}_{i,t} - L_{i,t-1}$ is used to measure deviation from the target leverage ratio. The speed of adjustment parameter (λ) is used to measure the speed of the company in adjusting the actual leverage to become the target leverage. The parameter will range between 0 and 1, so the higher indicates the faster the company makes adjustments. The following linear function is used to predict the target leverage ratio:

$$\begin{aligned} L^{*}_{i,t} = {} & \alpha + \beta_1 AV_{t-1} + \beta_2 FirmSize_{t-1} + \beta_3 MB_{t-1} + \beta_4 EBITA_{t-1} + \beta_5 PPE_{t-1} + \\ & + \beta_6 Depeciation_{t-1} + \beta_7 DummyR\&D_{t-1} + \beta_8\ Industry\ Median_{t-1} \end{aligned} \tag{2}$$

Basing on the previous research such as by Im et al. [2020], which assumes that there is an unobserved heterogeneity in the leverage target, so we substitute equations (1) and (2) to estimate the leverage target and assess how important the fixed effect is to the leverage target, as follows:

$$L_{i,t} = \lambda\alpha + (1-\lambda)L_{i,t-1} + \lambda\beta X_{i,t-1} + \kappa_t + \upsilon_{i,t} \tag{3}$$

Then the researchers look at the effect of uncertainty on the increase or decrease in the company's leverage ratio target by using the dynamic panel regression model from equation (3), which is as follows:

$$\begin{aligned} L_{i,t} = {} & b_0 + b_1 L_{i,t-1} + b_2 AV_{t-1} + b_3 FirmSize_{t-1} + b_4 MB_{t-1} + b_5 EBITA_{t-1} + b_6 PPE_{t-1} + \\ & + b_7 Depeciation_{t-1} + b_8 DummyR\&D_{t-1} + b_9 Industry\ Median_{t-1} + \kappa_t + \upsilon_{i,t} \end{aligned} \tag{4}$$

Table 1. Operational definition of variables

Variable	Operational Definition
Book leverage$_{i,t}$	$\frac{Total\ Debt}{Total\ Assets}$
Market leverage$_{i,t}$	$\frac{Total\ Debt}{Total\ Debt + Market\ Capitalisation}$
Book target$_{i,t}$	Target book leverage ratio calculated using GMM
Market target$_{i,t}$	Target market leverage ratio calculated using GMM
Asset volatility$_{i,t}$	Standard deviation ($ROA_{i,t}$)
Firm size$_{i,t}$	Ln (Total Assets)
Market-to-book ratio$_{i,t}$	$\frac{Market\ Capitalisation + Total\ Debt}{Total\ Assets}$
Profitability$_{i,t}$	$\frac{EBIT}{Total\ Assets}$
Tangibility$_{i,t}$	$\frac{Property,\ plant\ \&\ equipment\ (PPE)}{Total\ Assets}$
Depreciation$_{i,t}$	$\frac{Depreciation\ \&\ Amortisation\ expense}{Total\ Assets}$
Zero R&D firm indicator$_{i,t}$	Dummy variable, 1 if the company does not report research & development in year t and 0 if the company reports research & development in year t
Industry median book leverage$_{i,t}$	The median of the book leverage ratio with the 2nd industry classification
Industry median market leverage$_{i,t}$	The median of the market leverage ratio with the 2nd industry classification

Source: Im et al., 2020.

The GMM or Generalised Method of Moments is a method for estimating parameters in a statistical model that uses moment conditions as a function of model parameters and data. GMM is generally used for dynamic panel models that control the endogeneity of lagged dependent variables in dynamic panel models. This study uses GMM analysis because through GMM the researchers can estimate the optimal leverage value or target leverage ratio by making partial adjustments. This is supported by the research of Im et al. [2020], which explains that the actual leverage and target leverage have a positive correlation, but to estimate the target leverage using a partial adjustment will be more precise or close to optimal.

Results and discussion

Table 2. Descriptive statistics

Variables	Obs.	Mean	S.D.	Min	Median	Max
Leverage-related variables						
Book leverage	1,979	0.534	0.341	0.028	0.498	2.410
Market leverage	1,979	0.475	0.259	0.006	0.474	0.952
Book target	1,979	0.538	0.497	0.021	0.476	6.952
Market target	1,979	0.476	0.224	–0.255	0.486	1.329

Variables	Obs.	Mean	S.D.	Min	Median	Max
Uncertainty-related variables						
Asset volatility	1,979	3.028	3.586	0.113	1.945	24.042
Control variables						
Firm size	1,979	28.338	1.623	24.414	28.302	32.031
Market-to-book ratio	1,979	1.573	1.805	0.369	1.040	13.920
Profitability	1,979	0.048	0.086	–0.284	0.048	0.323
Tangibility	1,979	0.369	0.258	0.001	0.340	0.917
Depreciation	1,979	0.033	0.030	0	0.025	0.150
Zero R&D firm indicator	1,979	0.996	0.063	0	1	1
Industry median book leverage	1,979	0.499	0.094	0.304	0.519	0.680
Industry median market leverage	1,979	0.470	0.127	0.146	0.472	0.789

Source: own research, 2020.

Table 3. GMM Regression results between the dependent variables and book leverage

Book leverage	System GMM
Lagged book leverage	0.772*** (0.000)
Asset volatility	0.007** (0.047)
Firm size	0.016** (0.034)
Market-to-book ratio	0.001 (0.846)
Profitability	–0.475*** (0.001)
Tangibility	–0.041 (0.294)
Depreciation	0.721** (0.014)
Zero R&D firm indicator	–6.589 (0.106)
Industry median book leverage	0.311* (0.056)
Year fixed effect	Yes
Number of observations	1,979
Number of firms	260
m1	–2.070
(p-value)	(0.039)
m2	0.580
(p-value)	(0.560)
Hansen	9.740
(p-value)	(0.136)
Speed of adjustment ($\hat{\lambda}$)	0.228 (0.000)

Source: own research, 2020.

Based on the regression results above, it shows the speed of the company's adjustment from the book leverage towards the target leverage ratio, which is 22.8% every year. The results of this study indicate that if there is an increase in one standard deviation of uncertainty, it will

cause an increase in the book value of the target leverage ratio, so uncertainty has a positive effect on the target leverage ratio. Therefore, we can see that based on the data from companies in Indonesia, the results are inconsistent with the previous research conducted by Im et al. [2020], which stated that in America uncertainty negatively affects the target leverage ratio. Table 4 shows the results of the generalised method of moment regression. In this model, lagged market leverage is a variable used to manage the effect of endogeneity.

Table 4. GMM Regression results between the dependent variables and market leverage

Market leverage	System GMM
Lagged market leverage	0.695*** (0.000)
Asset volatility	0.026* (0.070)
Firm size	0.020*** (0.001)
Market-to-book ratio	– 0.022** (0.047)
Profitability	– 0.238* (0.058)
Tangibility	0.046 (0.205)
Depreciation	–0.449 (0.225)
Zero R&D firm indicator	0.000 (0.992)
Industry median market leverage Year fixed effect Number of observations Number of firms m1 (p-value) m2 (p-value) Hansen (p-value) Speed of adjustment ($\hat{\lambda}$)	0.093 (0.157) Yes 1,979 260 –6.470 (0.000) –0.670 (0.501) 9.270 (0.159) 0.305 (0.000)

Source: own research, 2020.

Based on the regression results obtained above, it can be concluded that the company's speed of adjustment from book leverage towards the target leverage ratio is 30.5% every year. The results of this study indicate that if there is an increase in one standard deviation of uncertainty, it will cause an increase in the market value of the target leverage ratio, so uncertainty has a positive effect on the target leverage ratio. In this study, the target leverage ratio was obtained by estimating the fitted value using the GMM estimator system from Blundell and Bond [1998]. The results of the fitted value from regression Table 3 show the value of the book

target leverage, while the results of the fitted value from regression Table 4 show the value of the market target leverage.

Table 5. Comparison of the actual leverage ratio with uncertainty level

Variables	Obs.	Mean	S.D.	Min	Median	Max
Actual book leverage	1,979	0.534	0.341	0.028	0.498	2.410
High-uncertainty firm	1,007	0.567	0.391	0.028	0.510	2.410
Low-uncertainty firm	972	0.499	0.275	0.028	0.486	2.410
Difference (High-Low)		0.068				
t-stat		4.406				
Actual market leverage	1,979	0.475	0.259	0.006	0.474	0.952
High-uncertainty firm	1,007	0.459	0.259	0.006	0.443	0.952
Low-uncertainty firm	972	0.492	0.259	0.006	0.500	0.952
Difference (High-Low)		–0.033				
t-stat		–2.893				

Source: own research, 2020.

Table 6, shows the influence of the level of uncertainty on the level of target leverage if asset volatility is not used as a regressor to predict the value of the target leverage.

Table 6. Comparison of the results of the target leverage ratio with uncertainty level without the asset volatility variable

Variables	Obs.	Mean	S.D.	Min	Median	Max
Book target estimated without asset volatility	1,979	0.538	0.496	–0.007	0.480	6.866
High-uncertainty firm	1,007	0.562	0.514	–0.007	0.483	6.866
Low-uncertainty firm	972	0.514	0.474	0.017	0.474	6.817
Difference (High-Low)		0.048				
t-stat		2.196				
Market target estimated without asset volatility	1,979	0.475	0.233	–0.179	0.479	1.189
High-uncertainty firm	1,007	0.455	0.244	–0.179	0.463	1.189
Low-uncertainty firm	972	0.497	0.220	–0.160	0.491	1.156
Difference (High-Low)		–0.042				
t-stat		–4.084				

Source: own research, 2020.

Table 7 shows the influence of the level of uncertainty on the level of the company's leverage target by adding the asset volatility regressor as the uncertainty variable.

Table 7. Comparison of the results of the target leverage ratio with uncertainty level

Variables	Obs.	Mean	S.D.	Min	Median	Max
Book targets estimated with asset volatility	1,979	0.538	0.497	0.021	0.476	6.952
High-uncertainty firm	1,007	0.565	0.515	0.033	0.481	6.952
Low-uncertainty firm	972	0.509	0.476	0.021	0.471	6.901
Difference (High-Low)		0.056				
t-stat		2.492				

cont. Table 7

Variables	Obs.	Mean	S.D.	Min	Median	Max
Market targets estimated with asset volatility	1,979	0.476	0.224	–0.255	0.486	1.329
High-uncertainty firm	1,007	0.480	0.228	–0.255	0.481	1.329
Low-uncertainty firm	972	0.473	0.220	–0.216	0.489	1.321
Difference (High-Low)		0.007				
t-stat		0.645				

Source: own research, 2020.

The results from Table 7 show that companies with a high level of uncertainty tend to have higher book levels and target market leverage compared with those of low ones. This can be seen from the average value of the book target leverage for high-uncertainty companies, which is 56.5%, while low-uncertainty companies only have a book target leverage ratio of 50.9%. Where the difference in the average value of the book target leverage level in high- and low-uncertainty companies is 5.6%, it can be concluded that based on book value data, uncertainty has a significant positive effect on the book target leverage level, with a t-statistic value of 2,492.

Based on the market value data, it can be said that the average target market leverage ratio for high-uncertainty companies is 48%, while low-uncertainty companies have a target market leverage level of 47.3%. Where the difference in the average value of the level of market leverage in high- and low-uncertainty companies is 0.7%, it can be concluded that uncertainty has a positive effect on the level of target market leverage, with an insignificant t-statistic value of 0.645. Therefore, based on the findings of this study, it can be concluded that uncertainty has a positive effect on the target value of the leverage ratio. These results reject the hypothesis of this study, which assumes that uncertainty has a negative effect on the target leverage ratio.

Analysis of the variance decomposition results from the target leverage

Table 8. ANCOVA model regression results with the book target leverage as the dependent variable

Book target leverage	R^2
Year fixed effects	0.002
Asset volatility	0.024
Firm size	0.026
Market-to-book	0.008
Profitability	0.054
Tangibility	0.004
Depreciation	0.008
Zero R&D firm indicator	0.837
Industry median book leverage	0.036
Number of observations	1,979
Adjusted R-squared	0.799

Source: own research, 2020.

Table 9. ANCOVA model regression results with the book target leverage as the dependent variable

Market target leverage	R^2
Year fixed effects	0.029
Asset volatility	0.267
Firm size	0.109
Market-to-book ratio	0.327
Profitability	0.147
Tangibility	0.001
Depreciation	0.001
Zero R&D firm indicator	0.001
Industry median market leverage	0.118
Number of observations	1,979
Adjusted R-squared	0.598

Source: own research, 2020.

Based on the results from Table 8, it can be said that the book target leverage explained by the uncertainty variable is 2.4%, where other control variables such as the zero R&D firm indicator contribute to explaining the highest book target leverage, which reaches 83.7%, then profitability contributed 5.4%, industry median book leverage 3.6%, company size 2.6%, depreciation 0.8%, market to book ratio 0.8%, tangibility 0.4%, and year fixed effect 0.2%. Therefore, it can be said that based on the book value data, uncertainty is not the most important factor in explaining the target leverage ratio.

The results of ANCOVA from Table 9 show that the target market leverage data described by the uncertainty variable is 26.7%, while the market to book ratio variable plays the biggest determinant of market target leverage, which is 32.7%. Apart from that, profitability variable contributes 14.7%, industry median market leverage 11.8%, company size 10.9%, year fixed effect 2.9%, tangibility 0.1%, depreciation 0.1%, and zero R&D firm indicator 0.1%.

Therefore, it can be concluded that uncertainty is not the main factor to explain the value of the target leverage ratio.This result is not in accordance with the research of Im et al. [2020], which states that uncertainty is the most important determinant of the leverage ratio target value.

This statement can be supported by the results from Tables 8 and 9, which show that if asset volatility is not used as a regressor, the company will have an average book and market target leverage ratio that is not much different from the estimate result using asset volatility. This can be seen from the average book level of the target leverage in Tables 8 and 9, which is the same, namely 53.8%, while the average level of market target leverage without asset volatility is slightly smaller than the estimate using asset volatility, which is 47.5% and 47.6%, respectively. Thus, it can be said that the influence of the uncertainty factor on the target value of the leverage ratio is not strong.

Therefore, based on the data from public listed companies in Indonesia, uncertainty is not the main factor in explaining the value of the target leverage ratio. This result contradicts with the research of Im et al. [2020], which states that uncertainty is the most important determinant of the target leverage ratio. This can happen because in comapny specific circumstances uncertainty has a high possibility of being controlled [Brealey, Myers, 2003]. Where there is company specific uncertainty, it can be controlled and minimised through diversification and companies can use additional information from the business network to adjust decisions taken to minimise the impact of uncertainty on the company's target leverage [Cao et al., 2013; Faulkender, Petersen, 2006]. Therefore, uncertainty is not the main factor in explaining the target value of the company's leverage ratio.

Summary

This study was conducted to find out how uncertainty affects the decision-making of the company's capital structure, especially on the target leverage ratio using the data from 2009 to 2019 from 260 companies registered in Indonesia. The research on uncertainty mostly explains the negative relationship with the target leverage ratio. This can happen because uncertainty can reduce the debt tax shield, increase financial distress costs and can trigger potential conflict between debtholders and shareholders regarding under-investment and the problem of risk transfer, which can cause a decrease in the target leverage ratio [Im et al., 2020]. On the other hand, the research by Izhakian et al. [2017] explains that when uncertainty increases, the ambiguity perceived by the company will be greater, causing an increase in the level of leverage. Apart from that, Myers [1977] also explains that when uncertainty increases, companies tend to use more debt because uncertainty causes a decrease in agency costs so uncertainty has a positive relationship to leverage.

Based on the research results that have been described above, it can be concluded that the hypothesis of the authors is not proven. This can be seen from the results in Table 9, which shows that companies with high levels of uncertainty tend to have higher book levels and target market leverage. This can be also seen from the average value on the target leverage of companies that have high uncertainty, namely 56.5%, while companies with low uncertainty only have a target level of leverage ratio of 50.9%. Therefore, it can be concluded that uncertainty has a significant positive effect on the target level of leverage.

The results of the study contradict the views of Im et al. [2020] but are consistent with the researcch of Makololo and Seetharam [2020], which explains that the high flexibility of companies in accessing financial institutions creates a condition where increased uncertainty makes debt cheaper. Therefore, companies tend to take advantage of cheap debt to grow their businesses. Apart from that, this result is also consistent with Myers's study (1977), which explains that the higher the level of uncertainty, the lower the agency cost of debt, so the company will increase the use of debt.

Based on the trade-off theory, the company's leverage level will reach its optimal when considering the perceived costs and benefits of increasing debt [Fama, French, 2002]. Thus, when the agency cost of debt decreases and debt becomes cheap along with increased uncertainty, the company will use more debt. This can happen because when the financial distress cost is lower than the debt benefits, the target leverage ratio will increase. However, if the financial distress cost is higher than the debt benefits, the target leverage ratio will decrease.

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