



The relationship between target financial leverage deficit and earnings quality

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ABSTRACT

The purpose of this study is to investigate the relationship between earnings quality and target financial leverage deficit. In this study, target financial leverage deficit is as independent variables and earnings quality as dependent variables and company size, growth opportunities of company and systematic risk are as control variables. The statistical population of the present study is companies active in Jakarta Stock Exchange according to the subject and its application. In this study, 90 companies were selected. The data of this study were collected annually using information from companies listed in Jakarta Stock Exchange from the beginning of 2014 to the end of 2016 and the results of hypotheses' test were presented. In this study, multivariate regression analysis with panel data with fixed effects was used to investigate the hypotheses. The results show that there is a significant relationship between target leverage deficit and earnings quality.

1. Introduction

The traditional theory of capital structure states that the choice of the optimal capital structure is determined by trade-off between the costs and benefits associated with different degrees of financial leverage (Hovakimian et al., 2001; DeAngelo et al., 2011). However, companies usually deviate from the optimal capital structure (Leary and Roberts, 2005; Frank & Goyal, 2008), which affects their ability to finance. The difference between the actual debt ratio and the target debt ratio is called the financial leverage that will affect the company's future decisions. Most previous studies have emphasized the impact of financial leverage deficit on financing decisions (Hovakimian et al., 2001; Fama & French, 2002; Flannery and Rangan, 2006) and limited studies have been conducted on the relationship between target financial leverage deficit and earnings quality. When the level of corporate financial leverage is higher than the target financial leverage, companies tend to finance through equity (Korajczyk and Levy, 2003). Gatchev et al. (2009) found that in the absence of profitability, investing in intangible assets, creating growth opportunities within the company, high information asymmetry and agency costs, equity, are an important and prominent source for financing. Companies that have high potential agency problems use equity in financing of fixed assets significantly and use less long-term debt. Previous studies have stated that companies with poor profit quality have high information asymmetry between managers and their investors (Bhattacharya et al., 2013; Kim and Verrecchia, 1994; Diamond and Verrecchia, 1991). In this regard, Lin and Lee (2016) stated that companies with surplus financial leverage and superior profit quality tend to use equity and avoid borrowing for financing. On the other hand, companies with insufficient financial leverage that have poor profit quality use less likely financing through debt to reach their capital structure to optimal capital structure in order to maintain financial flexibility and avoid future bankruptcy, because all the creditors, investors and analysts pay more attention to these companies. According to the explanations provided, the following questions are raised in the present study:

(1) Is there a significant relationship between target leverage deficit and earnings quality?

2. Research hypothesis

There is a significant relationship between target leverage deficit and earnings quality.

The statistical population of this research is the companies listed in Jakarta Stock Exchange during 2011 to 2016 and the sample is selected through systematic elimination from the statistical population. Considering the above mentioned conditions led to select 90 companies as the statistical sample of this research. The following table is related to the systematic elimination.

The software used to analyze the data is Eviews 9. There are several approaches to determine the appropriate method for analyzing panel data. The common approach is that Chow test is used to panel data and to detect homogeneity or heterogeneity. If the results of this test are based on applying data as panel data, one of the fixed effects or random effects models should be used to estimate the research model that Hausman test should be implemented to select one of these two models.

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Financial leverage (capital structure): This ratio determines and evaluates the relationship of financial resources used by business unit in terms of debt or equity and actually examines how they are combined (Tavakol & Tirgari, 2014).

Earnings Quality: Earnings quality is one of the terms of accounting that there is no consensus about its definition. Schipper and Vincent (2003) define earnings quality as the proximity of reported accounting profit to economic profit. In other words, the more proximity of accounting profits to economic profits indicates the higher quality of profits. To operationalize this concept, a model is used to measure the conformity of accruals and operating cash flow.

2.1. Research models and variables

• To test the first hypothesis of the present study based on the study of Lin and Lee (2016), the following model is used (β_1 and β_2):

$$EQ_{i,t} = \beta_0 + \beta_1 LevDe_{i,t} + \beta_2 LevDe_{i,t-1} + \beta_3 SIZE_{i,t} + \beta_4 MB_{i,t} + \varepsilon_{i,t}$$

that:

The dependent variable:

$EQ_{i,t}$ = company profit quality i in year t , which Rajgopal and Wektchelm's (2011) model is used to calculate it as follows:

$$\frac{TCA_{i,t}}{AvgAssets_{i,t}} = \beta_0 + \beta_1 \frac{CFO_{i,t-1}}{AvgAssets_{i,t}} + \beta_2 \frac{CFO_{i,t}}{AvgAssets_{i,t}} + \beta_3 \frac{CFO_{i,t+1}}{AvgAssets_{i,t}} + \beta_4 \frac{\Delta REV_{i,t}}{AvgAssets_{i,t}} + \beta_5 \frac{PPE_{i,t}}{AvgAssets_{i,t}} + \varepsilon_{i,t}$$

Where:

$TCA_{i,t}$ = Total accruals of company i in year t equal to operating profit minus operating cash flow.

$AvgAssets_{i,t}$ = Average total assets of company i in year t equal to total assets in year t plus total assets in year $t-1$ divided by two.

$CFO_{i,t-1}$ = Company's operating cash flow i in year $t-1$.

$CFO_{i,t}$ = Company's operating cash flow i in year t .

$CFO_{i,t+1}$ = Company's operating cash flow i in year $t+1$.

$\Delta REV_{i,t}$ = Changes in sales revenue of company i in year t equal to sales revenue in year t minus sales revenue in year $t-1$.

$PPE_{i,t}$ = Account of the property, machineries and equipment of company i in year t .

After estimating the above model at the corporate level and calculating the values of β_1 , β_2 , β_3 , β_4 , and β_5 , the value ε is calculated for each company-year, absolute value multiplied by minus one is used as a measure for earnings quality.

Independent variables:

$LevDe_{i,t}$ = company's target leverage deficit of i in year t , which the difference between the target financial leverage and actual financial leverage is used to calculate it. If the actual financial leverage of the company is less than the target financial leverage, this variable will be equal to one and otherwise equal to zero. To calculate the target financial leverage, using the González and González (2008) study, the following model estimate is used:

$$LEV_{i,t} = \beta_0 + \beta_1 PROF_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 TANG_{i,t} + \beta_4 GROWTH_{i,t} + \varepsilon_{i,t}$$

That:

$LEV_{i,t}$ = the financial leverage of company i in year t equal to the ratio of debts to assets.

$PROF_{i,t}$ = profitability of company i in year t equal to net profit to assets ratio.

$SIZE_{i,t}$ = Size of company i in year t equal to natural logarithm of assets.

$TANG_{i,t}$ = The tangible assets of company i in year t equal to the ratio of tangible fixed assets to total assets.

$GROWTH_{i,t}$ = company growth opportunities i in year t equal to the market value to book value of equity.

After estimating the above model at the total level of data, the estimated coefficients β_1 , β_2 , β_3 and β_4 are used at the firm-year level. The above model is estimated using all the data. During this estimation, the coefficients β_1 , β_2 , β_3 and β_4 are obtained. Then, these coefficients are used to calculate the optimal amount of financial leverage for the future year. So that the optimal amount of financial leverage is calculated for the future year:

$$LEV^*_{i,t+1} = \beta'_1 PROF_{i,t} + \beta'_2 SIZE_{i,t} + \beta'_3 TANG_{i,t} + \beta'_4 GROWTH_{i,t}$$

It is emphasized that the optimal amount of financial leverage is calculated for the future year by using this model, and hence the dependent variable is the optimal financial leverage for the future year ($LEV^*_{i,t+1}$).

$LevDe_{i,t-1}$ = The target leverage deficit of the company i target in year $t-1$.

Control variables:

$SIZE_{i,t}$ = The size of company i in year t , which is equal to the natural logarithm of the total assets.

$MB_{i,t}$ = company growth opportunities i in year t equal to the market value to book value of equity.

The following model is used to test the second hypothesis of the present study (β_1 and β_2):

$$EquiD_{i,t} = \beta_0 + \beta_1 LevInc_{i,t} * HighEQ_{i,t} + \beta_2 LevInc_{i,t} * HighEQ_{i,t-1} +$$

$$\beta_3 MB_{i,t} + \beta_4 Beta_{i,t} + \beta_5 StoR_{i,t} + \beta_6 SIZE_{i,t} + \varepsilon_{i,t}$$

$$EquiD_{i,t} = \beta_0 + \beta_1 LevDec_{i,t} * LowEQ_{i,t} + \beta_2 LevDec_{i,t} *$$

Independent variables:

$LevDe_{i,t}$ = target leverage deficit i company target i in year t .

$LowEQ_{i,t}$ = Low profit quality of company i in year t after calculating profit quality values according to the aforementioned approach, the values from middle place are divided into two parts, and company-years are placed in the lower half of the values are equal to one (As companies with low profit quality) and other companies- years will be equal to zero.

$LowEQ_{i,t-1}$ = Low profit quality of company i in year $t-1$.

3. Results

Hypothesis 1: There is a significant relationship between target leverage deficit and earnings quality. The results of Chow test show that the probability obtained for the F statistic is less than 5%, so the data are used as a panel to test this model. According to the results, the significance level of the Hausman test is less than 0.05, so the fixed effects model should be used to estimate the coefficients of the

model. The test result of the model using fixed effects model and estimated generalized least squares (EGLS) method shows that since the t-statistic of variables of target leverage deficit were greater than 1.965% in the previous year and their significance level is smaller than 0.05, the relationship between target leverage deficit and earnings quality of companies listed in Jakarta Stock Exchange is significant. Thus, the first hypothesis of the present study that "there is a significant relationship between target leverage deficit and earnings quality" is confirmed.

Table 1. Testing the first hypothesis

Significant level	T static	Standard error	Coefficient	Variable
009/0	374/2-	215/0	281/0-	Fixed value
000/0	239/3-	017/0	321/0-	Target leverage deficit
000/0	855/2	029/0	069/0-	The target leverage deficit last yearin
008/0	657/2-	015/0	041/0-	size of the company
008/0	684/2	5-E2	5-E37/5	Growth opportunities
884/0	The coefficient of determination	723/21	F statistics	
843/0	Adjusted coefficient of determination	000/0	Significance level of statistic F	
128/2	Durbin-Watson value	EGLS method (eliminating the possible effects of variance heterogeneity)		

The Durbin-Watson statistic ranges between 1.5 and 2.5. Also the significance level of F statistic is 0.000 which is lower than 0.05 and it indicates the significance of the model. The adjusted coefficient of determination of the model used is about 84% which indicates that about 84% of the dependent variable changes can be explained by the independent variables and the control is acceptable.

The relationship between financial leverage and earnings quality

According to the results, there is a significant relationship between target leverage deficit and earnings quality of companies listed in Jakarta Stock Exchange. Earnings quality as an external factor and financial leverage as an internal factor affecting shareholders' wealth are always investigated seriously. A proper understanding of the relationship between the two can help investment companies hold various stocks in their portfolio. Previous studies have stated that companies with poor profit quality have high information asymmetry between managers and their investors (Bhattacharya et al., 2013; Kim and Verrecchia, 1994; Diamond and Verrecchia, 1991) and companies with inadequate financial leverage that have poor profit quality use less likely financing through debt. Therefore companies with leverage deficits have lower profit quality.

In the process of conducting a scientific research, conditions and cases may be existed beyond the control of the researcher. The present research is not except from this rule and the limitations of the present study are as follows:

4. Conclusion

- 1) In this study, the variables are influenced by the inflation rate that its effect is the same for all companies and observations, while this may not be such this. Therefore, this factor can influence the classification of companies to stages of the life cycle and the results of the research.
- 2) The companies selected in the statistical sample constitute a limited volume of companies listed in the Jakarta Stock Exchange; therefore, it should be acted with caution in generalization of the results to the business units currently listed in the Stock Exchange.

Future suggestions:

- 1) Investors should know what happens to the value of the company when the information risk increases through the accruals quality index and how this risk affects the decline in the company's annual return, so investors should pay attention to the quality of the accruals.
- 2) It is proposed that corporate managers to be aware of the financial structure when investing on a particular project, I.e, to know how their financial resources is financed.

During conducting this research, several different research areas have been identified. Including:

- 1) Investigating the present research by separating existing industries in Jakarta Stock Exchange for the purpose of controlling industrial impact.
- 2) It is proposed that in future research, the effect of managerial, corporate and external ownership on the target financial leverage or optimal capital structure to be examined.
- 3) Investigating the impact of macroeconomic variables and political factors on the relationship between capital structure and corporate earnings quality.

REFERENCES

- Baltagi, B.H. 1995. *Econometric Analysis of Panel Data*, John Wiley and Sons, New York.
- Baradaran Hasanzadeh, R., Samadian, B., & Shadkam Agha, B. 2012. Investigating and Comparing the Relationship between Capital Structure and Earnings Quality, *Proceedings of the 10th Iranian National Accounting Conference*.
- Bhattacharya, N., Desai, H., & Venkataraman, K. 2013. Does Earnings Quality Affect Information Asymmetry? Evidence from Trading Costs. *Contemporary Accounting Research*, 30(2): 482–516.
- Burgstahler, D., & Dichev, I. 2002. earnings , adaptations and aquity value, *the accounting review* (April): 187-215.
- Burgstahler, D., & Dichev, I.D. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, 24: 99–126.
- Dastgir, M., Gugerchian, A., & Adamit, S. 2015. Relationship between earnings quality (earnings dispersion) and stock returns. *Financial Accounting and Auditing Research*, 7(26): 21-37.
- DeAngelo, H., DeAngelo, L., & Whited, T.M. 2011. Capital structure dynamics and transitory debt. *Journal of Financial Economics*, 99(2): 235–261.

- Diamond, D.W., & Verrecchia, R.E. 1991. Disclosure, Liquidity, and the Cost of Capital. *The Journal of Finance*, 46(4): 1325–1359.
- Eftekhari Pur Shafii, M. 2015. Investigating the Relationship between Financial Leverage and Real Profit Management of Companies Listed in Jakarta Stock Exchange, MA Thesis in Accounting, Islamic Azad University.
- Fama, E. F., & French, K.R. 2002. Testing Trade-Off and Pecking Order Predictions about Dividends and Debt. *Review of Financial Studies*, 15(1): 1–33.
- Flannery, M.J., & Rangan, K.P. 2006. Partial adjustment toward target capital structures. *Journal of Financial Economics*, 79(3): 469–506.
- Frank, M. Z., & Goyal, V.K. 2008. Chapter 12 - Trade-Off and Pecking Order Theories of Debt* A2 - Eckbo, B. Espen. In *Handbook of Empirical Corporate Finance* (pp. 135–202). San Diego: Elsevier. Retrieved from <http://www.sciencedirect.com>.
- Fung, S.Y.K., & Goodwin, J. 2013. Short-term debt maturity, monitoring and accruals-based earning management. *Journal of Contemporary Accounting & Economics*, 9: 67-82.
- Gatchev, V.A., Spindt, P.A., & Tarhan, V. 2009. How do firms finance their investments?: The relative importance of equity issuance and debt contracting costs. *Journal of Corporate Finance*, 15(2): 179–195.
- Izadinia, Nasser-Rabiei, H., & Hamidian, N. 2013. Investigating the Relationship between Financial Leverage and Real Profit Management of Companies Listed in Jakarta Stock Exchange, *Accounting Advances*, 5(1): 33-54
- Jafari, M., Fakhari, H., & Ahmadi, M.R. 2012. Investigating the Relationship between Financing through Debt and Earnings Quality in Companies Listed in Jakarta Stock Exchange, *Proceedings of the First National Conference on Strategies for Promoting Management Issues, Accounting and Industrial Engineering in Organizations*.
- Mehrani, S., Eskandari, G., & Ganji, H.R. 2014. The relationship between earnings quality, earnings smoothing and stock risk. *Empirical Studies of Financial Accounting*, 11(42): 117-139.
- Rezaei, F., & Saber Fard, O. 2016. The Influence of Financial Leverage Levels on Corporate Real Profit Management, *Empirical Accounting Research*, 6(1), 21: 205-222.
- Zakernia, E., Khajezadeh Dezfuli, M., & Fadaee Vahed, M. 2016. Prioritizing the Factors Affecting the selection of Financing in Iran Using TOPSIS Method in Fuzzy Environment Based on Verbal Variables, *Financial Engineering and Securities Management (Portfolio Management)*, 7(27): 53-70