



The Relationship between earnings quality and financing approach

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ABSTRACT

The purpose of this study is to investigate the relationship between earnings quality and financing approach. In this study, target financial leverage surplus is as independent variables and earnings quality, financing through stocks, financing through debt 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 no significant relationship between leverage companies with high earning quality and equity financing and financing through stocks and there is no significant relationship between non-leverage companies with low earning quality and financing through stocks.

1. Introduction

Companies that have high financial leverage will be exposed to bankruptcy, if they are unable to pay obligations caused by external financing such as stocks and debt and they will be unable to find new creditors in the future. In such a situation, if the company tends to obtain a new loan, it will be carefully examined for the ability to pay the debt in future periods from the creditors. Generally, one of the strategies that creditors consider for assessing the power of paying principal and debt interest is to examine the financial statements of corporations, that in the meantime, the earning and loss statement and especially the pre-interest earning figure has a great importance. But calculating this figure using the accrual approach caused the creditors' concern in using accounting earning. According to this approach, earning is recognized by realizing revenues and expenses and regardless of when the cash is exchanged. Therefore, forecasts and estimates are used to calculate earnings that this issue made possible the manipulation of earning by management and the earning quality reported, ie, the ability of earning to predict future cash flows is doubted. The purpose of this study is to identify the relationship between earnings quality, financing through stocks and debt in companies listed in Jakarta Stock Exchange.

According to the explanations provided, the following questions are raised in the present study:

- (1) Is there a significant relationship between leverage companies with high earnings quality and financing through earning?
- (2) Is there a significant relationship between non-leveraged companies with low earnings quality and financing through stocks?

2. Research hypotheses

1. There is a significant relationship between leverage companies with high earnings quality and financing through stocks.
2. There is a significant relationship between non-leverage companies with low earnings quality and financing through stocks.

3. Statistical population, sampling method and sample size

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 (Salehi, Moradi, 2017).

4. Data analysis method and tool

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

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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 (Salehi, Moradi, 2017).

5. Definition of technical and specialized words and terms

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.

Financing: Financing means preparing the financial resources and funds to continue the activities of company and create and launch development and revenue plans. Financing is mainly through the issuance of shares, the sale of bonds and loans and credits.

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

6. Research background

6.1. Domestic background

Baradaran Hassanzadeh et al. (2012) conducted a research to investigate and compare the relationship between capital structure and earnings quality of companies listed in Jakarta Stock Exchange. For this purpose, all companies listed in the Jakarta Stock Exchange that provided financial statements and required information during 2004-2009 were investigated. Generally, 97 companies were selected according to the existing constraints. Then, information on debt-to-asset ratio and operating cash flow to net earnings ratio (earnings quality of the Penman model), net operating assets on net sales ratio (earnings quality of Barton-Simko model) and the ratio of standard deviation of operating earnings to standard deviation of operating cash flow (earnings quality of Lewis model) were studied over a 6-year period and were collected on average and tested by separating high and low earning companies. The results of this study indicate that: Overall, there is a positive relationship between capital structure and corporate earnings quality, but this relationship is statistically weak except for high-quality earnings of Lewis which are in moderate limit.

6.2. Foreign backgrounds

Lin and Lee (2016) in a study entitled "The Effect of Earnings Quality and Leverage Deficit on Financing Policy" examines the relationship between earnings quality and leverage deficit as well as the impact of earnings quality on selecting financing method for surplus financial leverage companies without sufficient financial leverage. The results show that companies with leverage deficits have higher earnings quality. Companies with surplus financial leverage with high earnings quality tend to select financing from this way. There is a significant relationship between companies without sufficient financial leverage with low earnings quality and financing through stocks. In addition, companies prefer to prioritize actual earnings management through external financing or debt financing before selecting financing through stocks. Therefore, there is a significant relationship between companies with financing through debt with surplus financial leverage and earnings management.

7- Research models and variables

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

$$\text{EquiDi}_{i,t} = \beta_0 + \beta_1 \text{LevInc}_{i,t} * \text{HighEQ}_{i,t} + \beta_2 \text{LevInc}_{i,t} * \text{HighEQ}_{i,t-1} + \beta_3 \text{MB}_{i,t} + \beta_4 \text{Beta}_{i,t} + \beta_5 \text{StoR}_{i,t} + \beta_6 \text{SIZE}_{i,t} + \varepsilon_{i,t}$$

That:

The dependent variable:

$\text{EquiDi}_{i,t}$ = Equity financing in Company i in year t if this company issues shares during the year, this variable will be equal to one, otherwise it will be zero.

That:

Dependent variable:

$\text{EquiDi}_{i,t}$ = Financing through stocks of company i in year t if this company issues stocks during the year, this variable will be equal to one, otherwise it will be zero.

Independent variables:

$\text{LevInc}_{i,t}$ = Company target leverage surplus i in year t , and if the actual financial leverage of the company is greater than the target financial leverage (according to the above approach), this variable is equal to one, otherwise equal to zero.

$\text{HighEQ}_{i,t}$ = High earnings quality of company i in year t after calculating earnings quality values according to the above approach, values from middle place are divided into two parts, and company-years placed in the high half of the values will be equal to one (As companies with high earnings quality) and other companies-years will be equal to zero.

$\text{HighEQ}_{i,t-1}$ = High earnings quality of company i in year $t-1$.

Control variables:

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

$\text{Beta}_{i,t}$ = systematic risk of company i in year t .

$\text{StoR}_{i,t}$ = Return on stocks of company i in year t equal to the price difference of each stock at the end of the current year and the end of the previous year plus the cash earnings of each stock dividend by the price of each stock at the end of the previous year.

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

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

$$\text{EquiD}_{i,t} = \beta_0 + \beta_1 \text{LevDec}_{i,t} * \text{LowEQ}_{i,t} + \beta_2 \text{LevDec}_{i,t} * \text{LowEQ}_{i,t-1} +$$

$$\beta_3 \text{MB}_{i,t} + \beta_4 \text{Beta}_{i,t} + \beta_5 \text{StoR}_{i,t} + \beta_6 \text{SIZE}_{i,t} + \varepsilon_{i,t}$$

that:

Dependent variable:

$\text{EquiD}_{i,t}$ = financing through stocks of company i in year t .

Independent variables:

$\text{LevDe}_{i,t}$ = target leverage deficit of company i in year t .

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

$\text{LowEQ}_{i,t-1}$ = Low earnings quality of company i in year $t-1$.

Control variables:

$\text{MB}_{i,t}$ = company growth opportunities i in year t .

$\text{Beta}_{i,t}$ = systematic risk of company i in year t .

$\text{StoR}_{i,t}$ = Return on stocks of company i in year t .

$\text{SIZE}_{i,t}$ = company size i in year t .

7.1. Test the first hypothesis

Hypothesis 1: There is a significant relationship between leverage companies with high earnings quality and financing through stocks.

In order to estimate the model coefficients related to the second hypothesis test, Chow test and F-Limer statistic are used to determine the panel data method and to detect homogeneity or heterogeneity. The results of this test show that the probability obtained for the F statistic is less than 5%, so the data are used as panel to test this model. Therefore, the necessity of using fixed or random effects method is investigated. 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.

Table 1. Testing the first hypothesis

Variable	Coefficient	Standard error	T static	Significant level
Fixed value	100/0	020/0	030/5	000/0
Surplus financial leverage * High earnings quality	001/1	001/0	500/1	317/0
Surplus financial leverage * High earnings quality in last year	084/0	002/0	433/1	153/0
Growth opportunities	7-E13/5	7-E88/2	780/1	076/0
Systematic risk	5-E21/4	0001/0	281/2	009/0
Return on stocks	300/0	0002/0	384/3	000/0
size of the company	103/0-	001/0	966/2	0004/0
F statistics		377/11	The coefficient of determination	331/0
Significance level of statistic F		025/0	Adjusted coefficient of determination	291/0
EGLS method (eliminating the possible effects of variance heterogeneity)			Durbin-Watson value	233/2

The test result of the model using fixed effects model and estimated generalized least squares (EGLS) method shows that t-statistic of variables of financial leverage surplus * high earning quality and financial leverage surplus * high earning quality were lower than 1.965% in the previous year and their significance level is higher than 0.05, so the relationship between leverage companies with high earnings quality and financing through stocks in companies listed in Jakarta Stock Exchange is not significant. Thus, the second hypothesis of the present study that "there is a significant relationship between leverage companies with high earnings quality and financing through stocks" is not confirmed.

The Durbin-Watson statistic ranges between 1.5 and 2.5. Also the significance level of F statistic is 0.025 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 29% which indicates that about 29% of the dependent variable changes can be explained by the independent variables and the control is acceptable.

7.2. Test the second hypothesis

The second hypothesis is that there is a significant relationship between non-leveraged companies with low earnings quality and financing through stocks.

In order to estimate the model coefficients of the research hypothesis test, Chow test and F-Limer statistic are used to determine the panel data method and to detect homogeneity or inhomogeneity.

Table 2. Testing the second hypothesis

Variable	Coefficient	Standard error	T static	Significant level
Fixed value	109/0	016/0	888/6	000/0
financial leverage deficit * low earnings quality	0007/0	0005/0	405/1	161/0

financial leverage deficit * low earnings quality in last year	0005/0	0005/0	033/1	302/0
Growth opportunities	7-E49/1	7-E32/2	640/0-	523/0
Systematic risk	5-E49/6	0001/0	420/3	005/0
Return on stocks	700/0	0001/0	376/2	01/0
size of the company	922/0-	001/0	872/3-	002/0
F statistics		387/11	The coefficient of determination	333/0
Significance level of statistic F		022/0	Adjusted coefficient of determination	293/0
EGLS method (eliminating the possible effects of variance heterogeneity)			Durbin-Watson value	24/2

The results of 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 t-statistic of variables of target leverage deficit* low earning quality and financial leverage deficit* low earning quality were lower than 1.965% in the previous year and their significance level is higher than 0.05, so the relationship between non-leverage companies with low earnings quality and financing through stocks in companies listed in Jakarta Stock Exchange is not significant. Thus, the third hypothesis of the present study that "there is a significant relationship between non-leverage companies with low earnings quality and financing through stocks" is not confirmed.

The Durbin-Watson statistic ranges between 1.5 and 2.5. Also the significance level of F statistic is 0.022 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 29% which indicates that about 29% of the dependent variable changes can be explained by the independent variables and the control is acceptable.

8. Discussion and interpretation of findings

The relationship between financial leverage, earnings quality, and financing through stocks When the level of corporate financial leverage is higher than the target financial leverage, companies tend to finance through equity (Korajczyk & Levy, 2003). Gatchev et al. (2009) found that in the absence of profitability, investment 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 and use long-term debt less. But according to the results of this study, there is no significant relationship between leverage companies with high earnings quality and financing through stocks. Also, there is no significant relationship between non-leveraged companies with low earnings quality and financing through stocks, which contradicts with the results of Lin and Lee (2016) study.

9. Research limitations

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:

- 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.

10. Suggestions for future research

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

- 1) Investigating the impact of the company's life cycle on the variables studies including financing through stocks, financing through borrowing, earnings management, profit quality, and so on.
- 2) Researchers are advised to repeat this research by considering information of companies out of stock exchange for a longer period of time in order to have more generalizable results.

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