The empirical evidence of the effect of company size, leverage and profitability on income smoothing

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CHRONICLE	ABSTRACT
	Income smoothing is basically a management strategy to reduce fluctuating income levels. This study aims to determine the effect of company size, leverage and profitability on income smoothing in companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2017-2019 period. It was carried out on companies listed on the LQ45 Index of the Indonesia Stock Exchange in 2017-2019. Sampling was conducted by utilizing purposive sampling and obtained 11 companies, from which 33 data were collected. The analysis technique used was multiple linear regression analysis. Results showed that company size, leverage and profitability simultaneously can affect income smoothing of a company. Company size and profitability partially have a positive effect on income smoothing, while leverage has a negative effect on income smoothing.

1. Introduction

Financial statements are a source of company financial information containing all information related to financial position and performance. One of the information presented in financial statements is the company's income for each period. Besides providing benefits for both companies and investors, companies that generated larger profits will try to maintain and even increase the amount of income. Management who realizes the importance of income for this purpose eventually tends to act or behave inappropriately (dysfunctional behavior). Income smoothing is a practice of determining the timing of recognition of income and expenses carefully to even out the amount of income reported from one period to the next (Herry, 2015). Management performs income smoothing as an attempt to present income in financial statements according to their expectations and increase the company's stock price. Furthermore, there are many factors that can trigger income smoothing practices by a company, some of which include company size, leverage and profitability (Alexandri, & Anjani, 2014; Ashari et al., 1994; Carlson & Bathala, 1997; Fengju et al., 2013; Habib, 2005; Prencipe et al., 2011). Company size is one of the main factors that can affect a company's income smoothing. Large companies have a large incentive to do income management since they are required to be able to meet the expectations of investors or shareholders. The use of total assets as a tool to measure company size has been done previously in studies conducted by Pratiwi and Damayanthi (2017), as well as Handayani and Fuad (2015). Referring to studies conducted by Pratiwi and Damayanthi (2017) as well as Oktiavisari, Miqdad and Effendi (2017), company size has a positive effect on income smoothing practices. On the other hand, studies conducted by Handayani and Fuad (2015) as well as Yusliandri et al. (2016) revealed different results that company size has no effect on income smoothing. Importantly,

leverage is the company's ability with its own capital to secure the debt it has. It shows the proportion of company spending that is financed by their shareholders (private capital) and funded by loans. There have been several studies examining the effect of leverage on income smoothing practices. Husaini and Sayunita (2016), as well as Trisnawati et al. (2017) claimed that leverage has no effect on income smoothing practices, while leverage does. However, other studies found that leverage has no effect on income smoothing practices carried out by company management. It was revealed by studies conducted by Pratiwi and Damayanthi (2017), Mohammadi and Arman (2016), Handayani and Fuad (2015), as well as Haini and Andini (2014).

Profitability is the company's ability to generate income during a certain period (Munawir, 2014). Andini (2014) and Trisnawati et al. (2017) strongly advocated that profitability has a positive effect on income smoothing practices, so that companies with a high level of profitability tend to do it. Moreover, a study by Handayani and Fuad (2015) affirmed that profitability measured using the Return on Asset ratio has a negative effect on income smoothing. Yusliandri et al. (2016) added that profitability has no effect on income smoothing. This study aims to determine the effect of company size, leverage and profitability on income smoothing in companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2017-2019 period. It was carried out on companies listed on the LQ45 Index of the Indonesia Stock Exchange in 2017-2019.

2. Literature Review

2.1. Financial Accounting

American Institute of Certified Public Accountants (AICPA) as cited in Zamzami and Nusa (2016) has defined accounting as the art of recording, categorizing and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of financial character, and interpreting the results. According to Waren et al., as cited in Zamzami and Nusa (2016), accounting is defined as an information system that produces reports to interested parties regarding economic activities and company conditions. Martani (2014), in this case, explained that financial accounting is oriented towards external party reporting. The variety of external parties with specific objectives for each party causes accountants to use principles and assumptions in preparing financial statements. Zakiyudin (2014) believed that financial accounting deals with the accounting of an economic unit as a whole with the main objective of producing financial statements for the benefit of outside parties such as investors, government agencies, and other outside parties. Income smoothing can be defined as a practice used by management both artificially (through accounting techniques and methods) and real (through economic transactions) in order to reduce reported fluctuations in income until it reaches trends and levels that tend to be stable from one period to the previous period (Sulistyanto, 2014). Income smoothing is projected using the Eckel's Index. According to Trisnawati et al. (2017), Eckel's index can differentiate between companies that practice and do not practice income smoothing.
Here is the Eckel's index formula (Gordon as cited in Trisnawati et al., 2017):

$$\text{Eckel's Index} = \frac{CV\Delta I}{CV\Delta S} \qquad (1)$$

where
CVΔI   = Coefficient of variation for changes in net income
CVΔS   = Coefficient of variation for changes in sales
CVΔI and CVΔS can be calculated by formula (Trisnawati et al., 2017):

$$CV\Delta I \text{ and } CV\Delta I = \sqrt{\frac{\sum_{i=1}^{n}\left(\Delta X_i - \overline{\Delta X}\right)}{n-1}} \qquad (2)$$

where
ΔX_i = Change in net income or net sales between year n and year n-1
$\overline{\Delta X}$ = Average net income or net sales between year n and year n-1
n = Number of years studied.

After the Eckel index calculation results are known, the company has been categorized into a group of smoothing and unsmoothing with the following criteria:

- Companies with an index less than one are included in the category of companies that do income smoothing.
- Companies with an index more than one are included in the category of companies that do not perform income smoothing. (Gordon as cited in Trisnawati, 2017)

2.2. Company Size

Dewi and Sujana (2017:173) has defined that total assets owned by the company reflect the size. Company size can affect income smoothing practices. In this study, company size was projected on natural logarithm (Ln) of total assets. Measuring company size using Ln of total assets was also carried out in studies by Tsyuroya and Astika (2017), Yusliandari (2016) as well as Dewi and Sujana (2014). Here is the formula for company size:

$Size = Ln\ Assets$ (3)

where Ln Assets = Natural Logarithm of Total Assets.

2.3. Leverage

Fahmi (2018) defines leverage as measures how much a company is financed with debt. A company that has too much debt can put itself in a dangerous position. This is because the company will fall into the extreme leverage (extreme debt) category. Extreme leverage is a position where the company is trapped in a high and difficult level of debt. The leverage value of a company can be seen using Debt to Equity Ratio. Sartono (2014) affirmed that Debt to Equity Ratio (DER) is a comparison between all company debt, including long-term and short-term debt, with the company's own capital. The following is the formula for finding Debt to Equity Ratio (Sartono, 2014:121).

$$DER = \frac{Total\ Debt}{Total\ Capital}$$ (4)

2.4. Profitability

Kasmir (2015) claimed that profitability ratio is a ratio to assess the company's ability to seek profit or income in a certain period. This ratio also provides a measure of the level of management effectiveness of a company. It is indicated by income generated from sales and investment income. The point is that the use of this ratio shows efficiency of the company. One of the ratios in profitability is Return on Assets (ROA) which shows the company's ability to use all its assets to generate income after tax (Sudana, 2015). Thus, by using the value of ROA, it can be seen whether the company is efficient in using its assets in operating activities to earn income. The following is the formula for Return on Assets ratio (Sudana, 2015:22).

$$ROA = \frac{Earning\ After\ Tax}{Total\ Assets}$$ (5)

According to Suartini et al. (2018), sales volume has an effect on the level of profitability of a company, in part or as a whole. In addition, profitability is not determined by bad debts (Nurdiansyah & Manda, 2018). Several studies have also suggested many factors that can increase the profitability of a company, one of which is Fixed Asset Investment in the form of vehicles which can increase 30%, 33.80% that is influenced by financial ratios and 36.2% that is determined by other factors (Nugroho et al., 2017; Suartini et al., 2018).
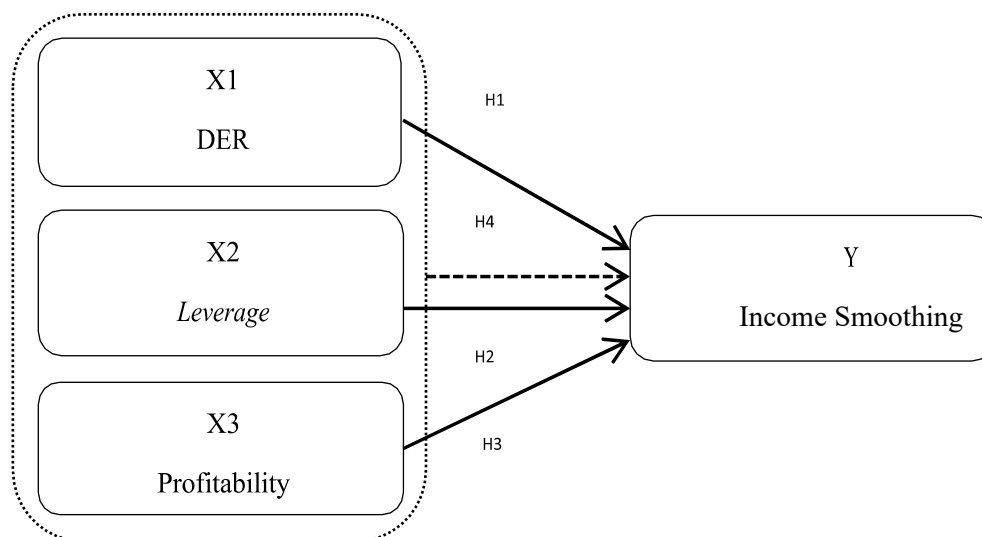

Fig. 1. Research Model

3. Research Methodology

Population in this study included companies listed on the LQ45 Index of the Indonesia Stock Exchange in 2017-2019. Sampling was conducted by utilizing purposive sampling and obtained 11 companies, with the following criteria:

1. Companies listed on the LQ 45 Index of the Indonesia Stock Exchange
2. Companies which are out of the LQ Index of the Indonesia Stock Exchange during the study period
3. Companies that do not provide the data required by researchers

Based on the results of the sample using these criteria, 33 data were obtained consisting of 11 companies with three years of study period. Analysis technique used in this study was multiple regression analysis. More importantly, data analysis used was normality test, multicollinearity test, autocorrelation test, heteroscedasticity test, to the coefficient of determination analysis. Hypothesis testing was done using T test and F test. Multiple linear regression analysis in this study aims to determine the effect of company size, leverage and profitability on income smoothing. Here is the formula:

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

Annotation: Y = The act of questioning profit; X1= company size; X2= Leverage; X3= Profitability; α= element of interference; ε= Constant; β_1, β_2, β_3= The coefficient value of each independent variable.

The basis for decision making in multiple regression analysis was to use the Simultaneous Significance Test (Statistical F Test) and Individual Parameter Significance Test (Statistical T Test).

4. Results and Discussion

The first test was to perform classical assumption test as a test conducted to test the data before the data is analyzed using multiple regression analysis. It consists of data normality test, multicollinearity test, autocorrelation test and heteroscedasticity test.

Table 1

Normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		33
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.07613914
Most Extreme Differences	Absolute	.115
	Positive	.115
	Negative	-.086
Test Statistic		.115
Asymp. Sig. (2-tailed)		.200[c,d]

Based on the test results in Table 1, the significance level is 0.200> 0.05. It means that the data used in this study were normally distributed.

Table 2

Multicollinearity test

Model	B (Ustd)	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.248	.054		4.629	.000		
SIZE	-.009	.002	-.570	-4.047	.000	.775	1.290
DER	.061	.011	.720	5.353	.000	.853	1.173
ROA	.077	.139	.072	.553	.585	.902	1.108

Based on multicollinearity test results in Table 2, all independent variables in this study have a tolerance value greater than 0.10. In addition, multicollinearity test can be seen from VIF value which is between 1-10. The results of this study showed that VIF value was between 1 - 10.

Table 3

Durbin-Watson Test

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.744[a]	.553	.507	.0799805	1.179

a. Predictors: (Constant), ROA, DER, SIZE b. Dependent Variable: INCOME

Table 3 shows that Durbin-Watson value is 1.179 which is still between -2 and +2, meaning that the data used in this study were free from autocorrelation. Table 4 summaries the descriptive statistics of the variables.

Table 4
Descriptive Analysis

	Minimum	Maximum	Mean	Std. Deviation
SIZE	12.1985	32.4545	21.231366	7.0063575
DER	.1447	4.6799	1.560334	1.3422902
ROA	-.0070	.4481	.109003	.1074631
INCOME	-.0243	.4554	.154843	.1139038

Coefficient of determination test is used to measure how far the model's ability to explain variation in dependent variable (Ghozali, 2016). If $R^2 = 0$, no relationship is perfect. Meanwhile, if $R^2 = 1$, there is a relationship between the variation in dependent variable and independent variable or the variation in dependent variable can be explained by independent variable as a whole. Coefficient of determination (R^2) test was carried out by utilizing SPSS software so that the results were shown in Table 5.

Table 5
Coefficient of Determination (R^2) Results

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
,744[a]	,553	,507	,0799805	1,179

a. Predictors: (Constant), ROA, DER, SIZE; b. Dependent Variable: INCOME

Results of multiple analysis can be seen from adjusted R square of 0.507 which showed that income smoothing was influenced by the three independent variables in this study, including Company Size (Size), Leverage (DER) and Profitability (ROA) of 50.7%, while the remaining 40.3% income smoothing at companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2017-2019 period could be influenced by other variables that have not been examined in this study.

Table 6
Multiple Regression Analysis

Model	B (Unstd)	Std. Error	Beta	t	Sig.
(Constant)	.248	.054		4.629	.000
SIZE	-.009	.002	-.570	-4.047	.000
DER	.061	.011	.720	5.353	.000
ROA	.077	.139	.072	.553	.585

Table 6 about regression coefficient shows the constant (β_0) is 0.248, which means that the value of income smoothing remained 0.248 as long as there was no change in the independent variable. Regression coefficient value obtained from the company size variable is -0.009. Company Size (X1) had a significance level of 0.000 which was less than 0.05 (0.000 < 0.05). Besides, t count value is -4.047 which shows that t count < t table (-4.047 < -2.034). Therefore, t count was in an area that H0 was rejected and H1 was accepted, which means that company size could affect income smoothing for companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2017-2019 period. It is supported by studies conducted by Pratiwi and Damayanthi (2017) as well as Oktiavisari, Miqdad and Effendi (2017). Several other studies stated that company size has an effect on income smoothing. However, different results were obtained by Handayani and Fuad (2015) as well as Yusliandri et al. (2016) that company size has no effect on income smoothing. Additionally, the regression coefficient value obtained from the leverage variable was 0.061 with a significance level of 0.000 which was below the value of 0.05 (0.00 <0.05). Results of multiple regression calculations obtained t value of 5.353 which showed -t count > t table (5.353< 2.034). Thus, t count was in an area that H0 was rejected and H2 was accepted. It means that leverage could affect income smoothing for companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2015-2017 period. Results of this study support a study conducted by Pratiwi and Damayanthi (2017) which found that there is an effect of leverage value on income smoothing practices. Other studies supporting this study were conducted by Mohammadi and Arman (2016), Handayani and Fuad (2015), as well as Haini and Andini (2014). However, studies conducted by Trisnawati et al. (2017) claimed that leverage has no effect on income smoothing carried out by company management. Regression coefficient value obtained from the profitability variable was 0.077 with a significance level of 0.585 which was greater than 0.05 (0.585> 0.05). Results of multiple regression calculations obtained a value of t count < t tabel (0.553 <2.037). Thus, t count was in the area that H0 was accepted and H3 was rejected. It means that profitability had a negative effect on income smoothing for companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2015-2017 period. This result is in accordance with a study conducted by Handayani and Fuad (2015) which found that profitability as measured by Return on Assets has a negative effect on income smoothing. Yusliandri et al. (2016) concluded that profitability measured using ROA has no effect on income smoothing.

Table 7

Hypothesis Testing (F Test)-ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	.230	3	.077	11.967	.000[b]
Residual	.186	29	.006		
Total	.415	32			

a. Dependent Variable: INCOME; b. Predictors: (Constant), ROA, DER, SIZE

Table 7 shows that F count was 11.967. It indicated that F count was greater than F table (4.700 > 2.930), with significance level of 0.000 < 0.05 so that H0 was rejected and Ha was accepted.

5. Conclusion

This study has examined factors influencing income smoothing practices, including company size and leverage. Based on results of partial hypothesis testing (t test), company size (size) and leverage (DER) had a positive effect on income smoothing, while profitability had a negative effect on income smoothing in companies listed on the LQ45 Index of the Indonesia Stock Exchange for the 2015-2017 period. Based on the results show that company size and Leverage have a significant positive effect on income smoothing. Meanwhile, the partial profitability has a significant negative effect on Income Smoothing. Together, Company Size, Leverage and Profitability can affect Income Smoothing with a significance of 40.3% in companies listed on the LQ 45 Index of the Indonesia Stock Exchange for the period 2017-2019. A partial and significant positive effect of company size on income smoothing indicates that larger companies have an incentive to make income smoothing than smaller companies since they are examined and evaluated more critically by investors. In this study, independent variable was calculated using Return on Assets, in which profitability value was measured from the comparison of net income with assets owned by the company. Profitability shows the company's ability to generate income during a certain period. Low profitability is considered not to attract investors' attention. Thus, the company practices income smoothing. In fact, having a stable income makes it easier for investors to predict return on investment or dividend income.

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