

Does the Gender of CEOs and CFOs Affect Earnings Management?

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This study assesses the effect of the gender of chief executive officers (CEOs) and chief financial officers (CFOs) on corporate earnings management. Samples were collected from manufacturing firms listed in the Indonesia Stock Exchange in the period of 2012–2014. The results of the study reveal that the existence of female CEOs and CFOs has no significant effect on corporate earnings management. These findings indicate that external pressure from other parties may be a more significant factor affecting how firms manage their financial reports. Consequently, this impedes the effect of the characteristics inherent in the gender of corporate decision makers.

Keywords: CEO; CFO; Gender; Earnings Management.

1. INTRODUCTION

The gender of top management has become a trending topic among researchers. Catalyst¹ showed that female representation in boards has resulted in an improvement in corporate financial performance, since women consider wider issues and alternatives related to the interests of the stakeholder². In 2014, Grant Thornton's International Business Report (IBR) released the findings of their new research. It was disclosed that women occupy 41% of senior management positions in Indonesia, compared to 40% and 38% in the Philippines and Thailand, respectively. This research reveals the fact that women in firms, particularly in Southeast Asia, are increasingly obtaining acknowledgment.

Earnings management has been practiced in firms for various reasons. This practice is influenced by the *judgment* made by corporate management. Therefore, the character of those in management will have an effect on earnings management practice. This study will focus on the effect of the gender of chief executive officers (CEOs) and chief financial officers (CFOs) on earnings management. Two contributions are expected to result from this study.

First, this study provides an academic contribution in terms of adding to the literature on the role of executives' gender in mitigating the likelihood of earnings management being practiced. Second, this study is expected to provide the practical contribution of enhancing the role of female executives in monitoring the quality of financial statements in order to reduce the possibility of earnings management being undertaken.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Scott³ defined earnings management as:

“the choice by manager of accounting policies or real actions, affecting earnings so as to achieve some specific reported earnings objective.”

Earnings management is a tool that is applicable for firms. However, excessive practice may lead to a reduction in the utility of financial reports to investors.

Scott³ explained that there are four earnings management patterns, namely *taking a bath*, *income smoothing*, *income minimization*, and *income maximization*. This study will focus on the last pattern, that is, the scenario in which the management wishes to increase corporate earnings by recognizing income faster or by expensing costs of the current period in the following period.

Gender Diversity

In this study, diversity refers to the extent of the effect of female CEOs and CFOs on corporate earnings management. Research on human characteristics showed that men are more likely to be aggressive, individualistic, strict, and impatient⁴. They also have high self-confidence and good capacity in job accomplishment. On the other hand, women are more likely to act passively. They are characterized by being obedient and sensitive. These different traits have resulted in different types of response to corporate policy and regulation by women and men⁴.

The existence of CEOs is crucial in corporate governance, since they are in charge of coordinating all the activities of boards in firms. Grant Thornton's IBR⁵ revealed that 12% of women hold the position of CEO.

Krishnan and Parson⁶ suggested that women are more ethical than men, and that gender diversity in top management is associated with an improvement in the quality of earnings reported by firms. This ethical nature suggests that the probability of women practicing earnings management is lower than that of men. Peni and Vahamaa⁷ found a negative but insignificant relationship between female CEOs and earnings management. Referring to the proposition, the researchers formulated the following hypothesis:

H₁: The existence of women as CEOs has a negative effect on earnings management.

Meanwhile, the CFO is the individual in the highest structure of financial responsibility. Sihite² found a negative but insignificant relationship between female CFOs and earnings management. Peni and Vahamaa⁸ found that firms with a female CFO apply a conservative financial reporting policy. Referring to the proposition, the researchers formulated the following hypothesis:

H₂: The existence of women as CFOs has a negative effect on earnings management.

3. RESEARCH METHOD

The data sources employed in this study are the annual reports of the manufacturing firms listed in the Indonesia Stock Exchange in the period of 2012–2014. There are a total of 327 manufacturing firms included as the sample of this study.

This study is developed based on the model used by Sihite².

$$EM_{it} = \beta_0 + \beta_1 FCEO_{it} + \beta_2 FCFO_{it} + \beta_3 SFCF_{it} + \beta_4 SIZE_{it} + \beta_5 AUDITOR_{it} + \beta_6 LEV_{it} + \varepsilon_{it} \quad (1)$$

Operationalization of Variable

Earnings management, as the dependent variable, is calculated based on the approach of discretionary accruals, using the model developed by Kothari et al.⁸ The value results from the residual estimation calculation (non-absolute) of the following equation:

$$\frac{TA_{it}}{ASSETS_{it-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{ASSETS_{it-1}} + \alpha_3 \frac{PPE_{it}}{ASSETS_{it-1}} + \alpha_4 ROA_{it} + \varepsilon_{it} \quad (2)$$

- TA_{it} = total accruals obtained from net income before *extraordinary items* deducted by cash flow of operational activities of firm i in period t;
 ASSETS_{it-1} = total assets of firm i in period t-1;
 ΔREV_{it} = changes in revenue of firm i in period t and in period t-1;
 ΔREC_{it} = changes of net receivables of firm i in period t and in period t-1;
 PPE_{it} = plant, *property*, and *equipment (gross)* in period t;
 ROA_{it} = return *on asset* of firm i in period t;
 ε_{it} = residual value.

Female CEO and Female CFO are independent *dummy* variables. FCEO and FCFO are assigned a value of 1 when their gender is female, and 0 otherwise. *Surplus free cash flow* (SFCF) is a dummy variable that has a value of 1 when firms have *high free cash flow* (*free cash flow* above the median of the sample for the current year) but *low growth* (*price to book ratio* below the median of the sample for the current year), and 0 for other types of SFCF. SIZE is measured by the natural logarithm of the corporation's total assets.

Companies hiring non-Big 4 public accounting firms have higher earnings management scores than those hiring one of the Big 4¹⁰, since credible auditors are expected to minimize the practice of earnings management. As such, a dummy variable is used whereby companies audited by the Big 4 public accounting firms are assigned a score of 1, and those audited by other firms receive a score of 0. The final control variable is LEV, or the comparison between total *debts* and total assets. One of the motivations behind earnings management is the need to meet the debt covenant, where creditors specify related financial terms to be obeyed by the debtors⁹. Therefore, the existence of debt in a company can encourage CEOs and CFOs to practice earnings management in order to meet the requirements.

4. RESULTS AND DISCUSSION

Data were obtained through DATASTREAM, EIKON (Thomson Reuters) and companies' annual reports. The method employed for selecting samples was purposive sampling with the following data selection criteria:

1. It is a manufacturing company listed in the Indonesia Stock Exchange in the period 2012–2014. (Companies from the same industry usually have similar characteristics so the regression results will be unbiased.)
2. The company provides complete annual report data for the period 2012–2014.
3. The company has the complete data required for all variables in this study.

4. The company's financial statements end on 31st December.

The sampling process is summarized in Table 1, below.

Table.1. Sample Selection

Description	Quantity
The number of manufacturing companies in 2012-2014	426
Companies with incomplete data of 2012	(42)
Companies with incomplete data of 2013	(30)
Companies with incomplete data of 2014	(27)
Total sample	327

The independent variables in this research are female CEOs and female CFOs. Of the total 327 observations, only 5.19% of companies have female CEOs and 17.43% of companies have female CFOs. This finding demonstrates that the positions of CEO and CFO in Indonesian companies are still dominated by men. The lack of women in top executive positions raised the question of how effective their role is in mitigating earnings management, since women achieving these positions must have already been mature and strong. Table 2 shows the number of female CEOs and CFOs in the samples. The researchers were interested to discover whether the presence of women in limited numbers could have a significant effect on companies' earnings management.

Table.2. The Number of Female CEO and CFO

Year	Female CEO	Female CFO
2012	6	17
2013	5	18
2014	6	22
Total Sample	17	57

Descriptive Statistics Analysis

The data processing began with checking for the existence of outliers. A data point is considered an outlier if it falls outside the upper and lower limit of the three standard deviations of the mean. The outlier data was replaced by the nearest number in the research sample that was within these upper and lower limits. The descriptive statistics are presented in Table 3.

Table.3. Descriptive Statistics

Variable	Min	Max	Mean	Stdev
EM	-0.335	0.336	-0.0008	0.095
SIZE	23.14	33.09	28.11	1.66
LEV	0	1.628	0.291	0.314
	% Dummy 1		% Dummy 0	
FCEO		5.19		94.81
FCFO		17.43		82.57
SFCF		15.90		84.09
AUDITOR		43.11		56.89

Source: reprocessed from STATA 13.

The two independent variables in this study represent gender in dummy form, i.e. FCEO and FCFO (1 if female; 0 if male). From Table 3, it can be observed that FCEO and FCFO have average values of 5.19% and 17.43%, respectively. This finding supports the explanation in the previous section that, based on the overall observations in this study, the positions of CEO and CFO continue to be dominated by men. Meanwhile, the remaining dummy variables, SFCF and AUDITOR, have average values of 15.90% and 43.11%, respectively. These results indicate that as many as 15.90% of the samples experienced a condition of high free cash flow but low growth; this demonstrates that there are still many companies that actually have resources but do not have the opportunity to grow. In addition, the number of companies audited by non-Big 4 public accounting firms remains greater than those who use the services of the Big 4.

Another variable used in the study is SIZE, which represents firm size. The value of this variable is measured by transforming the total nominal value of the company's assets into its natural logarithm. This method must be applied because the asset unit has a much larger nominal value than the other variables. The standard deviation for the SIZE variable of 1.657846 indicates that there is a wide range between the minimum and maximum values. AKKU had the smallest SIZE value (23.14) in 2012, while ASII, as the leading car manufacturer in Indonesia, had the greatest SIZE value (33.09) in 2014. The SIZE component shows that the size of the assets of manufacturing companies in Indonesia is very diverse.

Table 3 also shows a considerable range of EM values, which is reflected in the standard deviation of 0.095. This considerable range is also reflected in the distance between the minimum and maximum values. ALMI, in 2013, had the highest maximum EM value (0.336), while POLY, in 2012, had the lowest minimum value (-0.335). The LEV variable represents the proportion of debts to assets, which is directly proportional to the dependent variable (earnings management). The average value of LEV of 29.06% indicates that the proportion of debt is still relatively small compared to the assets.

Correlation Analysis

A correlation analysis was undertaken to analyze the relationship between the variables in the model using Pearson correlation test, as presented in Table 4.

Table.4. Pearson Correlation Analysis

	EM	FCEO	FCFO	SFCF	SIZE	AUD	LEV
EM	1						
FCEO	-0.007	1					
FCFO	0.002	0.0376	1				
SFCF	-0.196 ***	-0.064	0.0206	1			
SIZE	-0.151 ***	-0.029	-0.0118	-0.028	1		
AUD	-0.16 ***	-0.093	0.0069	0.044	0.40 ***	1	
LEV	0.11 ***	-0.134 ***	-0.107 ***	0.067	0.05	-0.158 ***	1

***Significant at 1% (*one-tailed*)

** Significant at 5% (*one-tailed*)

* Significant at 10% (*one-tailed*)

Source: reprocessed from STATA 13.

The Pearson test results show a linear correlation between two variables. The closer the number is to one, the stronger the correlation. Vice versa, the closer the number is to minus one, the weaker the correlation. From Table 4, it may be observed that, in the first model, the AUDITOR variable has a correlation coefficient of 0.40 to the SIZE variable. This positive value indicates that firms audited by KAP Big 4 tend to have large corporate sizes.

The SFCF, SIZE and AUDITOR variables are negatively correlated to the EM variable. That is, each increase of one unit of these variables will be followed by the decrease of variables EM by 0.196, 0.151, and 0.16, respectively. The LEV variable, which is also a control variable, has a positive relationship with the EM variable. Based on existing theory, the LEV variable would be predicted to be positive, so the results of the Pearson correlation test indicate conformity with expectations.

The independent variable, FCEO, is negatively correlated with the EM value. That is, for every one unit increase of FCEO, the value of EM is reduced by 0.0072. This finding is in accordance with the first hypothesis, which predicted that the existence of female CEOs would reduce the value of earnings management. On the other hand, FCFO, as an independent variable, has a positive relationship with the EM variable, with a value of 0.002. Here, the Pearson correlation test results exhibit inconsistency with the hypothesis and expected sign.

The normality, multicollinearity, and heteroskedasticity of the study model have been tested. The results reveal that the data was not dispersed normally. However, since the study already had a large sample size, the researchers did not follow up these results. The results of the multicollinearity test demonstrate that the model is free of any multicollinearity. However, the results of the heteroskedasticity test reveal the existence of problems. Consequently, the *command robust* was added during the regression.

Analysis of the Effect of CEO Gender on Earnings Management

Hypothesis 1 is rejected, since it is not in line with the result. In the testing model presented in Table 5, it appears that a female CEO has a negative but insignificant effect on earnings management. The direction of the coefficient is in line with the initial expectation, that is, the variable FCEO has a negative effect; however, the effect is insignificant. Consequently, the first hypothesis is rejected.

The results are in line with the results of the study conducted by Peni and Vahamaa⁷, who found that earnings management is not associated with the gender of CEOs of firms. Sihite² also found a similar result in his study using the sample firms in Indonesia. This finding may be due to the fact that the number of female CEOs in the sample of this study is only minimal. Consequently, the significance of gender is unobservable.

Analysis of the Effect of CFO Gender on Earnings Management

The first testing model also reveals the relationship between the variable FCFO and earnings management. Table 5 shows that FCFO has an insignificant effect on earnings management. This indicates that Hypothesis 2 must be rejected since the effect of female CFOs on earnings management is not significant. El-Mahdy⁹ suggested that a CFO has a positive effect on earnings management because their position in firms is directly associated with corporate finance and they are thus more likely to practice earnings management than CEOs. This finding may also result from indirect pressure from CEOs on CFOs to maximize *bottom line earnings* in order to meet market expectation. The results of this study also support the research conducted by Sihite², who also found that CFOs have effect on earnings management.

Gender-related behaviors are influenced by the existing situation and conditions⁹. Furthermore, men and women will exhibit different styles of actions and behaviors in professional affairs. However, this will likely disappear when they begin to adjust and adapt themselves to the job. Consequently, men and women tend to have similar responses to unethical situations. It is probably due to this process of adaptation that the variables of FCEO and FCFO do not have significant effects on earnings management in firms.

The results of hypothesis testing are presented in the following table.

Table.5. Regression Results

	Expected Sign	Coef.	Prob.
FCEO	-	-0.0074871	0.3475
FCFO	-	0.0046012	0.36585
SFCF	+	-0.0533875	0.000***
SIZE	-	-0.0073601	0.0095***
AUDITOR	-	-0.0166996	0.065*
LEV	+	0.0345963	0.0595*
N		327	
R-squared		0.1276	
F - Statistic		5.17	
Prob (F-stat.)		0.0001	

***Significant at the level of $\alpha = 1\%$ (one-tailed)

**Significant at the level of $\alpha = 5\%$ (one-tailed)

*Significant at the level of $\alpha = 10\%$ (one-tailed)

EM_{it} = variable of earnings management based on discretionary accruals in firm i in period t ; $FCEO$ = dummy variable that have score 1 for observation with women as CEO and score 0 for observation with men as CEO; $FCFO$ = dummy variable that have score 1 for observation with women as CFO and score 0 for observation with men as CFO; $SFCF$ = dummy variable that have score 1 for observation with *high free cash flow* but *low growth* and 0 for other observation in firm i in period t ; $SIZE_{it}$ = size of firms measured by natural logarithm from total asset in firm i in period t ; $AUDITOR_{it}$ = dummy variable that have score 1 for firms hiring Big 4 Public Audit Service and 0 for firms hiring non-Big 4 Public Audit Service.; LEV_{it} = is variable representing the proportion of *debt to asset* in firm i in period t .

5. CONCLUSION

The results of this study do not support the hypotheses. This study reveals that the existence of female CEOs and CFOs does not have a significant effect on earnings management. Therefore, as an implication, this study may be referred to by regulators when they plan to issue and enact regulations concerning the percentage of women on the board. This study finds that there is no difference between male and female CEOs and CFOs. Therefore, a leadership quota for women on the board is advisable, since it has no significant effect on earnings management.

This study has several limitations, which are as follows:

1. This study is limited to firms within the manufacturing industry so it cannot evaluate the impact of the gender of CEOs and CFOs on earnings management in other industries. Academics or researchers who

intend to conduct similar research can determine whether the results contained in this study are in line with the results in industries other than manufacturing.

2. The number of observations used in this study is also limited to 327 companies that each have a complete set of data related to all research variables.
3. This study is limited to a time span of three years, which restricted its ability to explain the trend in the long run. Future studies could consider a longer time period.

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