Women on boards and earnings management: What really matters?

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Abstract

The diversity of gender and income conservatism has been intriguing topics over the last decade. The effect of women who are more likely to be financially conservative than men will bring impact on the practices of conservative accounting, particularly when determining revenues for corporate governance. Therefore, we investigate the effects of women leaders in corporate business and their impacts on earnings management. The population of the study includes companies indexed in the Indonesia Stock Exchange, except for banking corporates. By using purposive sampling, 341 companies were selected for observation within six years. Total population sampling is 2046 data (firm-years). Hypothesis testing employed the multiple regression model on panel data with the Ordinary Least Square (OLS) approach. The estimation result of the Jones Model indicates women in top supervisory have no significant effect on earnings management while women in top management have a negative significant effect on earnings management. In addition, the hypothesis testing with the Kothari model demonstrates a negative significant effect of both women in top supervisory and women in top management toward earnings management. Therefore, we justify that women in top supervisory and women in top management bring prominent contributions to corporate business mainly in the financial sector, particularly in the improvement of financial reports by reducing the likelihood of earnings management practices.

Abstrak

Keragaman gender dan konservatisme pendapatan, telah menjadi topik utama yang menarik selama dekade terakhir. Pengaruh perempuan yang cenderung lebih konservatif secara finansial dibandingkan dengan laki-laki, kemungkinan akan memengaruhi praktik akuntansi konservatif dalam menentukan laba yang diperoleh sehingga berdampak pada tata kelola perusahaan. Kami mengkaji mengenai pengaruh perempuan dalam memimpin perusahaan dan hubungannya dengan manajemen laba. Populasi penelitian ini adalah perusahaan yang terdaftar di Bursa Efek Indonesia, kecuali perusahaan perbankan. Dengan menggunakan purposive sampling, *diperoleh sampel penelitian terdiri atas 341 observasi perusahaan dan mencakup 6 tahun periode observasi. Total sampel data sebanyak 2046 data perusahaan* (firm-years). *Pengujian hipotesis menggunakan metode* multiple regression analysis on panel data *dengan pendekatan* Ordinary Least Square (OLS). *Hasil pengujian dengan* Jones Model *menemukan bahwa komisaris utama perempuan tidak berpengaruh signifikan terhadap manajemen laba, sedangkan direktur utama perempuan berpengaruh negatif dan signifikan terhadap manajemen laba. Pengujian hipotesis dengan* Kothari Model *menemukan bahwa komisaris utama perempuan berpengaruh negatif dan signifikan terhadap manajemen laba, demikian pula direktur utama perempuan berpengaruh negatif dan signifikan terhadap manajemen laba. Kami membuktikan komisaris dan direktur utama perempuan memberikan kontribusi penting dalam perusahaan terutama dalam memengaruhi secara positif bidang keuangan terutama peningkatan kualitas laporan dengan mengurangi praktik manajemen laba.*

Kata kunci:
*Komisaris utama perempuan;
Direktur utama perempuan;
Manajemen laba; Konservatisme*

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1. Introduction

Earnings management is an appealing topic that draws attention to both accounting researchers and practitioners. This practice suggests a common phenomenon that occurs not only at particular events but also deeply embedded in business life. It is widely implemented and almost present at any companies' financial reporting due to its embodiment into corporate culture worldwide. In fact, earnings management is a serious problem of managerial engineering that ruins the economic, ethical and moral system. It subsequently raises public doubts on financial statements issued by companies.

Fischer & Rosenzweig (1995) construes the meaning of earning managements as actions of managers aimed at either increasing or reducing the reported net income, without actually increase or decrease the profitability of companies in the future. This definition implicitly suggests the meaning of earnings management as an action by the manager to change the period of revenue recognition, by increasing or reducing the reported profit without affecting the total revenues or profitability of companies in the distant future. The existing problems related to earnings management appeals researcher to conduct this research in order to examine the effect of women leaders in the corporate business listed on the Indonesia Stock Exchange on earning managements.

This study uses an empirical data as a measurement to examine the relationship between these two variables. The rarity of female leaders in corporate businesses particularly in a developing country such as Indonesia compelled researcher to conduct an in-depth investigation about the role of woman in the corporate businesses.

Nowadays many argue that leadership abilities are determined by the biological aspect that is gender difference between males and females. As stated by Kusumawati (2007), gender is a concept used to characterize differences between men and women based on sociocultural aspects. Indeed, corporates have their own structure and governance. As the diversity of life backgrounds, education and gender grow, companies embrace a variety of perspectives that influence their performance. In Indonesia, women leaders in corporate business are fewer than in other developed countries. An investigation of the impact of gender diversity in leadership toward income conservatism was deemed important after the global financial crisis in the period of 2008-2009. Therefore, this study was designed on the basis of two main reasons. First, many people argued that the financial system and world economy almost collapsed due to selfishness and overly risky decisions. The dominance of men in the leadership structure of financial institutions (and companies in general) was mainly blamed for the global crisis. Some argued that conservative behavior and high moral standard excluded females in financial decision making. The number of women leaders in the corporate organizational structure (especially top management) was substantially rare (some people argued that women leaders were excluded) during the global crisis. Second, the global crisis had warned international companies to improve corporate governance in order to reduce the gap of gender difference in top management (Campbell & Minguez-Vera, 2008).

Based on some previous research, the number of women on top supervisory and top management across countries has increased. In Norway, the law has regulated 40% of female members in council (Rose, 2007); whereas Spain has issued an act that regulates a minimum quota of female councilors (Adams & Ferreira, 2009). As stated by the Center for Governance, Institutions, and Organizations (CGIO) at the Business School of the National Singapore University (2012), Indonesia has 11.6% of female representative on the board of commissioners and board of directors of public companies listed on the Indonesia Stock Exchange (IDX). 34% of boards of companies, only one woman took the

position as a board member. 2.8% of the boards of companies, there were four or more female board members.

Among the five best companies with female board members are Tempo Scan Pacific Tbk, Bank CIMB Niaga Tbk, Bank Internasional Indonesia Tbk, Ciputra Surya Tbk, and Mitra Adiperkasa Tbk. If compared to other countries, Indonesia has a lower percentage of 11.6% than Europe (17%), North America (16.1%) and Australia (13.8%); however, Indonesia has a higher percentage than the average value of other developing countries, up to 7.2%. Indonesia leads other Asian countries such as Japan (1.1%), Hong Kong (10.3%), Malaysia (7.3%) and Singapore (7.3%). As stated by Nurfadilla (2016), her study focused on the implementation of gender diversity in top management which functions as a determinant of firm performance. The survey was designed to address perceptions of company executives at different levels of seniority on the significant impacts of women leaders in corporate business. The subjects of the study are 445 people at C-level (Chief Executive Officer, Chief Operating Officer, Chief Financing Officer, and others) and 464 people in middle management. The findings indicate that 62% of males and 90% of females at C-level and 50% of men and 85% of women at middle management perceive the substantial effect of women leaders in top management toward firm performance.

However, the research findings by Nurfadilla (2016) was not aligned with studies from Adams & Ferreira (2009), and Farrell & Hersch (2005) that revealed no impact of gender diversity on the firm performance. Women appointed as board members of companies likely yield quality firm performance but do not guarantee their persistent impacts in the future (Nurfadilla, 2016). Based on the research, women leaders benefit companies. Meanwhile, arguments about woman leaders do not positively influence firm performance especially banking are divided into two. First, women in top management and top supervisory bring a good impact on the companies (Gulamhussen & Santa, 2015; Gull et al., 2018; Fan et al., 2019). Second, women leaders do not influence firm performance (Darmadi, 2013). Research about the women leaders in the corporate business is quite rare, there is no previous research that discusses the effect of women leaders on the earning managements in Indonesia and there exist some inconsistencies of arguments in the previous research. Therefore, the researcher wants to investigate the role of women leaders in companies. Do women in top management and top supervisory bring a positive impact on earnings management or on the contrary?

2.   Hypotheses Development

The board of commissioners as part of corporate members has collective duties in supervising and advising the board of directors as well as controlling the implementation of GCG at any level of organization. The relationship between factors of corporate governance and earnings management has been investigated by Cornett, McNutt, & Tehranian (2009); Lo, Wong, & Firth (2010); Shan (2015); Riwayati, Markonah, & Siladjaja, (2016); and Xue, & Hong (2016). In addition, a study by Sun, Liu, & Lan (2011) described women in top supervisory as more ethical than men in top supervisory. Moreover, other studies are similar with previous studies including Xie, Davidson, DaDalt (2003), Park & Shin (2004), Shu et al. (2015), Kyaw, Olugbode, & Petracci (2015), Hooghiemstra et al. (2019) and Kouaib & Almulhim (2019) also investigated the relationship between leadership traits of board members and audit committee on earnings management. The research findings consistently show similar results: the board and the independence of an audit committee have a negative relationship with earnings management. This study seeks to find an answer to whether the compositions of the company's internal structure influence earnings management.

Based on the discussion above, a hypothesis is constructed as follow:

H_1:   the women in top supervisory has a negative effect on earnings management

The board of directors has a prominent role in earnings managing. As claimed by Beasley (1996), the board of directors has the highest internal control mechanism that comes with a responsibility to monitor activities of top management. In other words, the CEO supervises the top management in order to make sure their companies meet the earnings goals (Xie, Davidson, & Dadalt, 2003).

Women likely have more effective and better communication skills in group problem solving (Thiruvadi & Huang, 2011), more people-oriented and more democratic than male leaders (Sun, Liu, & Lan, 2011). In fact, a study by Sun, Liu, & Lan (2011) resonates with the previous findings that women leaders in the committee leadership structure are better than males. According to Gul, Srinidhi & Ng (2011), the practices of earnings management likely diminish in the presence of at least one women in top management. Women are likely more reluctant to make a very risky decision, avoid unethical behavior, and better at obtaining transparent information which reduces asymmetric information between directors and female managers. Women are more cautious in making a decision and not typical of risk-takers like men in various contexts of decision making (Byrnes & Miller, 1999), especially in the financial sector. Meanwhile, Krishnan & Parsons (2008) revealed the improved

quality of earnings management due to the increasing number of female directors. They tend to be more ethical in judgment and behavior than men. In contrast to previous accounts, Sun, Liu, & Lan (2011) found no empirical evidence of a negative relationship between women leaders in corporate business with earnings management. Moreover, Thiruvadi & Huang (2011); Harakeh, El-Gammal, & Matar (2019) found a negative relationship between women in top management and earnings management.

H_2:   women in top management have negative influence on the earnings management.

3.   Method, Data, and Analysis

The population of the study includes companies listed in Indonesian Stock Exchange, except for financial sector companies during the 2012-2017 period. The sampling method is a purposive sampling because some samples are not qualified for the criteria of research data. The criteria for research samplings are shown in Table 1.

The sampling data in this study are selected on the basis of corporate governance such as the board of commissioners and board of directors, earnings management and ratios i.e. size, leverage, and ROA.

The dependent variable in this study is earnings management which is measured using a model of Jones (1991). In addition, Dechow, Sloan, & Sweeney (1995) explained that this model grasps better ability to measure the earnings of manage-

Table 1. The selection sampling procedure

	2012	2013	2014	2015	2016	2017
Companies listed on the Indonesia Stock Exchange	425	455	489	513	529	541
Excluded with the following criteria:						
- data are not qualified for established criteria (incomplete)	3	31	59	78	91	99
- financial services company	81	83	89	94	97	101
Companies selected for sampling	341	341	341	341	341	341

ment. This study brings out the discretionary accruals to measure earnings management. The discretionary accruals as a proxy for earnings management are estimated using the modified Jones model (Dechow, Sloan, & Sweeney, 1995). The discretionary accruals are yielded from measuring the total accruals beforehand. Total accrual (TAC) is estimated using the following formula:

$$TAC_{it} = \alpha_{1,it}\left(\frac{1}{TA_{i,t-1}}\right) + \alpha_{2it}\frac{(\Delta REV_{it} - \Delta REC_{it})}{TA_{i,t-1}} + \alpha_{3t}\frac{PPE_{it}}{TA_{it-1}} + \varepsilon_{it} \qquad (1)$$

Where: TACit = total accrual of company i, for year t scaled by total assets for year t–1; TAit–1 = total assets of company i for year t–1; ΔREVit = revenue for company i, year t is reduced by company revenue i year t–1 and is scaled by total assets year t–1; ΔRECit = accounts receivable for company i, t year deducted by company i receivables i year t–1 and scaled by total assets year t–1; PPEit = gross property plant and equipment for company i year t and scaled by total assets year t–1; εit = error term. Discretionary accruals, which is a measure of earnings management for the year t is estimated at the absolute value of the residual (error term) of equation (1)

Aside from the Jones Model, the modified measurements of earnings management is Kothari Model. This model can solve problems that exists in accrual model by adding a variable of Return on Assets (ROA) to the modified measurement model of Jones (Dechow et al., 1995). It creates the model of Kothari et al. (2005) or a matched performance model with the following equation:

$$TA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t - \Delta REC_t) + \alpha_3 PPE_{it} + \alpha_4 ROA_{it-1} + \varepsilon_{it} \qquad (2)$$

ROA_{t-1} = value of Return on Asset in the year $_{t-1}$

The independent variables in this study are women in top supervisory and women in top management. The variable of women in top supervisory is measured using a dummy variable. A value of 1 is for women in top supervisory and 0 is for men in top supervisory. A variable of women in top management is measured using a dummy variable. The value of 1 is for women in top management while the value of 0 is for men in top management

The control variables include firm size, leverage, and ROA. The firm size is essentially classification of companies into large, medium, and small companies. The company scale is a measure reflecting firm size based on the total company assets (Suwito & Herawaty, 2005). The firm size is measured using the following formula:

$$Size = Ln\ Total\ Assets \qquad (3)$$

Leverage is the ability of companies in managing assets or funds with a fixed burden (debt and/or special shares) to meet the goal of wealth increase for company owners. Companies always encounter the leverage problems whenever they are imposed with expenses or costs, both fixed operating costs and financial costs. The fixed operating costs are an expense or fixed costs that must be anticipated as a result of the investment implementation function. Meanwhile, the financial costs are expenses or costs that must be estimated for implementation of funding function. Thus, the burden costs or fixed costs are general risks that must be borne by companies when implementing financial decisions. Leverage is determined by:

$$LEV = (current\ liabilities + non\text{-}current\ liabilities)/total\ equity \qquad (4)$$

Return on Assets (ROA) is a measure of management effectiveness for investment. In addition, the Return on Investment indicates the fund's productivity of all companies, both loan capital, and own capital. The lower the ratio the worse it becomes, and vice versa. It means that this ratio is

used to measure the effectiveness of the overall operation of companies. ROA is measured with the following formula:

$$ROA = \frac{Net\ profit\ after\ taxes}{Total\ Assets} \quad (5)$$

Hypothesis testing is performed to find out whether the predictions made by researchers are proven or not. This hypothesis testing is conducted as follows:

$$EM_{it} = \alpha_+ \beta_1 KOM_{it} + \beta_2 DIR_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it+}$$
$$\beta_5 ROA_{it} + \varepsilon_{it} \quad (6)$$

Hypothesis testing is used to establish some facts about whether the prediction is true or not. Thus, the hypothesis testing is performed as follow:

$$EM_{it} = \alpha + \beta_1 KOM_{it} + \beta_2 DIR_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it+}$$
$$\beta_5 ROA_{it} + \varepsilon_{it} \quad (7)$$

Where: EM_{it} = the earnings management is measured with the modified Jones Model and Kothari Model; KOM_{it} = a commissioner is measured using the dummy method with a value of 1 for women in top supervisory and a value of 0 for men in top supervisory. DIR_{it} = a director is measured using the dummy method with a value of 1 for women in top management and a value of 0 for men in top management. $SIZE_{it}$ = firm size is measured using the

log total assets, as a control variable. LEV_{it} = leverage or ratio between the total liabilities and total assets, as a control variable. ROA_{it} = measured using total net profit after tax divided by total asset, as a control variable; ε_{it} = error term.

4. Results

Table 2 represented on the results of descriptive statistics on the sample data

Based on Table 2 EM Jones shows the mean of 0.039, indicating fairly low earnings management. This variable has a median of 0.013 which is situated in the fairly middle distribution between its maximum and minimum values. From the maximum value of 0.990; the minimum value of -0,987, we can summarize that the interval range of data is not distant, revealing quite short data intervals. The standard deviation of 0.215 indicates the distribution of data and standard errors. In the EM Kothari, the mean is 0.560 which is larger than the Jones model. The median value of 0.560 has an interval range with a maximum score of 16.713 and the minimum value of -5.664; the standard deviation of 1.465 is quite different from the Jones Model. At the same time, as an independent variable, women in top supervisory has a mean value of 0.055 for a dummy variable. The median value is 0; the maximum value of 1; the minimum value of 0; and a standard deviation of 0.229. Another independent variable is women in top management with a mean value of 0.040. This variable is a dummy variable as well, the median value is 0; the maximum value of 1; the

Table 2. Descriptive statistics

	Commissioner	Director	SIZE	LEV	ROA	EM_Jones	EM_Kothari
Mean	0.055	0.040	7,649,567	3.483	4.446	0.039	0.560
Median	0.000	0.000	4,050,715	0.725	1.600	0.012	0.140
Maximum	1.000	1.000	45,951,188	87.000	76.300	0.989	16.713
Minimum	0.000	0.000	5,081,000	-44.710	-23.700	-0.986	-5.643
Std. Dev.	0.228	0.196	4,279,931	12.230	46.854	0.214	1.465

Note: EM Jones$_{it}$ = earnings management measured with the Jones Model; EM_Kothari$_{it}$ = earnings management measured with the Kothari Model; KOM$_{it}$= women in top supervisory with the Dummy variable; SIZE$_{it}$= Total assets; LEV$_{it}$= ratio between the total liabilities and total assets; ROA$_{it}$= Net profit divided by total assets.

minimum value of 0; and a standard deviation of 0.197.

The firm size (SIZE) as a control variable representing total company assets with a mean value of 7,649,567; median value of 4,050,715; maximum value of 45,951,188; minimum value of 5,081,000; and standard deviation of 4,279,931. Moreover, Leverage (LEV) is a control variable that compares the total debt and total assets with mean value of 3.48; median value of 0.725; a maximum value of 87; minimum value of -44.71; and the standard deviation of 12.23, ROA is a control variable that represents revenues sharing companies & total assets with a mean value of 4.45; median value of 1.60; a maximum value of 76.3; minimum value of -23.7; and the standard deviation of 46.85.

Classical assumption testing

The results of the normality test with the Kolmogorov-Smirnov test demonstrate normal distribution with a significance value < 0.05, indicating the normal distribution of all variables. The autocorrelation test shows the Durbin Watson values > 1 and < 3 are 2.006, demonstrating no correlation in the research data between the residuals from one observation to another in the regression model.

The results of this multicollinearity test indicate no multicollinearity among independent variables as for VIF > 1 and tolerance < 1, showing no correlation between two independent variables.

The analysis results of multivariate regression models for panel data

The researcher analyzed a multivariate regression model to examine the influence of women in top supervisory and women in top management on earnings management among companies indexed in the Indonesia Stock Exchange. The originality of the study refers to sampling data which includes all companies listed on the IDX, except for banking industries that are highly regulated. The results of the regression analysis with the Jones Model and the Kothari Model are demonstrated in Table 3 and Table 4.

The results of the regression test on hypothesis 1 are demonstrated in Table 3, indicating a positive β_1 coefficient of 0.062 with a significant level of 0.108 or $\alpha > 0.05$. There is no empirical evidence that could accept hypothesis 1, therefore the hypothesis 1 is not supported by research data. Likewise, the hypothesis 2 shows a negative β_2 coefficient (-0.004) and is significant at the level of 0,000 or at $\alpha < 0.05$ which means empirical evidence accepts hypothesis 2. In other words, hypothesis 2 is supported by research data. In addition, hypothesis 2 demonstrates a negative β_2 coefficient (-0.004) with a significant level of 0.000 or $\alpha < 0.05$.

The results of the regression test on hypothesis 1 as demonstrated in Table 4 indicate a negative β_1 coefficient (-0.238) with a significance level of 0.004 or $\alpha < 0.05$, meaning that the empirical evi-

Table 3. The Jones Model of regression analysis

Variable	Coefficient	Std. Error	T-Statistic	Prob
Commissioner	0.0618	0.0384	1.6103	0.1078
Director	-0.0040	0.0384	-0.0909	0.0000*
Size	2.09E-09	2.85E-09	0.7327	0.4640
Lev	-0.0018	0.0010	-1.7442	0.0816**
ROA	0.0004	0.0002	2.1501	0.0320*
C	0.0391	0.0095	4.0826	0.0001*
Adjusted R-squared				0.4358
Prob. (F-statistics)				0.0058

Note: *) significant level of $\alpha < 0.05$; **) significant level of $\alpha < 0.10\%$

dence accepts hypothesis 1, thus hypothesis 1 is supported by research data. Meanwhile, hypothesis 2 shows a negative β_2 coefficient (-0.264) and is significant at the level of 0.000 or with a significance of $\alpha < 0.05$ meaning that there is empirical evidence that accepts hypothesis 2, thus hypothesis 2 is supported by research data. In general, the estimation results are summarized and demonstrated in Table 5 and Table 6.

Based on Table 5 and 6, the results of data analysis support the hypotheses which are encapsulated in Table 6. It demonstrates the negative effect of women in top supervisory and women in top management on earnings management. Accordingly, both research hypotheses have been accepted and supported by empirical data

5. Discussion

Women in top supervisory

Women in top supervisory have a negative effect on earnings management. It supports the argument that women in top supervisory can improve the quality of financial statements. It established evidence that female voices at the executive level are heard at least in the selection of accounting methods for reporting corporate profits. Moreover, women in top supervisory are negatively related to earnings management based on the estimation of the EM Kothari Model. It suggests that the higher the number of women in top supervisory, the lower the earnings management. Hypothesis 1 that proposed the negative effect of women in top supervisory on earnings management characterized women as more conservative in financial reporting, therefore the earning quality in financial statements could be supported with empirical data. The findings were aligned with previous research by Kyaw, Olugbode, & Petracci (2015) who described the negative significant effect of women on top supervisory toward earnings management. Liu, Wei, & Xie (2016) said that women in top supervisory likely keep off earnings management. Einer & Soderqvist (2016) revealed a negative relationship between

Table 4. Regression analysis using Kothari Model

Variable	Coefficient	Std. Error	T-Statistic	Prob
Commissioner	-0.237	0.261	0.908	0.004*
Director	-0.263	0.304	0.867	0.000*
Size	-4.82E-09	1.94E-08	-0.248	0.804
Lev	0.003	0.007	0.411	0.680
ROA	-0.004	0.001	-2.905	0.003*
C	0.547	0.065	8.387	0.000*
Adjusted R-squared				0.450
Prob (F-statistics)				0.010*

Note: *) significant at $\alpha < 0.05$

Table 5. Summary of Jones Model data analysis

Variable	Coefficient	T-Statistics	Sig	Status
H_1-*Commisioner*	0.062	1.610	0.108	H_1 Rejected
H_2- *Director*	-0.004	-0.091	0.000	H_2 Accepted

Table 6. Summary of Kothari Model data analysis

Variable	Coefficient	T-Statistics	Sig	Status
H_1-*Commisioner*	-0.238	0.909	0.004	H_1 Accepted
H_2- *Director*	-0.264	0.868	0.000	H_2 Accepted

earnings management and women in top supervisory. Enofe, Iyafekhe, & Eniola (2017) discovered that women in top supervisory were negatively associated with earnings management. Kyaw, Olugbode, & Petracci (2015) stated that gender diversity on the board of commissioners could reduce the likelihood of earnings management compared to those with the same gender. Xiong (2016) stated that companies with women leaders had absolute discretionary accruals and had lower levels of earnings management. It validated an urge to change negative views against women leaders in the workplace especially Indonesia because the empirical evidence has demonstrated the positive effect of women in top management on the improvement of financial statements, and the decrease in earnings management. Some developing countries like Indonesia are not supposedly discriminate against women in the workplace.

Women in top management

Women in top management have a negative effect on earnings management, which is supported by empirical data highlighting their ability in reducing the practice of earnings management. The research findings resonate with a previous study by Fan et al. (2019) who stated that the presence of three or more women in top management in a corporate business will reduce the practices of earnings management. Whereas a fewer number of women in top management will likely increase the manipulation of income. In contrast with previous findings, Harris, Karl, & Lawrence (2019) described in a given situation of low incentives, female CEOs more likely to avoid practices of earnings management than of male CEOs. On the contrary, at higher incentive levels, both female and male CEOs show non-distinctive performance between both genders. A previous study by Gavious, Segev, & Yosef (2012) revealed that women tend to avoid any risks in managing earnings than men. It is due to the eagerness of men in top management to be regarded as successful leaders in corporate business. On the contrary, Gavious, Segev, & Yosef (2012) said that women tend to regard their works as a self-development, which are different from men who are more aspiring to gain promotions and bonus compensation as a trigger for earnings management. Hence it demonstrates women in top management have a significant role in decision making.

Previous research findings conclude that the women in top management made an important contribution in corporate business, especially in the financial sector due to strength of women that are deemed better than men and subsequently reduce earnings management practices (Gull et al., 2018; Zalata, Tauringana, & Tingbani, 2018).

Firm size, leverage, and ROA

This study used three control variables i.e., firm size, leverage, and ROA. The result of regression analysis using the Jones Model indicates the firm size and ROA as factors that bring a positive effect on earnings management, on the contrary leverage brings a negative effect on earnings management. In addition, ROA brings a positive effect on earnings management as the higher the profit of the company the greater the likelihood of earnings management. It is reasonable because the higher the profits of the company, the greater the tax that must be paid. Therefore it increases the likelihood of practices in earnings management. On the contrary, leverage has negative effects on earning management. The higher the debt ratio of companies to assets, the smaller the likelihood of earnings management. These research findings confirms the previous study by Saleem & Alzoubi (2018) that leverage minimizes the likelihood of earnings management as well as improve the quality of financial reporting. It is reasonable because the higher the leverage, the higher the supervision level by creditors. Thus it reduces the likelihood of earnings management.

It contrasts with previous research of Lazzem & Jilani (2018) that demonstrated a positive effect

of leverage on earnings management as the increase in leverage provides incentives for managers to manipulate some earnings. Based on the estimation result of the Kothari model, leverage does not affect earnings management. Firm size does not affect earnings management. The higher or smaller the assets of the company do not influence the likelihood of earnings management practices.

6.   Conclusion, Limitations, and Suggestions

Conclusion

The research findings based on Kothari Model demonstrate a negative relationship between women in top supervisory and earnings management. In other words, the findings demonstrate the effect of women in top supervisory on the improvement of revenue information by reducing earnings management that creates blurred information. The research findings of regression analysis using the Jones Model and the Kothari Model support hypothesis 2, that women in top management have a negative effect on earnings management. It suggests that women in top management have a better level of supervision to lead companies that subsequently reduce earnings management practices. The results

of regression analysis on the control variable indicate a positive effect of ROA on earnings management. The higher the profit of the company, the greater the likelihood of earnings management.

Limitations and suggestions

This study comes with several limitations; it does not include some important variables that could affect earnings management such as managerial characteristics, corporate governance, management accounting systems and so forth. The research period span six years from 2012 to 2017 which was quite short. Therefore this study could not employ a more accurate & predictive measurement model due to its inability to provide longer time span data. For further studies, it should involve an extended research period.

This research focuses on the women in top supervisory and women in top management. In the forthcoming, it is expected to include all members of the board of commissioners and all directors to probe in-depth investigation about the effect of top leadership positions on earnings management in corporate business.

References

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291-309. https://doi.org/10.1016/j.jfineco.2008.10.007

Beasley, M. S. (1996). An empirical analysis of the relation between the Board of Director composition and financial statement Fraud.
https://www.jstor.org/stable/248566

Byrnes, J. P., & Miller, D. C. (1999). Gender differences in risk-taking: A Meta-Analysis. *Psychological Bulletin*, *125*(3), 367-383. https://doi.org/10.1037/0033-2909.125.3.367

Campbell, K., & Minguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics, 83*(3), 435-451. https://doi.org/10.1007/s10551-007-9630-y

Cornett, M. M., McNutt, J. J., & Tehranian, H. (2009). Corporate governance and earnings management at large U.S. bank holding companies. *Journal of Corporate Finance, 15*(4), 412-430.
https://doi.org/10.1016/j.jfineco.2007.03.003

Darmadi, S. (2013). Do women in top management affect firm performance? Evidence from Indonesia. *Corporate Governance, 13*(3), 288-304. https://doi.org/10.1108/CG-12-2010-0096

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting Review, 70*(2), 193-225.

Einer, M., & Soderqvist, J. 2016. Earnings management and female representation on the board of directors. *Master Thesis in Accounting.* School of Business, Economics, and Law, University of Gothenburg.

Enofe, A. O., Iyafekhe, C., & Eniola, J. O. (2017). Board ethnicity, gender diversity, and earnings management: Evidence from quoted firms in Nigeria. *International Journal of Economics, Commerce, and Management, V*(6), 78-90

Fan, Y., Jiang, Y., Zhang, X., & Zhou, Y. (2019). Women on boards and bank earnings management: From zero to hero. *Journal of Banking & Finance, 107.* https://doi.org/10.1016/j.jbankfin.2019.105607

Gavious, I., Segev, E., & Yosef, R. (2012). Female directors and earnings management in high-technology firms. *Pacific Accounting Review, 24*(1), 4–32. https://doi.org/10.1108/01140581211221533

Farrell, K. A., & Hersch, P. L. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance, 11*(1-2), 85-106. https://doi.org/10.1016/j.jcorpfin.2003.12.001

Fischer, M., & Rosenzweig, K. (1995). Attitudes of students and accounting practitioners concerning the ethical acceptability of earnings management. *Journal of Business Ethics 14*(6), 433-444. https://doi.org/10.1007/BF00872085

Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics, 51*(3), 314–338. https://doi.org/10.1016/j.jacceco.2011.01.005

Gull, A. A., Nekhili, M., Nagati, H., & Chtioui, T. (2018). Beyond gender diversity: How specific attributes of female directors affect earnings management. *The British Accounting Review, 50*(3), 255-274. https://doi.org/10.1016/j.bar.2017.09.001

Gulamhussen, M. A., & Santa, S. F. (2015). Female directors in bank boardrooms and their influence on performance and risk-taking. *Global Finance Journal, 28*, 10-23. https://doi.org/10.1016/j.gfj.2015.11.002

Harakeh, M., El-Gammal, W., & Matar, G. (2019). Female directors, earnings management, and CEO incentive compensation: UK evidence. *Research in International Business and Finance, 50*, 153-170. https://doi.org/10.1016/j.ribaf.2019.05.001

Harris, O., Karl, J. B., & Lawrence, E. (2019). CEO compensation and earnings management: Does gender really matters? *Journal of Business Research, 98*, 1-14. https://doi.org/10.1016/j.jbusres.2019.01.013

Hooghiemstra, R., Hermes, N., Oxelheim, L., & Randøy, T. (2019). Strangers on the board: The impact of board internationalization on earnings management of Nordic firms. *International Business Review, 28*(1), 119-134. https://doi.org/10.1016/j.ibusrev.2018.08.007

Indonesian Stock Exchange. (2012). *Fact Book 2012-2017.* Jakarta: Indonesian Stock Exchange.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research, 29*(2), 193-228. https://doi.org/10.2307/2491047

Kothari, S. P., Leone, A. J., & Wasley, C. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics, 39*(1), 163-197. https://doi.org/10.1016/j.jacceco.2004.11.002

Komite Nasional Kebijakan Governance (KNKG). (2010). *Pedoman Umum Good Corporate Governance Indonesia*. Jakarta.

Kouaib, A., & Almulhim, A. (2019). Earnings manipulations and board's diversity: The moderating role of audit. *The Journal of High Technology Management Research, 30*(2). https://doi.org/10.1016/j.hitech.2019.100356

Krishnan, G. V. & Parsons, L. M. (2008). Getting to the bottom line: An exploration of gender and earnings quality. *Journal of Business Ethics, 78*(1-2), 65-76. https://doi.org/10.1007/s10551-006-9314-z

Kusumawati, A. (2007). Kepemimpinan dalam perspektif gender adakah perbedaan? *Jurnal Administrasi Bisnis, 1*(1).

Kyaw, K., Olugbode, M., & Petracci, B. (2015). Does gender diverse board mean less earnings management? *Finance Research Letters*, *14*, 135-141. https://doi.org/10.1016/j.frl.2015.05.006

Liu, Y., Wei, Z., & Xie, F. (2016). CFO gender and earnings management: evidence from China. *Review of Quantitative Finance and Accounting*, *46*(4), 881-905. https://doi.org/10.1007/s11156-014-0490-0

Lo, A. W. Y., Wong, R. M. K., & Firth, M. (2010). Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. *Journal of Corporate Finance, 16*(2), 225-235. https://doi.org/10.1016/j.jcorpfin.2009.11.002

Lazzem, S., & Jilani, F. (2018). The impact of leverage on accrual-based earnings management: The case of listed French firms. *Research in International Business and Finance*, *44,* 350-358. https://doi.org/10.1016/j.ribaf.2017.07.103

Nurfadilla, S. A. (2016). Analisis pengaruh dewan komisaris independen, gender diversity, kepemilikan institusional dan kepemilikan manajerial terhadap kinerja perusahaan (Studi kasus pada perusahaan yang terdaftar di Indonesia Sharia Stock Index periode 2012-2014). Fakultas Ekonomi dan Bisnis Universitas Diponegoro Semarang.

Riwayati, H. E., Markonah, & Siladjaja, M. (2016). Implementation of corporate governance influence to earnings management. *Procedia - Social and Behavioral Sciences, 219*, 632-638. https://doi.org/10.1016/j.sbspro.2016.05.044

Rose, C. (2007): Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review, 15*(2), 404–413. https://doi.org/10.1111/j.1467-8683.2007.00570.x

Saleem, E., & Alzoubi, S. (2018). Audit quality, debt financing, and earnings management: Evidence from Jordan. *Journal of International Accounting, Auditing, and Taxation*, *30*, 69-84. https://doi.org/10.1016/j.intaccaudtax.2017.12.001

Shan, Y. G. (2015). Value relevance, earnings management and corporate governance in China *Emerging Markets Review, 23*, 186-207. https://doi.org/10.1016/j.ememar.2015.04.009

Park, Y. W., & Shin, H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance, 10*(3), 431-457. https://doi.org/10.1016/S0929-1199(03)00025-7

Shu, P-G., Yeh, Y-H., Chiu, S-B., & Yang, Y-Y. (2015). Board external connectedness and earnings management. *Asia Pacific Management Review*, *20*(4), 265-274. https://doi.org/10.1016/j.apmrv.2015.03.003

Sun, J., Liu, G., & Lan, G. (2011). Does female directorship on independent audit committees constrain earnings management? *Journal of Business Ethics, 99*(3), 369-382. https://doi.org/10.1007/s10551-010-0657-0

Thiruvadi, S., & Huang, H-W. (2011). Audit committee gender differences and earnings management. *Gender in Management* 26(7), 483-498. https://doi.org/10.1108/17542411111175469

Xie, B., Davidson, W., & Dadalt, P. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance, 9*(3), 295-316. https://doi.org/10.1016/S0929-1199(02)00006-8

Xiong, J. (2016). Chairman characteristics and earnings management: Evidence from Chinese listed firms. *Open Journal of Accounting, 5*(4). https://doi.org/10.4236/ojacct.2016.54008

Zalata, A. M., Tauringana, V., & Tingbani, I. (2018). Audit committee financial expertise, gender, and earnings management: Does gender of the financial expert matter? *International Review of Financial Analysis, 55*, 170-183. https://doi.org/10.1016/j.irfa.2017.11.002