Do Companies with Female on the Board have Effects on the Earning Management? Evidence Indonesia Manufacturing Listed Firms

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Abstract—This study aims to examine the influence of the presence of women on the board such as chief executive officer, chief financial officer and chief audit committee on the earning management (EM) practices and also to examine whether the educational backgrounds of women executive officials have a moderating effect on the earning management practice. The data used is secondary data from Indonesian listed manufacturing companies, hypothesis testing using regression model with partial least square test. Sampling was carried out using a purposive sampling method. The results showed that female chief executive officer and female chief financial officer did not affect earning management practice, but woman as chief audit committee affect the company's earnings management practices. Education background capable as moderating variable to strengthen the influence women as chief executive officer, chief financial officer and women as chief audit committee to earnings management practices. This research can provide contribution for users of financial statements about the possibility of differences in earnings management practices due to the presence of women in top management positions.

Index Terms—female chief executive officer, female chief financial officer, education background, earning management practice

I. INTRODUCTION

The existence of women in top management is one of the issues of corporate governance that has been developing in recent years. The presence of women in top management is interesting to study because in Indonesia there is still an assumption that men are more suitable to hold high positions in companies than women. The patriarchal culture such as Indonesia has an impact on the aspects of employment that give rise to stereotypes in some sections of society that men are more suitable to be leaders than women. Women’s are considered more suitable at home to take care of homework and caring for children because naturally women do experience the process of giving birth or breastfeeding while men do not. This does not only occur in business (economic) aspects but also in other aspects such as politics and law (Chen & Gavious, 2016; Ahmed & Che- Ahmad, 2016). This is very different from developed countries like America and Europe, which for a long time did not differentiate gender in evaluating the quality of one's self, especially for occupying a certain position. But over the past decade, women in the world have increasingly shown their existence and excellence in various fields which increasingly fade gender restrictions in assessing a person's quality. Several studies in developed countries such as America and Europe have shown that companies with three or more women on the board of directors and employees both in Europe and in America, have better performance in terms of corporate governance and financial performance. This shows that earnings management practices has a positive relationship with gender diversity at the top management level. Earnings management practices is also positively and significantly influenced by gender diversity at the level of senior managers in America (Chen & Gavious, 2016). Similarly, companies with top management that are dominated by women will run the company better than companies that tend to be homogeneous (there are only men) at the top management level (Asian Development Bank, 2016).

The opposite condition actually occurs in developing countries, such as research in China that found that earnings management practices is not influenced by gender differences in the top executives, but the quality of earnings in companies in China is more influenced by other factors such as education levels, environment and age (Cumming et al., 2015; Ginesti et al., 2018). In Indonesia, there are already several researchers who have examined the effect of gender at the top management level on profit quality. Research conducted by Handajani et al. (2014) shows that female CEOs and CFOs tend to avoid doing earnings management more, so that earnings quality is better. This is in line with the results of previous studies by Hasnawati et al.(2019) that female CFOs have a significant negative effect on earnings management, which means that if a company has CFO women, it will reduce earnings management behavior. Handajani et al. (2014) in his research succeeded in proving that the presence of one or more women on a committee board was very influential in the company. Women are more trusted to be able to control a situation, because women tend to be more independent, flexible, broad-minded and cooperative in groups. This is a supporting reason for some companies to appoint women as high officials in the company in addition to the intelligence and experience they have. Some of these studies also indicate the positive influence arising from the proportion (number) of women on a board or membership in top management. Based on the description of the background, the problems that will be examined in this study are as follows:

1. Does women as CEO has significant effect on the company earnings management practices?
2. Does women as CFO has significant effect on the...
company earnings management practices?

3. Does women as chairperson on audit committee have significant effect on the company earnings management practices?

4. Does the educational background of women as CEO, CFO and chairperson of audit committee have moderating effect on the quality of company earnings?

This research is an extension of Garba and Abubakar (2014) research of the effect of gender diversity on the board of directors on earnings persistence using earning response coefficient. The difference with previous research is the addition of independent variables such as the audit committee and education as intervening variable. Researcher add education as intervening variable because education is a very important factor in human life, with education it is expected that humans can develop their knowledge, skills and creativity. With good education background it’s hope that the human capacity influenced by good habits. This research use earning management from modified Jones’s, therefore this research can provide information for users of financial statements about the possibility of differences in earnings management practices due to the presence of women in top positions (CEO and CFO) of the company. Therefore this research can provide information contribution for users of financial statements about the possibility of differences in earnings management practices due to the presence of women in top positions (top executives) of the company.

II. LITERATURE REVIEW

In general the financial statements reported by the management (agent) as a performance accountability are used by shareholders (principals) to assess, measure and monitor the extent to which the agent works to improve his welfare and as a basis for compensating agents. Agency conflict is a conflict that arises as a result of the desire of management to take action in accordance with their interests that can sacrifice the interests of shareholders to obtain returns and long-term value of the company (Duru, K and Alexandros, 2013). Agency theory describes the contractual relationship between the party that delegates certain decision making (principal) and the party who receives the delegation (agent / management) (Donaldson & Davis, 1991; Jensen & Meckling, 2012). Agency theory focuses on determining the most efficient contracts that affect the principal and agent relations. When the shareholders delegate their decision-making authority to another party, an agency relationship occurs between the two parties. As long as both parties have the same goal to maximize the value of the company, it is believed that the agent will act in accordance with the interests of the principal. Basic assumptions that build agency theory include agency conflict and agency problems. Agency conflict is a conflict that arises as a result of the desire of management (agents) to take action in accordance with their interests that can sacrifice the interests of shareholders (principals) to obtain returns and long-term value of the company (Lan & Heracleous, 2010). While the agency problem that helped build agency theory talked about the gap between the interests of shareholders as owners and management as managers.

The differences in general characteristics of women and men in carrying out a job can be seen when they are faced with a risk from various aspects of business organizations. When making decisions, women are known to be more careful than men. Women in general tend to carry out a more in-depth and detailed risk assessment of the considerations before making big decisions for companies. What is owned by this woman is of course very profitable for the company and becomes a strength for the company in the midst of an uncertain global business situation (Khan & Abdul Subhan, 2019; Mitra, 2003). According to the Nurture Theory (Eddleston & Powell, 2012), the differences between women and men are essentially the result of socio-cultural construction resulting in different roles and tasks. These differences cause women to always be left behind and neglected by their roles and contributions in family, community, national life and have a state. The struggle for equality was pioneered by people who were concerned about fighting for the equality of women and men (feminists) who tended to pursue "equality" which became known as quantity equality (perfect equality) (Chen & Gavious, 2016). Gender equality and justice is a condition in which the portion and social cycle of women and men are equal, balanced and harmonious. Gender equality seeks how men and women have the opportunity to realize their rights and potentials to contribute to political, economic, social and cultural development, and both can enjoy the results of these developments (Jaskiewicz et al., 2015).

III. EARNING QUALITY

Earnings quality is an indicator of the quality of corporate financial information. The high quality of financial information comes from the high quality of financial reporting (White, 1970). Hejazi et al. (2011) define earnings quality as the ability of earnings to reflect the truth of a company's earnings and help predict future earnings by considering the stability and persistence of earnings. Future earnings are an indicator of the ability to pay dividends in the future. In addition, earnings quality is a qualitative characteristic that illustrates information in financial statements so that it becomes useful for users of financial statements to make the right decisions both short and long term (Satri, 2016). DeFond (2010) suggested the relationship between earnings quality and firm value, i.e. companies that have good earnings quality can estimate the characteristics of the earnings process that are relevant for decision making. So, managers as managers of companies must be able to make a profit report that is in company finance has good quality.

IV. EARNING MANAGEMENT

Earnings management is a discretionary accrual that is deliberately done by management. The basic concept of discretionary accruals is the result of decomposition of total accruals into discretionary accruals and nondiscretionary accruals. According to Abdelghany (2005) earnings management can be viewed through two perspectives, namely the contractual perspective and the financial reporting perspective. From a contractual perspective, earnings management can be used as the easiest way to protect the company against the consequences of unseen events when contracts are very rigid and incomplete. Whereas through the perspective of financial reporting, managers can influence the value of the stock market by doing earnings management. Earnings management can provide information to the market.
and allow companies to communicate expected profits continuously.

The Modified Version of the Jones Model implicitly assumes that all changes in credit sales in the event period originate from earnings management, this is based on the reasoning that it is easier to manage income by applying discretion to revenue recognition for credit sales than it is to manage income by applying discretion to revenue recognition for cash sales (Namazi & Khansalar, 2011). The complete formula of the Jones Modified Model is as follows: Dependent variable (dependent) is a variable that is affected due to the presence of independent variables. The dependent variable in this study is earnings which is proxies by earnings management. Clout and Willett (2016) identified earnings management by using discretionary accruals that expected the modification of the Jones model. How to calculate Jones’ modified earnings management model are as follows:

Step 1: Calculate the value of total accruals (TAC) which is the difference between net income (net income) with the operating cash flow for each company and each observation year.

\[
TAC_{i,t} = \text{Net profit - cash flow from operating activities}
\]

Step 2: Calculate the estimated accruals value using the OLS (Ordinary Least Square) regression equation.

\[
\frac{TAC_{i,t}}{TA_{i,t-1}} = \beta_0 \left( \frac{1}{TA_{i,t-1}} \right) + \beta_1 \left[ \frac{\Delta \text{SALES}_{i,t}}{TA_{i,t-1}} \right] + \beta_2 \left[ \frac{\text{PPE}_{i,t}}{TA_{i,t-1}} \right] + \Sigma
\]

Information:

\[\text{TAC}_{i,t} = \text{total company accrual } i \text{ in year } t\]
\[\text{TA}_{i,t} = \text{total assets for company } i \text{ for year } t-1\]
\[\text{Sales}_{i,t} = \text{change in company sales } i \text{ period } t\]
\[\text{PPE}_{i,t} = \text{fixed assets (gross property, plant and equipment) of the company } i \text{ period } t\]

Step 3: Calculate non-discretionary total accrual (NDA) values

\[
\frac{NDA_{i,t}}{TA_{i,t-1}} = \beta_0 \left( \frac{1}{TA_{i,t-1}} \right) + \beta_1 \left[ \frac{\Delta \text{SALES}_{i,t} - \Delta \text{TR}_{i,t}}{TA_{i,t-1}} \right] + \beta_2 \left[ \frac{\text{PPE}_{i,t}}{TA_{i,t-1}} \right]
\]

Information:

\[\text{NDA}_{i,t} = \text{nondiscretionary accrual } i \text{ in year } t\]
\[\text{TR}_{i,t} = \text{change in company trade receivables } i \text{ period } t\]
\[\beta = \text{fitted coefficient obtained from the regression results in the calculation of total accruals}\]

Step 4: calculate the value of discretionary accrual (DAC)

\[
DAC_{i,t} = \frac{TAC_{i,t}}{TA_{i,t-1}} - NDA_{i,t}
\]

V. HYPOTHESIS DEVELOPMENT

Several studies have revealed that women as leaders are more democratic and consider things that are more detailed and more integrated so that they can produce better policies. Silhite (2012) states that the presence of women on the board of commissioners is very influential because women are more controlling over the course of the business and giving advice to the director. The task will indirectly influence the EM practices reported by the company because the board of commissioners can direct the policies and actions of the directors related to financial reporting. The greater the number of women on the board of commissioners it is expected that the possibility of earnings management becomes smaller. Based on these arguments the hypothesis formulated is as follows:

H1: The presence of women as chief executive officer have significant effect on earning management practice

Research by Bryan et al, (2004) stated that an effective and independent audit committee can improve the quality of financial statement reporting. The chief financial officer must have high accountability, to see whether the presence of women influences lead to the low level of earnings management practices because women have the creativity and transparency in completing their tasks and are careful with what they have done. Previous research shows that the presence of female members is said to have more high ethics in making decisions to lower EM practices (Seetharaman et al., 2004). In addition, a significant positive relationship was found between the percentage of women on the audit committee and low levels of earnings management practices (Chen & Gavious, 2016). The greater the number of women on the audit committee it is expected that the possibility of earnings management becomes smaller. Based on these arguments the hypothesis formulated is as follows:

H2: The presence of women as chief financial officer has effect on earning management practice

García-Sánchez et al. (2017) states that the market assesses the earnings reported by companies that form audit committees have better quality than earnings reported by companies that do not have audit committees. The importance of the audit committee on the quality of earnings in particular and the quality of financial report statements in general is of concern to users of financial report statements regarding who holds the position of Chairman of the Audit Committee which will then influence the financial reporting supervision process. Does not rule out the possibility that the element of gender is also a consideration. Recent research states that the presence of women on the audit committee has a significant effect on EM practices (Khan & Abdul Subhan, 2019). The presence of a female audit committee chairman is expected to have a positive effect on EM practices. Based on these arguments the hypothesis formulated is as follows:

H3: The presence of women as chief of the audit committee have significant effect on earning management practice

Research found that education diversity had a positive and significant effect on the financial disclosures, the results obtained indicated that the higher the level of individual education being in an organization will increasingly increase awareness of the importance of financial disclosures, thereby encouraging a higher number of disclosures on the items of corporate financial report position (Sun & Rath, 2009). It is an indicator that triggers a change in mindset after receiving additional education, as a result when companies are led by individuals who have high levels of education will certainly encourage the low level of earning management practices Based on these arguments the hypothesis formulated is as follows:

H4: Education background of women has significant effect on earning management practice

Intervening variables that theoretically affect the relationship between the independent and dependent variables become an indirect relationship. It can also be interpreted that the intervening variable is a variable that can weaken and strengthen the relationship between variables.
For this research education is positioned as an intervening variable, because education is considered as a means to get quality human resources, education considered capable of producing high quality workforce, having a modern mindset and way of acting. The level of education shows the extent of the level of competency that individuals have in carrying out their work. The level of competence also shows how well the individual's thinking patterns in carrying out various activities in his life. The higher one's education certainly also affects the patterns and ways of individuals in thinking. According to Mauro (1998) and Kerwin (1995) the educational position of the individual certainly determines the class of work he is carrying out. Based on the description above, the fourth up to sixth hypothesis is built as follows:

H5: Women as chief executive officer has effect on earning management practices with education background as an intervening variable.
H6: Women as chief financial officer has effect on earning management practices with education background as an intervening variable.
H7: Women as chief audit committee has effect on earning management practices with education background as an intervening variable.

R Square shows the ability of women as chief executive officer, women as chief financial officer and women as chief audit committee in this research to earning management practices which is 0.636. The value of R Square (R^2) = 0.651 greater than 0.50 is classified as all independent variables have ability to explain variations in the dependent variable.

The following are the results of the PLS Algorithm processing in the research model used are as follows:

Path Coefficients in the table below contain the path coefficient values (the numbers are located in the original sample column). All path coefficients in this study are positive as based on the Path Coefficients table, the researcher can test for each path with the results listed in the table below. A positive sign and p value less than 0.05
indicates that the independent variable has a positive effect on the dependent variable.

<table>
<thead>
<tr>
<th>Influence Between Pathways</th>
<th>Beta (Original Sample)</th>
<th>Sample Mean</th>
<th>T-Statistic</th>
<th>P-value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Women as chief executive officer ➔ EM practice</td>
<td>-0.101</td>
<td>-0.094</td>
<td>1.424</td>
<td>0.155</td>
<td>Women as chief executive officer has no effect on EM practice</td>
</tr>
<tr>
<td>H2 Women as chief financial officer ➔ EM practice</td>
<td>-0.170</td>
<td>-0.165</td>
<td>2.631</td>
<td>0.026</td>
<td>Women as chief financial officer has effect on EM practice</td>
</tr>
<tr>
<td>H3 Women as chief audit ➔ EM practice</td>
<td>-0.208</td>
<td>-0.217</td>
<td>2.827</td>
<td>0.005</td>
<td>Women as chief audit has effect on EM practice</td>
</tr>
<tr>
<td>H4 Educational ➔ EM practice</td>
<td>-0.506</td>
<td>-0.454</td>
<td>4.320</td>
<td>0.003</td>
<td>Educational has effect on EM practice</td>
</tr>
</tbody>
</table>

The first hypothesis $\beta = -0.101$ and the $p$ value of 0.155 is more than 0.05 which means it has no significant effect, the hypothesis states that the existence of a female WCEO have effect influence the company's EM practices. The test results show that female WCEO has a negative sign and not significant effect to EM practices. This shows that woman as chief executive officer able to give signals to lower earning management practices, but it has no significant effect on the EM practices. This can be seen from the value of the beta coefficient ($\beta$) of -0.101 with a $p$-value of 0.155 which is greater than the alpha value ($\alpha$) 0.05. Therefore, the first hypothesis which states that the existence of a female WCEO can influence the company's EM practices is rejected. This study supports research conducted by Chen and Gavious (2014) that the presence of one or more women on the audit committee can have a positive effect on EM practices. Based on table 3 the CFOW variable has a beta coefficient of -0.170, with a significance level of 0.026 less than 0.05 so it can be concluded that women as CFO have significant effect on EM practices. Research conducted by Ming and Earn (2016) also stated the same results, women as CFO / financial director significantly influence earnings management behavior. The results of hypothesis testing indicate that top management officials represented by women can reduce agency conflict. Women as CFO can reduce agency conflict in EM practices is a conflict that arises as a result of the desire of management (agents) to take action in accordance with their interests that can sacrifice the interests of shareholders (principals).

Base on third hypothesis women as chair of the audit committee can have a positive effect on the EM practices. The women as chief audit committee variable has a path coefficient with a negative sign of $\beta = -0.208$ it can concluded that the women as audit committee chair has effect on EM practices, with a significance level of 0.005 less than 0.05, it can be concluded have significant effect to EM practices. This result in line with the research of Ginesti et al. (2018) which states that gender diversity in the board of commissioners has a positive influence on EM practices through the audit function. In addition, this study also confirms the results of García-Sánchez et al. (2017) who stated that the presence of one or more women on the audit committee are very influential in the company, because women tend to be more independent, flexible, broad-minded and cooperative in groups.

TABLE III. SPECIFIC INDIRECT HYPOTHESES EFFECT

<table>
<thead>
<tr>
<th>No</th>
<th>Influence Between Pathways</th>
<th>Beta (Original Sample)</th>
<th>Sample Mean</th>
<th>T-Statistic</th>
<th>P-value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5</td>
<td>Women as chief executive officer ➔ Education ➔ EM practice</td>
<td>-0.102</td>
<td>-0.024</td>
<td>0.130</td>
<td>0.356</td>
<td>Women as chief executive officer has no effect on EM practices with education background as an intervening variable</td>
</tr>
<tr>
<td>H6</td>
<td>Women as chief financial officer ➔ Education ➔ EM practice</td>
<td>-0.187</td>
<td>-0.094</td>
<td>2.368</td>
<td>0.021</td>
<td>Women as chief financial officer has effect on EM practices with education background as an intervening variable</td>
</tr>
<tr>
<td>H7</td>
<td>Women as chief audit ➔ Education ➔ EM practice</td>
<td>-0.209</td>
<td>-0.209</td>
<td>2.755</td>
<td>0.003</td>
<td>Women as chief audit committee has effect on EM practices with education background as an intervening variable</td>
</tr>
</tbody>
</table>

According to Hair Jr. et al (2014) there are 2 (two) types of mediation, namely partial mediation and perfect mediation. Partial mediation occurs when the direct effect (independent variable ➔ dependent variable) is significant and the indirect effect (independent variable ➔ mediation ➔ dependent variable) is also significant. Meanwhile, perfect mediation occurs when the direct effect (independent variable ➔ dependent variable) is not significant and the indirect effect (independent variable ➔ mediation ➔ dependent variable) is significant. Based on table 3 it can be seen for $H_5$ that the education can’t act as mediating variable mediating. For the hypotheses, education can act as partial mediating variable has a negative signed path regression with coefficient ($\beta$) -0.187 and with a significance level of 0.021 which is smaller than 0.05. Therefore Its can be concluded that the proportion of women with finance educational background as CEO has a significant effect on EM practices. This study supports the results of Handajani et al., (2014) and...
Zango et al., (2016) which states that the presence of women on the audit committee has a significant effect on earnings management. Similarly for H7, companies with women as audit committee and finance educational background will manage the company better than companies that tend to be homogeneous (there are only men) at the audit committee level. The table above is the result of the test for hypotheses based on the P value 0.003 that is smaller than 0.05, it can be concluded the same results for hypotheses where education can act as a moderating variable to strengthen the relationship of the existence of women as CFOs and as chair positions in audit committees strengthen their influence on the dependent variable, the EM practices. Empirical evidence from this study shows that, to some extent, the educational qualifications held by female commissioners and directors have an influence on the company's EM practices. For example, female chief directors who graduate from leading tertiary institutions in the country tend to show higher levels of performance than those who do not have these qualifications. In general, company performance is also better when the majority of members of the board of directors have postgraduate education qualifications at well-known universities.

VII. CONCLUSION, LIMITATION AND SUGGESTIONS

This study was conducted to examine the effect of women’s position on the top management, women’s as CEO, CFO and women’s on audit committees to EM practice using the Jones modification EM model. The sample used is manufacturing companies listed on the Stock Exchange in 2016 to 2019. Some conclusions from this study are: women’s as CEO does not affect EM practices, this is in line with the results of research Handajani et al. (2014) which shows that earning management practices in developing countries is more influenced by factors other than gender, such as levels of education, age, and environment. The proportion of women on the audit committee has a significant effect on EM practices. Education can act as partial mediating variable for women as chief finance officer and audit committee.

Some limitations of this study is researcher in this study uses a period of financial statement data of only four years, namely from 2016 to 2019, so the limited time period certainly affects this research. Other limitation is the study only focused on manufacturing listed companies in Indonesia, as an emerging capital market. Therefore, the findings reported in this research might not be generalizable to other firms in countries with different economic and business settings.

Based on the conclusions and limitations resulting from this study, some of the suggestions addressed to further research that, for future studies are expected not only to measure of earnings management practices using one proxy, but to add proxies or other methods so that EM practices become more accurate, for example using Earnings Response Coefficient (ERC), Income Smoothing. It can develop a particular model for each industry, maybe with different industry characteristics and the influence of some other EM practices.

REFERENCES


