The Effect of Board Size and Female Directors on Tax Avoidance

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This study aims to examine the effect of board size and the existence of female directors on tax avoidance. This study uses 370 observations consisting from 114 manufacturing companies listed on the Indonesia Stock Exchange from 2013-2017. The analysis technique used is multiple linear regression analysis with SPSS 22 software. The results of this study indicate that the size of a board of directors is positively related to tax avoidance, which means that the greater the number of directors, the more tax avoidance occurs in companies. Conversely, the existence of a female director is negatively related to tax avoidance, which means that if a company has a female director, it will reduce the amount of tax avoidance that occurs. These results indicate that companies need to pay attention to the appropriate composition of boards of directors to minimise tax avoidance. This research shows that female directors can benefit companies through decision making and policies that can reduce tax avoidance.

Keywords: Tax avoidance, Director composition, Female director

Introduction

The development of the Indonesian economy is inseparable from the role of the individuals who have run various businesses in the business and economic sectors. These range from large, medium to small-scale businesses (CIA, 2016). One type of industry that has an impact on the Indonesian economy is manufacturing. Indonesia's Minister of Industry, Airlangga Hartarto, projects the steel, automotive, electronics, chemicals, pharmaceuticals, and food and beverages industries in the sub-sector will spur national manufacturing growth in 2018. According to the Minister of Industry in the third quarter of 2017, several manufacturing sub-sectors have performance above economic growth. For example, the basic metals industry grew by 10.60 percent, the food and beverage industry by 9.49 percent, and the transportation equipment industry by 5.63 percent. Therefore, the manufacturing sector is still the largest
contributor to the national economy through an increase in the value-added by domestic raw materials, absorption of local labour, and foreign exchange earnings from exports.

Promising industrial growth can occur due to the implementation of good corporate governance (GCG) (Harymawan et al., 2019). GCG encourages the creation of healthy competition and a conducive and productive business climate essential to support sustainable economic growth and stability (KNKG, 2006; Sonntagbauer, 2014). There are five main principles of GCG (Daniri, 2006): openness, accountability, responsibility, independence, and fairness. The responsibility principle refers to a company's compliance with all applicable rules, such as taxation issues and maintaining a sound and right business environment.

In Indonesia, the level of tax compliance is still relatively low. This is reflected in the tax coverage ratio, which is only 72 percent. The number of taxpayers in Indonesia is not optimal. Low compliance with tax payments is rising, as companies consider tax as an expense that will reduce profit (Fadhilah, 2014). However, taxes are a source of revenue that finance government administration. Differences in interests that occur cause non-compliance by taxpayers through tax avoidance (Wiyono & Kusuma, 2017). Therefore, there are still many companies that use tax management methods.

One of the strategies undertaken by companies in tax management is using tax avoidance. Tax avoidance or resistance to tax is a hindrance that occurs in tax collection. It results in reduced state receipts (Fadhilah, 2014). Tax avoidance is not said to be in conflict with taxation provisions, as the practices related to tax avoidance make use of the gaps or grey areas in taxation provisions (Mangoting, 1999). Tax decisions in a company are influenced by the board of directors of the company. Oyenike et al. (2016) state that the board of directors is responsible for ensuring the credibility of the financial reporting process and quality information for the calculation of tax obligations. They are also responsible for monitoring and evaluating management to act as shareholders with effective corporate governance. Irawati et al. (2019) also explain that the effectiveness of the functions of a board of directors could improve corporate governance.

Among the various functions performed by the board of directors, their supervisory role and independence are vital for analysts and decision-makers (Nowland, 2012; Aliyu, 2018; Harymawan et al., 2020). Large board sizes reduce the functional effectiveness of managers in different programs and strategies (Richardson & Lanis, 2011), so tax avoidance will increase if board size increases. In other words, board control is placed on more influential individuals and groups, so that it can be a severe hindrance in the role of the board of directors. Hoseini et al. (2019) states that tax avoidance will further increase if the size of the board of directors also increases. This is due to the council's incentives that encourage it to make decisions that reduce tax payments through accounting procedures and legal gaps. Tax
avoidance is also considered to involve one of the same information gaps between executives and shareholders. When a member of the board of directors decides to avoid taxes, they will increase the cost of representation (Zahra & Pearce, 1989).

Another characteristic firms’ boards need to consider is female directors. The presence of women on company boards is also believed to have a relationship with tax avoidance decisions (Hoseini et al., 2019; Lanis et al., 2015). Female directors have received much attention regarding their active role in monitoring managerial performance. Female directors always do their best to balance corporate behaviour that is responsible for society and shareholders (Prabowo et al., 2017). Richardson et al. (2016) explained that the presence of female directors could enhance the monitoring function of a company. Kasirang et al. (2013) also state that women can see risks in various aspects of business organisations and are more cautious compared to men. Women tend to do more detailed risk reviews and will reconsider before making a decision. Women's representation can improve the function and efficiency of boards and committees in companies. Gender diversity in the executive rank can affect managerial behaviour (Peni & Vahamaa, 2010; Zemzem & Ftohi, 2013; Boussaidi & Hamed, 2015). However, several other studies also found that the gender diversity of councils have no relationship with tax planning and tax aggressiveness (Khaoula, 2012; Francis et al., 2014).

The gap in the research literature motivated this study to examine the effect of the number of directors and the existence of female directors on tax avoidance by companies. This study uses a sample of all manufacturing companies listed on the Indonesia Stock Exchange in the period from 2013-2017 (as many as 370 final observations). The analysis technique used is OLS regression analysis with SPSS 22 software in examining hypotheses.

The results of this study indicate that the size of a board of directors is positively related to tax avoidance, while the presence of female directors is negatively related to tax avoidance. This result indicates that an increasing number of board members can increase tax avoidance through favourable incentives. This study also shows that female directors can benefit companies through decision making and policies that can reduce tax avoidance practices. This research contributes to the literature related to gender diversity by providing evidence showing the existence of a female director can provide positive benefits for a company. This research implicates companies should to pay attention to the right compositions of their boards of directors to minimise tax avoidance. The results of this study also have implications for policymakers, especially the Directorate General of Taxes. They may tighten applicable laws so as to not create loopholes for companies to implement tax avoidance.

The research will be explained in the following structure: Section 2 contains research on developing research hypotheses; Section 3 includes explanations for variables and samples as
well as research models; Section 4 contains empirical analysis and the results of hypothesis testing; and Section 5 provides conclusions of the study, including suggestions for further research.

Literature Review

Theoretical Framework

Agency theory is a theory that explains the relationship between company owners (shareholders) and management. Management is an agent appointed by shareholders (principals). It is given the task and authority to manage a company under the supervision of the principals (Sepasi & Abdoli, 2016). Relationships that occur between agents and principals often cause conflicts due to differences in interests between principals and agents (Wiyono & Kusuma, 2017). Managers in companies sometimes hide actual information from shareholders to protect their interests, so this can interfere with the interests of shareholders who are supposed to get actual details (Permana & Zulaikha, 2015; Mardiyati, 2012; Elmanizar et al., 2019).

Differences in interests between principals and agents can also arise due to corporate tax aggressiveness. Tax aggressiveness regards actions taken by companies to reduce their tax obligations (Fadhilah, 2014). The way that companies generally participate in tax aggressiveness is by avoiding taxes by creating hindrances in tax receipts, resulting in reduced state receipts (Kessler, 2005). Tax avoidance is an action that is not in conflict with tax provisions, as it utilises gaps or grey areas in taxation provisions (Mangoting, 1999). In practice, principals want management to pay taxes according to actual amounts, while agents tend to minimise tax expenses to obtain higher profit. However, there are times when management interests are the same as those of shareholders. Hence, things that can encourage tax avoidance can arise.

According to Desai and Dharmapala (2006), the greater the amount of directors on a board, the higher the incentivised interests and the opportunity for tax avoidance. Additionally, Lakhal et al. (2015) state that gender diversity can improve managerial monitoring, resulting in better decisions in terms of reducing agency problems. Boussaidi and Hamed (2015) also state that gender diversity could prevent an individual or group of people from dominating the decision-making process. It can reduce conflicts of interest between managers and shareholders, and this gender diversity can be used to reduce the problem of tax aggressiveness.

The Effect of a Board of Directors’ Size on Tax Avoidance

In KUP Law Number 16 of 2009, article 1, paragraph 1, it is explained that tax is a mandatory contribution to the state by individuals or entities that are coercive. It is based on
the Law with no direct compensation and is used for the needs of the state and prosperity of society. As taxes are coercive, many entrepreneurs and business entities tend to hinder tax. Tax avoidance is an attempt by taxpayers to minimise taxes in ways that are contrary to the intent and purpose of the makers of tax provisions (the intention of parliament). One factor that can encourage tax avoidance is the size of the board of directors (Hoseini et al., 2019; Lanis et al., 2015; Armstrong et al., 2013; Setayesh et al., 2014).

Fahriani (2016) explains that the function of a board of directors is to manage company management so that the effectiveness and efficiency of the company is improved. The size of the board of directors is crucial, as it can lead to a variety of strategic decisions (Minnick & Noga, 2010). The optimal number of members on a board of directors must be determined in such a way as to ensure that sufficient members are present to respond to the duties and various functions of the board of directors. A smaller number of members on a board of directors makes it possible to discuss problems and solutions to solve company problems and increase company efficiency (Mashaykhi & Seyedi, 2015).

Companies and governments experience conflicts of interest. A company has an interest in increasing profits. In contrast, the government sees an increase in earnings as a tax object to be billed. Therefore, the existence of a board of directors is expected to reduce the conflict of interest. Hoseini et al. (2019) state that a large board of directors can reduce the speed and response of companies in times of crisis due to many perspectives in decision making. A smaller board of directors makes it possible to discuss and find solutions to solve problems in a company more efficiently (Mashaykhi & Seyedi, 2015). Tax avoidance gives directors the opportunity to get incentives, as it provides higher profits based on agreements with shareholders (Armstrong et al., 2013; Desai & Dharmapala, 2006). Thus, the greater the size of a board of directors, the greater the interest to obtain incentives and the greater the opportunity for tax avoidance.

**H1:** A board of directors’ size has a positive relationship with firm tax avoidance.

**The Effect of Female Directors on Tax Avoidance**

Kessler (2005) explains that tax avoidance is the practice of avoiding taxes without violating taxation provisions. Furthermore, the Organisation for Economic Co-operation and Development (OECD) describes tax avoidance as a taxpayer effort to minimise tax payable. Although this effort may not violate the taxation provisions, it contradicts the purpose of the regulation. In this case, the board of directors plays a vital role in making decisions, whether it is avoiding taxes or not. The board of directors is a corporate organ that is responsible for all company activities fitting a company's goals. Therefore, directors have a high level of responsibility compared to other company members.
Gul et al. (2011) explain that the existence of women as directors can improve decision making and instigate higher ethical and moral standards. Female directors are known to tend to be more careful and avoid risks, have high morals and ethics, have independent thinking, provide more transparent information, and be more cautious about decision making than males (Richardson et al., 2015). Companies with female executive managers adopt more conservative financial reporting styles, avoid risks, and are more prudent than companies with male executive managers (Kusumastuti et al., 2008; Peni & Vähämaa 2010; Harymawan et al., 2019). Rafiki and Nasution (2019) also explain that women tend to be more careful in their work than men, so the success level of women in running businesses or jobs tends to be greater than that of men.

Several previous studies found that the presence of female directors can reduce the likelihood of tax aggressiveness within a company (Richardson et al., 2016; Oyenike et al., 2016). The presence of female directors creates a way to learn the extent of tax aggressiveness’ negative consequence. Therefore, women's leadership can help companies avoid tax aggressiveness. Hoseini et al. (2019) and Lumbanraja et al. (2018) explain that women and men will act differently in dealing with the same conditions or problems. A female director is more transparent, has fewer weaknesses in internal control, and can indirectly influence company performance positively (Alhejji et al., 2016; Sepasi & Abdoli, 2016). The presence of a female director provides effective oversight in a company. Female directors are more risk-averse and have higher ethical and moral standards. They can facilitate information in decision making, thereby increasing the level of transparency on a board of directors and increasing the level of trust of shareholders (Rahimipour et al., 2018; Barber & Odean, 2001).

Tax avoidance is one form of risk that a company will face, and the presence of a female director makes it possible to reduce the level of tax avoidance in a company.

**H2:** The presence of female directors has a negative relationship with firm tax avoidance.

**Research Methodology**

**Sample and Data Sources**

Sources of data in this study were obtained through financial reports and company annual reports obtained either from the official website of the Indonesia Stock Exchange (IDX) or the official website of each company. The sample used in this study consisted of all manufacturing companies listed on the Indonesia Stock Exchange from 2013-2017. The sample selection technique was done by using a purposive sampling method. This is sampling based on specific considerations and limitations, such as excluding companies that do not have complete data related to the variables used in research. Based on the sample selection results obtained, 114 companies were sampled with a total of 370 final observations. The
companies existed in three manufacturing industry sub-sectors: basic and chemical industrial sub-sectors, various industrial sub-sectors, and the consumer goods industry sub-sector.

Variable Operationalisation

The Dependent Variable
The dependent variable in this study is the level of tax avoidance carried out by a company (CETR). Tax avoidance is defined as the amount of tax debt reduction carried out by companies without violating existing taxation provisions. In this study, tax avoidance was calculated using the company's effective cash rate. This is cash spent for tax divided by earnings before tax (Dyreng et al., 2010), which can be formulated as follows:

\[
CETR = \frac{Cash\ spent\ for\ tax}{Earnings\ before\ profit} \times (-1)
\]

Independent Variables
The independent variables used in this study were the number of board directors (BOARDSIZE) and the presence of female directors (WOMAN_DIR). The size of the board of directors was measured by referring to the study of Fahriani and Priyadi (2016) which uses the number of directors in the company during the observation period. The variable for the existence of female directors was measured using a dummy variable (Richardson et al., 2016), rated 1 if the company has female directors on its board of directors and given a value of 0 if all directors on the company's board of directors are male.

Control Variables
The independent variables used in this study were the number of board directors (BOARDSIZE) and the presence of female directors (WOMAN_DIR). The board size was measured by referring to a study by Fahriani and Priyadi (2016), which uses the number of directors in the company during the observation period. The variable for the existence of female directors was measured using a dummy variable (Richardson et al., 2016). Companies were rated 1 if they had female directors on their board and given 0 if all directors were male.

Methodology
This study used OLS regression models to examine the effect of board size and female directors on tax avoidance. The analysis was performed using SPSS software version 22. The OLS regression analysis model was formulated with the following equation:

\[
CETR = \alpha + \beta_1BOARDSIZE + \beta_2WOMAN_DIR + \beta_3ROA + \beta_4LEV + \beta_5AGE + \epsilon \tag{1}
\]
Results and Discussion

**Descriptive Statistics**

**Table 1: Descriptive Statistics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cetr</td>
<td>370</td>
<td>-0.867</td>
<td>0.002</td>
<td>-0.291</td>
<td>0.145</td>
</tr>
<tr>
<td>Boardsize</td>
<td>370</td>
<td>2</td>
<td>17</td>
<td>5.410</td>
<td>2.478</td>
</tr>
<tr>
<td>Woman_Dir</td>
<td>370</td>
<td>0</td>
<td>1</td>
<td>0.340</td>
<td>0.475</td>
</tr>
<tr>
<td>Profit</td>
<td>370</td>
<td>-0.971</td>
<td>0.785</td>
<td>0.873</td>
<td>0.096</td>
</tr>
<tr>
<td>Leverage</td>
<td>370</td>
<td>0.009</td>
<td>0.989</td>
<td>0.412</td>
<td>0.197</td>
</tr>
<tr>
<td>Age</td>
<td>370</td>
<td>2</td>
<td>99</td>
<td>37.700</td>
<td>14.893</td>
</tr>
</tbody>
</table>

Table 1 shows the descriptive statistical results of the variables in this study. The tax avoidance variable (CETR) has an average value of -0.291, with a standard deviation of 0.145. This shows that the average level of tax avoidance by companies is 29.1%. The size of the board of directors has an average value of 5.410, which indicates that the average number of directors is 5-6 people. The variable of the existence of female directors has a value of 0.340, which means that 34% of the sample has a female director on the board of directors with a standard deviation of 0.475. The average level of profitability of the company is 0.873, the average age of the company is 37.700, and the financial leverage is 0.412.

**OLS Regression Analysis Results**

**Table 2: OLS Regression Analysis Results**

<table>
<thead>
<tr>
<th>Variables</th>
<th>CETR</th>
<th>Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.297</td>
<td>-10.266</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Boardsize</td>
<td>0.006</td>
<td>2.099</td>
<td>0.037**</td>
<td></td>
</tr>
<tr>
<td>Woman_Dir</td>
<td>-0.033</td>
<td>-2.093</td>
<td>0.037**</td>
<td></td>
</tr>
<tr>
<td>Profit</td>
<td>0.313</td>
<td>3.766</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.040</td>
<td>-1.040</td>
<td>0.299</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.001</td>
<td>-1.444</td>
<td>0.150</td>
<td></td>
</tr>
</tbody>
</table>

**A Board of Directors’ Size and Tax Avoidance**

The results of the regression analysis in Table 2 show that the BOARDSIZE variable coefficient is 0.006 (t = 2.099) and is significant at the 5% level. This indicates that board size has a positive and statistically significant relationship to the level of corporate tax avoidance. This means that if the number of directors increases by one unit, then the tax avoidance variable will increase by 0.006. These results support the first hypothesis of the study (H1), which predicts that the size of the board of directors is positively related to the level of corporate tax avoidance.
The results of this study are consistent with research conducted by Richardson and Lanis (2011), which explains that tax avoidance increases if the size of the board of directors increases. Hoseini et al. (2018) also found that tax avoidance is a corporate tax strategy, and it can be said that the number of members of the board of directors relates to it. Increasing the size of the board of directors can increase tax avoidance as the incentives will also be increased. These results confirm previous research, which states that the number of directors relates to the level of tax avoidance in companies (Armstrong et al., 2013; Mashaykhi & Seyedi, 2015; Setayesh et al., 2014).

**The Presence of Female Directors and Tax Avoidance**

The coefficient value of the variable WOMAN_DIR in Table 2 is -0.033 (t = -2.093) and is significant at the 5% level. This shows that the existence of a female director has a negative and statistically significant relationship with the level of firm tax avoidance. This means that if there are female directors on the board of directors of the company, then tax avoidance will decrease by 0.033. These results support the second hypothesis of the study (H2), which explains that the existence of a female director is negatively related to the level of firm tax avoidance.

Female directors can benefit the company. Having a female director on the board of directors can reduce tax avoidance in a company so that the company will be more compliant with applicable tax regulations. The results of this study are consistent with those of Gul et al. (2011), which explain that the existence of women on boards of directors can improve decision making and instigate higher ethical and moral standards. Richardson et al. (2016) also state female directors are known to be more careful, avoid risks, and have higher morals and ethics than men. Female directors who think independently can provide more transparent information and tend to be careful when making decisions (Hoseini et al., 2019). These results confirm those of previous research, which states that the existence of female directors can provide benefits for companies (Oyenike et al., 2016; Zemzem & Ptouhi, 2013; Boussaidi & Hamed, 2015).

**Coefficient Determinant Test (R^2)**

<table>
<thead>
<tr>
<th>Table 3: Coefficient Determinant Test Results (R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Based on the results in Table 3, the adjusted R Square value for the regression equation is 0.550 or 55%. This shows that the regression model can explain the relationships among the size of the board of directors, the existence of female directors, profitability, leverage, and
company age with tax avoidance to a degree if 55%, while other variables excluded by this study explain the remaining 45%.

**Conclusion**

This study aims to analyse the effect of the size of boards of directors and the existence of female directors on the level of tax avoidance in manufacturing companies listed on the Indonesia Stock Exchange from 2013-2017. The results show that the size of a board of directors has a positive and significant relationship with the level of corporate tax avoidance. The greater the number of members on the board of directors who are in a company, the greater the chance for a company to participate in tax avoidance as there is an incentive to make higher profits. This study also found that the existence of a female director has a negative and significant relationship to the level of tax avoidance. This relationship exists because female directors have higher ethical and moral standards, are more careful, and tend to avoid risk in decision making. Hence, they tend to not want to be involved in tax avoidance.

The results of this study have implications for companies in regulating the composition of their boards of directors. The optimal number of board members can make companies more efficient in decision making and can minimise the occurrence of tax avoidance. This research also shows that the existence of a female director in a company can benefit the company and foster good corporate governance. However, this study has limitations in sample size. It only focuses on companies in the manufacturing industry. Therefore, future research can expand and cover all industrial sectors in the IDX and can add other variables that may also affect tax avoidance, such as the characteristics of the board of commissioners, audit committee, and corporate investment decisions.

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