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Board of Directors' Gender, Managerial Ownership and Corporate Risk-taking: Evidence from Indonesia

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ABSTRACT

This study examined the influence of gender diversity among company boards of directors and managerial ownership on corporate risk-taking. The sample was manufacturing companies listed on the Indonesian Stock Exchange from 2010 to 2013 selected using the purposive sampling method. Data was examined using multiple regression methods. The results showed that gender diversity on a board of directors (BOD) and managerial ownership have no significant effect on corporate risk-taking. This is likely due to the relatively low percentage of both variables in Indonesia, thus, they do not tend to affect corporate risk-taking decisions. The study recommends increasing gender diversity and managerial ownership in the corporate risk-taking process towards sustainable business practices.

Keywords: Board of directors, corporate risk-taking, gender diversity, managerial ownership, ownership structure

INTRODUCTION

Corporate risk-taking is one way of improving a company's profitability and performance which in turn will increase shareholder's wealth. The BOD (BOD) has an important role in the company's operations, including corporate risk-taking. Risk-taking itself has a positive impact on the long-term growth of the company (Faccio, Marchica, & Mura, 2011).

Shareholders are starting to demand boards of directors take on increasing roles and responsibility in order to fulfil their goals; one way is through corporate

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diversification. The diversity of directors can be measured across the following variables - age, ethnicity, gender, experience, educational background, and socio-economic status (Jackson & Alvarez, 1992; Sessa & Jackson, 1995). Recently, gender diversity at higher levels of management has become a focus as it has been shown to result in more effective decision making.

This research examined the role of women at higher levels of management because the number of women BOD has increased year on year recently. A study by the Centre for Governance, Institutions and Organisations (CGIO), National Singapore University Business School in 2016 found a growing number of women directors in Asia Pacific region from 2013 to 2014 (increased from 9.4% to 10.2%). Specifically, the percentage of female directors in Indonesia increased by 0.1% from 11% in 2013 to 11.1% in 2014.

In addition to the gender dimension, Laeven and Levine (2009) reported that in the management of banks, corporate risk-taking is also influenced by ownership structure. Previous researches found ownership structure affects company operations which will impact on its goals of value maximisation (Tam & Sze-Tan, 2007; Wahyudi & Pawestri, 2006). Jensen and Meckling (1976) opined that one way to overcome agency problem is by improving the ownership management structure so that the entity can reduce the conflict of interests between principal and agent. Wright, Ferris and Awasthi (1996) found that there is a positive relationship between managerial ownership and corporate risk-taking if the shareholding is low (but it has a negative impact if the share proportion is high).

Many studies have been carried out on the role of gender diversity and managerial ownership in corporate risk-taking in developed countries, but not many has focused on developing countries such as Indonesia. This research examines how gender diversity and managerial ownership can reduce agency problems to align the interests of shareholders and management. It is assumed that management-cum-shareholders will tend to make greater effort in the interests of the company.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Agency and Corporate Governance Theories

Agency theory (Eisenhardt, 1998) explains organisational behaviours by emphasising the relationship between the manager as the company's "agent", and the shareholder as the "principal". According to this theory, an individual will act based on his/her interests, so that conflicts of interests are unavoidable (Nordberg, 2011). Eisenhardt (1989) said that there are three assumptions of human nature; self-interest, bounded rationality, and risk aversion.

Corporate Governance (CG) is an oversight mechanism and managing system of a company (Forum for Corporate Governance Indonesia [FCGI], 2002). The CG mechanisms can be divided into two categories, namely internal and external governance. The BOD is an important

component of internal governance because of its role in determining the company's vision and strategy. Jensen (1993) described the important role played by the BOD by providing suggestions, monitoring the management, carrying out recruitment and determining the remuneration of senior managers.

Besides the role of the board, the other important component is the ownership structure, specifically the managerial ownership, studied in this research, which can reduce the conflict of interests between management and shareholders (Carter, Souza, Simkins, & Simpson, 2007; Crutchly & Hansen, 1989; Iturriaga & Sanz, 2001; Leland & Pyle, 1977). Jensen and Meckling (1976) asserted that in order to reduce the conflict between management and shareholders, it is possible to consider increasing the managerial ownership of the company. This can better align management's actions with the shareholders' objectives as the latter are also considered owner-shareholders.

Resource Dependency Theory

This theory is often used to explain gender diversity. According to Hillman, Canella and Paetzold (2000), BOD has an important role in connecting the company with other external sources through communication channels and suggestions, advice, and decisions. Hillman et al. (2000) report diversity on the BOD will benefit the company by securing essential resources for it. A diverse BOD will lead to substantial resources and a variety of potential information enabling better decision-making, including potentially risky financial decisions.

Empirical evidence from Hillman et al. (2000) pointed to several factors that influence the representation of women on boards, including strategy, organisational size, network effect, and type of industry. Gender diversity is supported by previous researches (Joshi & Roh, 2009; Miller & Triana, 2009). More specifically, it was found that a homogeneous group can inhibit innovation (Miller & Triana, 2009), while a heterogeneous one provides the organisation with a wider range of knowledge and insights, for greater innovation and better quality of decision-making (Hoffman, 1959; Joshi & Roh, 2009). This includes decision-making in determining the level of corporate risk.

In contrast, researchers have shown that a heterogeneous group can also trigger conflicts, reduce the effectiveness of communications and cause difficulties in decision-making (Carpenter, 2002; Smith et al., 2006). However, a more diverse BOD would generally enable a more objective and careful evaluation of alternative options prior to taking a decision (Coffey & Wang, 1998), resulting in better company performance.

Corporate Risk-taking

Based on the above agency theory and resource dependence theory above, corporate risk-taking can be decreased by gender diversity on the BOD and mitigated by the managerial ownership structure.

Risk itself is defined as the deviation of expected and obtained results (Jogiyanto, 2003). Well-managed risk-taking behaviour can be a source of growth, innovation, and welfare for a company. However, excessive risk-taking can threaten a company's going concern, which can, in turn, result in the company going bankrupt.

With regard to risk-taking, managers can behave as risk-averse, risk neutral, or risk-taking agents. Tsai and Luan (2016) found several factors which increase corporate risk-taking behaviour - high percentages of ownership, better past performances, investment experience, and access to required resources, and relationship between governments and banks.

Gender Diversity

Croson and Gneezy (2009) found the following on gender diversity and risk-taking behaviour:

- Emotions: Women have stronger emotional feelings than men (Harshman & Paivio, 1987); hence, they tend to be more nervous and fearful when facing a negative result or outcome (Brody 1993; Frank Fujita, Ed Diener, & Ed Sandvik, 1991), so, they will naturally be more risk-averse when facing a risky situation.
- Overconfidence: both men and women have a tendency to be overconfident, but men will be more confident of success when facing uncertain situations compared with women (Deaux & Farris 1977; Lichtenstein, Fischhoff, & Phillips, 1982; Lundeberg, Fox, & Punccohar, 1994).
- Risk as a challenge or a threat: men tend to see risky situations as an attractive challenge, whereas women define a risky situation as a threat which they will try to avoid.

Managerial Ownership

According to Christiawan and Targian (2007), managerial ownership is a structure where management is also shareholders in the company. Davies, Hillier and McColgan (2005) defined managerial ownership as all the members of the BOD owning shares in the company. Managers are given the opportunity to become shareholders with the expectation that it will result in good performances (Nuringsih, 2005). According to Jensen and Meckling (1976), agency costs will decrease when managerial ownership is increased due to the alignment between the principal and agent.

Morck, Shleifer and Vishny (1988) explained that managerial ownership helps align the interests of principals and agents (incentive alignment effect) because the tendency for managers to act in their personal interest will be reduced. On the other hand, managerial ownership can also encourage management to act only for their personal benefit and interest (entrenchment effect).

Earlier studies that have investigated the association between gender diversity, managerial ownership and corporate risk-taking are shown in the following table.

Table 1
Previous research

No.	Researchers (Year)	Title	Research Findings
1	Adhariani, Sciulli and Clift (2017)	Financial management and corporate governance from the feminist ethics of care perspective	Companies having "feminine" characteristics tend to maintain better relationships with stakeholders and result in stable financial performances.
2	Khaw, Liao, Tripe and Wongchoti (2016)	Gender diversity, state control, and corporate risk-taking: Evidence from China.	Lower gender diversity increases the incidence of corporate risk-taking in China which cannot be mitigated by the decline in state ownership as the impact of NTS (Non-Tradable Share) reform.
3	Faccio, Marchica and Mura (2016)	CEO Gender, Corporate Risk-Taking, and the Efficiency of Capital Allocation	CEO Gender significantly affects corporate risk-taking. Companies led by females tend to choose financing and investment options with lower risk compared to male CEOs. ROA volatility of companies led by female CEOs is lower than that of companies led by male CEOs.
4	Sila, Gonzalez and Hagendorff (2015)	Women on board: Does boardroom gender diversity affect firm risk?	Female boards of directors have no influence on the equity risk. The representation of female directors also does not have an impact on policies or operational risks.
5	Aryani and Hanani (2011)	The influence of gender diversity on boards of commissioners, boards of directors, and managerial ownership on firm performances.	Gender diversity on boards of commissioners has a negative association with firm performance, while gender diversity on the BOD and managerial ownership have no influence on firm performance.
6	Murni (2015)	The influence of managerial ownership, institutional ownership and voluntary disclosure on financial performance and its implication on corporate value	• Managerial ownership has a partial significant effect on the financial performance of companies listed on the Indonesian Stock Exchange • Managerial ownership has a significant effect on firm value partially and simultaneously
7	Christiawan and Tarigan (2007)	Managerial ownership, debt policies, performance and firm value	• A manager who is also a shareholder tends to be more careful in debt policies. • The average value of firms with managerial ownership is better than those without managerial ownership. • The average performance of firms with and without managerial ownership is equal.
8	Nuringsih (2005)	Analysis of the impact of managerial ownership, debt policy, ROA, and firm size on dividend policy: A Study of 1995-1996	Managerial ownership has a positive impact on dividend policy. This shows that the greater the involvement of managers in the form of ownership, the less optimal the diversification of assets/ portfolio becomes, causing managers to demand a higher dividend.

Table 1 *(continue)*

No.	Researchers (Year)	Title	Research Findings
9	Wright, Ferris and Awasthi (1996)	Impact of corporate insider, blockholder, and institutional equity ownership on firm risk-taking	Corporate insiders can influence corporate risk-taking. When the ownership of corporate insiders is low, it can have a positive impact on corporate risk-taking. However, when insiders increase their ownership, the corporate risk-taking tends to be lower.

Based on the above descriptions, it can be concluded that the influence of gender diversity on the BOD is mixed. Managerial ownership has an impact on company value and performance, but it is indirectly associated with corporate risk-taking. Several studies that investigated the direct association also found inconsistent results.

The inconsistencies in previous researches created research gaps which motivated this study. The fact that only 11.1% of BOD in Indonesia are women in 2014 (CGIO, 2016) indicates a glass ceiling for women to achieve the highest positions in a company. This means that only tough women can climb the ladder and they must be of high calibre. It is still a question though, whether these strong women, together with managerial ownership, can mitigate excessive corporate risk-taking.

Hypothesis Development

The Effect of Gender Diversity of Directors on Corporate Risk-taking

Several studies on behavioural considerations confirm the importance of gender diversity in a company's decision-making (Adams & Ferreira, 2009; Gul, Srinidhi, & Ng, 2011; Huang & Kisgen, 2013; Liu, Wei, & Xie, 2014). Adam and Ferreira (2009) found women directors tend to have a better attendance record and are more active in monitoring activities.

Faccio, Marchica and Mura (2016) documented that European companies led by female CEOs have lower leverage and a higher survival rate. Levi, Li and Zhang (2014) found that companies dominated by male directors tend to be more active in mergers and acquisitions and pay larger acquisition premiums.

Additionally, compared with men, women basically tend to avoid uncertainty, and are not individualists (Brock, 2008; Jogulu & Vijayasingham, 2015; Litwin, 2011; Morrison, 2009). Having female BOD on the board will change the flow of decision-making process (Elstad & Ladegard, 2012). Lundeberg et al. (1994) concluded that overall women are not as confident as men. In addition, women tend to be more risk-averse compared with men (Beckmann & Menkhoff, 2008; Bellucci, Borisov, & Zazzaro, 2010). Therefore, the hypothesis is formulated as follows:

H1: Gender diversity on a BOD negatively affects corporate risk-taking

The Effect of Managerial Ownership on Corporate Risk-taking

A director's positions is about 10 years, whereas there is no such time limit for shareholders. Therefore, directors who are also shareholders tend to carry out effective strategies and take less risk during their period in office (Godhum & Ayadi, 2003). Wright et al. (1996) divided managerial ownership into two categories of low and high; the low category refers to percentages of managerial ownership up to 7.5%, whereas high is for over 7.5%. The authors (1996) found that at the higher level, the relationship between managerial ownership and corporate risk-taking is negative, while at lower levels, it's the reverse.

Amihud and Lev (1981) opined that if managers have a large proportion of shares, they are less motivated to be risk-averse when evaluating merger opportunities because, with greater managerial ownership, the interests of shareholders and managers are more closely aligned, hence reducing the latter's tendency to be risk-averse in taking on profitable projects. Thus, gender diversity and managerial ownership will create a balanced risk-taking. Therefore, the second hypothesis is proposed as follows.

H2: Proportion of managerial ownership positively affects corporate risk-taking.

METHODS

The regression model of this research is as follows:

$$RISK_{it} = \propto + \beta_1 GEND_{it} + \beta_2 MANAG_{it} + \beta_3 PROF_{it} + \beta_4 LEV_{it} + \beta_5 GROWTH_{it} + \beta_6 SIZE_{it} + \beta_7 AGE_{it} + \epsilon_{it} \quad (1)$$

The following are variables used in this research:

Table 2
Operational definitions of variables

Variable	Definitions
$RISK_{it}$	Risk-taking, measured by the volatility of return on assets over overlapping three-year periods.
$GEND_{it}$	Directors' gender diversity, measured by the percentage of female directors compared with the total number of directors in a company.
$MANAG_{it}$	Managerial ownership, measured by the number of shares held by members of the board of directors.
$PROF_{it}$	Company's profitability, measured by dividing earnings before interest and tax to total assets.
LEV_{it}	Leverage, measured by dividing total debt by total assets.
$GROWTH_{it}$	Company's growth, measured by the annual growth rate of sales.
$SIZE_{it}$	The size of a company, measured by a natural logarithm of total assets.
AGE_{it}	Age of the company, measured by the number of years from the establishment of the firm to the year of observation.

Operationalisation of Variables

Dependent Variable

The dependent variable in this research is corporate risk-taking. Based on Boubakri, Cosset and Saffar (2013); Khaw, Liao, Tripe and Wongchoti (2006); Facio et al. (2011); John, Litov and Yeung (2008), corporate risk-taking is measured by volatilities of the return on assets (ROA) for three years. For example, risk-taking in 2013 was measured from the volatility of ROA from 2013 to 2015. The measurement of three years forward looking is due to the fact that current decision-making will affect a company's profitability two years later. Return on assets is used to evaluate how efficient the management is at using its assets to generate earnings before interest and tax (EBIT). Volatility is used to measure risk-taking as it represents uncertainty, which is the primary characteristic of risk.

Independent Variables

Gender Diversity in the Board of Directors. Gender diversity is measured by the percentage of female directors compared with the total number of directors in a company. The female directors are considered to avoid uncertainty and tend to be risk-averse, hence, reducing corporate risk-taking behaviour. Below is the measurement:

$$\text{GEND} = \frac{\text{Female directors}}{\text{Total number of directors}} \quad (2)$$

Managerial Ownership

According to Iturriaga and Sanz (2001) and Aryani and Hanani (2011), managerial ownership is measured by the percentage of shares owned by the BOD and top management. Managerial ownership is predicted to increase corporate risk-taking.

Control Variables

Company's Profitability. The company's profitability is measured by the ratio of return on assets (ROA) and is predicted to have a negative association with corporate risk-taking as companies with lower profitability tend to be more risk-taking (Faccio et al., 2011).

The following is the measurement of ROA:

$$\text{ROA} = \frac{\text{EBIT}}{\text{Total Assets}} \quad (3)$$

Leverage. This variable represents how much assets are financed by debt. In this research, we use a debt to asset ratio to measure leverage, which is expected to have a positive association toward corporate risk-taking (Boubakri et al., 2013b; Facio et al., 2011). Leverage is calculated as the debt to asset ratio (DAR).

$$\text{DAR} = \frac{\text{Total Debt}}{\text{Total Assets}} \quad (4)$$

Company's Growth. Growth is measured by the percentage of this year's sales compared with last year's.

$$\text{GROWTH} = \frac{\text{Sales}_t - \text{Sales}_{t-1}}{\text{Sales}_{t-1}} \quad (5)$$

Sales growth is used to determine the effect of firm-specific growth opportunities on corporate risk-taking (Boubakri et al., 2013b). It is expected that sales growth is positively related to corporate risk-taking, because established companies tend to take more risks.

Size of the Company. Size is measured by the natural logarithm of company's total assets representing the company's capability in managing its assets. The size of the company is expected to have a negative impact on corporate risk-taking because smaller companies tend to be more risk-taking compared with larger ones (Boubakri et al., 2013b; Faccio et al., 2011; John et al., 2008).

Age of the Company. The age of the company is the number of years from the establishment of the firm to the year of observation. The company's age is expected to have a negative association with regard to corporate risk-taking because younger companies tend to be more risk-taking than established ones (Boubakri et al., 2013b; Faccio et al., 2011; John et al., 2008).

Sampling Method

The sample used in this study is manufacturing companies listed on the Indonesian Stock Exchange from 2010 to 2013. The researchers used quantitative and secondary data from DATASTREAM, EIKON, and companies' annual reports. A purposive sampling method was used with the following criteria:

1. Manufacturing companies listed on the Indonesian Stock Exchange from 2010 to 2013. Companies from the same industry usually have similar characteristics so that it can be expected that regression results were not the result of bias. One industry was chosen since different industries may have different factors influencing the decision-making process.
2. Annual report data was available for the period 2010 to 2013.
3. Having complete data needed for operationalisation variables.
4. The company's financial report ended on December 31st.
5. Companies were in a healthy condition, hence ones with negative equity were excluded as management might exhibit different risk-taking behaviour.

ANALYSIS

This research sampled 464 manufacturing companies listed on the Indonesian Stock Exchange from 2010 to 2013. The data was unbalanced as the total number of companies in each year were not the same. In 2013, there were 127 companies, 122 in 2012, 108 in 2011, and 107 in 2010.

Table 3 shows the distribution of directors' gender diversity. It can be seen the average number of female directors from 2010 to 2013 had decreased. The structure of

boards of directors in Indonesia is still male-dominated because there were only around 40 companies with any female directors. Table 4 shows there are many companies in Indonesia with managerial ownership, but that the percentage is relatively low (on average about 2%).

Table 3
Sample distribution of directors' gender diversity

Year	Companies with Female Directors	Average % of Female Directors
2010	45	11.83%
2011	44	11.56%
2012	53	11.48%
2013	44	9.44%

Table 4
Sample distribution of managerial ownership

Year	Companies with Managerial Ownership	Average % Managerial Ownership
2010	61	2.24%
2011	60	2.18%
2012	67	2.21%
2013	67	2.11%

Descriptive Statistics

Table 5 shows that the RISK variable, which is the primary variable in this research, has an average value of 0.0374 with a minimum value of 0.0007485 and a maximum value of 0.6976252. These results show that the average volatility of return on assets in Indonesia's manufacturing companies is 0.0374. There is a company which has deviation from the average during three years resulted in maximum value of 0.6976252.

Table 5
Descriptive statistics variable of research

Variable	Minimum	Maximum	Mean	Std. Deviation
RISK	0.0007485	0.6976252	0.0374572	0.0524144
GEND	0	0.75	0.1102485	0.1560472
MANAG	0	0.2809	0.0218708	0.0536026
PROF	-0.5088585	0.8556663	0.0943909	0.1252563
LEV	0	0.9010693	0.246239	0.1903791
GROWTH	-0.7341233	3.48107	0.1787416	0.3282221
SIZE (Billions Rp)	10,582	213,994	6,387.31	18,409.96
AGE (years)	1	96	34.24784	13.23834

Remarks:
RISK = corporate risk-taking; **GEND** = percentage of female directors compared with the total number of directors; **MANAG** = Managerial ownership, measured by the number of shares held by the BOD and commissioners; **PROF** = Company's profitability; **LEV**= Leverage, measured by dividing total debt by total assets; **GROWTH** = Company's growth; **SIZE** = Size of the company, measured by the company's total assets; **AGE** = age of the company

The average percentage of GEND was 11.02%. The maximum value of GEND was 75%, belonging to MRAT in 2010 with three female directors from a board of four directors. With an average value of GEND of 11.02%, it shows that most manufacturing companies have a low percentage of director gender diversity and are still dominated by men.

The MANAG variable had minimum and maximum values of 0% and 28.09%. This shows that there were companies whose directors had no shares in the company, but there was one company (PT BRAM) which had a managerial ownership of 28.09%. The average value of MANAG was very low at 2.18%.

The control variables used in this research were PROF, LEV, GROWTH, SIZE, and AGE. The maximum value of PROF was claimed by MLBI in 2013, whereas the minimum value of PROF was held by ETWA in 2011. The PROF variable had an average value of 0.094 with a standard deviation of 0.1252. These values show that manufacturing companies in Indonesia mostly have a relatively low level of efficiency in using their assets to generate EBIT.

The minimum level for LEV in this research was 0, which shows that there was one company that had no debt or did not use external finance to support its assets. The maximum value of LEV was 0.9, claimed by HDTX in 2010. The average value for LEV was 0.24 with a standard deviation of 0.19.

Growth had a minimum value of -0.7341 (PT KBRI), which shows that the company's sales declined to 73.41% of their initial value. Meanwhile, ICBP had the biggest growth of sales in 2010. The average growth in sales among Indonesia's manufacturing companies was 17.87%.

The minimum value of SIZE was AKKU in 2012 with total assets IDR 10,582 billion, whereas the biggest value of SIZE was IDR 213.994 billion owned by well-known car producer ASII in 2013. SIZE's component shows that the size of manufacturing company assets in Indonesia is varied, with a standard deviation of IDR 18,409.96 billion.

The AGE variable had a minimum value of 1 year (ICBP), while the maximum value of AGE belonged to GDYR which was established in 1917. The average value of AGE was 34.16, meaning that the average age of manufacturing companies in this research was 34 years.

Hypothesis Testing

The results from regression model are shown below.

Table 6
Regression model results

Variable	Expected Sign	Coef	Prob
GEND	-	-0.01405	0.154
MANAG	+	-0.00716	0.4435
PROF	-	-0.03459	0.0305**
LEV	+	-0.03575	0.0005***
GROWTH	+	0.00523	0.177
SIZE	-	-0.00401	0.0055***
AGE	-	0.00022	0.144
N		464	
R^2		0.0530	
Prob (F-statistic)		0.0015	

Remarks:
***Significant to level α = 1% (one-tailed)
**Significant to level α = 5% (one-tailed)
*Significant to level α = 10% (one-tailed)

Coefficient of Determination Model Analysis (R2)

Based on regression results, it can be seen that the value of R-squared is 5.3%. This result shows that the independent variables, GEND, MANAG, PROF, LEV, SIZE, and AGE have only a 5.3% probability of explaining the dependent variable, RISK. The rest is explained by other factors outside the model.

Partial Significant Model Analysis (t-Test)

Based on the regression results, it can be seen that the most influential variables with regard to RISK are PROF, SIZE, and LEV, whereas other variables, including the main ones (GEND, MANAG), do not have a significant influence on RISK. The variables for LEV and SIZE both give a significantly negative effect, meaning that companies with low leverage tend to take more risk than companies with higher leverage and that smaller companies tend to be more risk-taking than larger ones.

The PROF variable also gives significantly negative effects (level α = 5%), which means that companies with lower profitability tend to take greater risks compared with companies with higher profitability.

Hypothesis Test Results Analysis

The Effect of Directors' Gender Diversity on Corporate Risk-taking

The first hypothesis is that directors' gender diversity negatively affects corporate risk-taking. Based on the results shown in Table 6, it can be seen that gender diversity on the BOD does not affect corporate risk-taking.

This contradicts resource dependence theory which suggests that diversity on a BOD has the potential to provide information in considering the risks faced by companies, thus enabling the evaluation of alternative decisions in a more careful and objective manner. This result is not consistent with that of Khaw et al. (2016) and Faccio et al. (2016) who found that the volatility of ROA of companies led by female directors is significantly lower than that of male-dominated companies. However, these results are consistent with an earlier research by Sila, Gonzalez and Hagendorff (2015), who found that the representation of female directors does not affect various policy or operational risks.

This inconsistency might be due to the low number of female directors in the sample or it could be that the preponderance of male directors undermines the role played by female directors, as other studies have found that men are generally overconfident and are more willing to take risks (Barber & Odean, 2011).

With regard to resource dependence theory, Hillman et al. (2000) said that one of the factors which affect the representation of women on BOD is the type of industry. For example, in the health industry, which is dominated by women, corporate risk-taking may exist.

The Effect of Managerial Ownership on Corporate Risk-taking

The MANAG variable in Table 6 was also found not to affect corporate risk-taking. This shows that the second hypothesis is also rejected, which contradicts prior research such as Chen and Steiner (1999), who found that managerial ownership is a positive and significant determinant of risk-taking.

Neither does this hypothesis align with the prediction of the agency theory. Tsai and Luan (2016) suggested that one condition which would affect corporate risk-taking behaviour is by increasing the level of managerial ownership. Managerial ownership in Indonesia in this sample was still very low at only 2.18%, which is well below the median score of 7.5% based on Wright et al. (1997). As such, directors-cum-shareholders might well be unable to influence the decisions made by the other directors in a company.

CONCLUSIONS

This study analyse the influence of gender diversity on BOD and managerial ownership on corporate risk-taking in Indonesia. The findings show that neither of these variables has a significant effect on corporate risk-taking. With an average percentage of around 11.02% of female directors, they cannot reduce the risk-taking behaviour of boards of directors made up of largely males who tend to be bolder when it comes to taking risks.

Managerial ownership also has no significant effect on the corporate risk-taking. The proportion of managerial ownership in Indonesia is still relatively low and thus, might not be able to influence corporate risk-taking.

At the theoretical level, although the results are not consistent with predictions from the agency theory and resource dependency theory, two underlying theories used in this study, they reveal that low gender diversity and managerial ownership may contribute to aggressive risk-taking behaviour in Indonesian companies. This study contributes to the debate in the literature on the role of female directors and managerial ownership in corporate risk-taking in a developing country characterised by low investor protection. The practical implication of this study is that investors must demand companies implement other measures in order to mitigate excessive risk-

taking or promote higher gender diversity and managerial ownership, which of course, should be complemented by regulations.

Future research can consider conducting case studies to further investigate the roles played by female directors and managerial ownership in decision-making related to corporate risk-taking. The case study approach might provide a better understanding of what really is going on in the boardroom and how managerial ownership can shape decisions regarding corporate risk-taking.

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