# Do Gender and Education Matter for Company Financial Performance? Evidence from Indonesian Companies

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*Abstract*

*This research is aimed to investigate the influence of gender diversity and educational level in board of commissioner on the performance of non-financial company listed in Indonesia Stock Exchange for 2013-2017 period. Gender diversity as the first research variable was measured by female existence as the head of commissioner, female existence on board of commissioner and its proportion. Meanwhile, education level of female in board of commissioner as the second variable was measured with dummy 1 for master and doctoral graduate and 0 for other levels. Next, the company performance variable is proxied with a return on assets (ROA), return on equity (ROE), and Tobin's Q. The model employed in this research was an unbalanced data panel using fixed and random effect model approach. The results show that gender diversity has a significant impact on ROA, but an insignificant impact on ROE and Tobin's Q. Further, education does not have a significant impact on financial performance. In general, board characteristics do not have an important role in determining financial performance.*

*Keywords: Company Performance, Education Level, Gender Diversity, Indonesia Stock Exchange*

## INTRODUCTION

Naturally, people agree that male and female are different. The gender difference is more emphasized in terms of its role and function being existed and created among the society. Therefore, gender is one of the most important issues to be analyzed and comprehended in order to review its influence for the company performance. An annual research done by Grant Thornton International Ltd (2018) has found that among 5,500 companies in 36 countries, 45% of Indonesian females had successfully achieved the ultimate level managerial position. In 2016, the number was raising 36% from previous years. In global level, Indonesia has only 1% left from Russia, which has 47% females on the top position of manager. The third rank is achieved by the following three countries, Estonia, Poland, and Philippine with 40% females as the company leader. Grant Thornton also identified several countries with lowest proportion of females on the highest managerial position, such as Japan (7%), Argentina (15%) and Brazil (19%). From the findings, female leaders have certain powerful facts that male leaders do not possess, such as a nurturing personality towards the staff, a salient intuition in business field, a careful action for decision making by mostly considering about its risk and effect. Kusumastuti *et al*. (2014) also

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stated that females tend to have a careful attitude towards the risk and more detail than males. Males and females are able to act differently at one condition, for example, while communicating, leading, facing the risks and making decisions (Peni and Vähämaa, 2010; Syamsudin et al (2017)).

Gender diversity in board of commissioners have been an interesting topic for over the decade in Indonesia. Previous studies that had been conducted showing the researchers' interest on this issue, namely Pudjiastuti and Mardiyah (2007); Aryani (2018); Darmadi 2011; Kusumastuti (2014); Limbago and Sulistiawan (2019); Sutrisno & Fella (2017); Syamsudin et al (2017); Thoomaszen dan Hidayat (2020). In the middle of year 2005 and 2011, the total number of females in board of commissioner has been doubled and raising 12%. One of the factors is the revision of company guidelines to be more open with gender diversity regulation in 2010. However, some companies from different industrial sectors mostly still left behind about this issue, for example in mining sector. The board of commissioner has the main role which are to watch the regulation executed by the board of directors in charge, and to give advice (Amina & Sunarjanto, 2016). Thus, the board of commissioner has an essential role in Good Corporate Governance (GCG) application.

According to Susilo and Simarmata (2007) GCG is a set of communication regulation between corporate management, directors, stakeholder commissioner, and other related positions. Consequently, as stated by Joecks *et al*., (2013), if female proportion in board of commissioner has less number, it will show unsatisfied performance for the company. Nevertheless, the female existence in board of commissioner should not be assumed as a threat, in other words they are supposed to improve the company performance. Based on Bazel-Shoham *et al*., (2018), a positive significant result is demonstrated between gender diversity and company performance.

Schoubben and Uytbergen (2014), Vairavan and Zhang (2020), and Ullah *et al*.

(2020) argue that gender diversity gives impact on a decision made by the company. It was proven that a female who has concentration in both of board of commissioner and managerial position can affect the company governance. Bernardi *et al*., (2009) has done some studies related to female members of the board commissioner, and he found out that a company with higher proportion of female in the board of commissioner is considered into 100 best company categories based on Fortune. However, it is different with the findings from Darmadi (2013) who stated gender diversity has no influence towards the company performance. It is because female role in the board of commissioner is assumed as a signal for a good company performance, not as a great contributor for the company in the future.

Setiawan (2015) stated that the education level of company staff is related to their working performance which is also going to influence the company performance. Therefore, it is important to have a reliable staff with proper background of study. The importance of having higher level education which can support the achievement of the company target is proved by the range of the salary provided by the company. Stanford Business School MBA program ranked number one by QS global MBA ranking 2021 (QS, 2021) and shows that the alumni annual median base salary is $ 156,000 (Stanford University, 2021). Company believes that recruiting a high paid salary for well-educated staff can increase the company's financial performance. A study conducted by Tseng and Jian (2016) found that Taiwanese firms tend to have successful in brand development with board members graduated from top-ranked MBA programs from foreign universities. The essence of education is being projected in the trading world as connected aspects in between person, company, and modern economic to create improvement and competition based on their background of knowledge (Setiawan, 2015). Currently, one of the main requirements for a company to achieve a competitive eminence

internationally is by possessing an ability to create, share, and explore the global knowledge. For the last two decades, many western countries try to change the pattern of economic structure into primary economic with knowledge basis (Magoutas *et al*., 2011). Exploitation of staff with the highest degree is necessary for every company. The graduates are expected to produce knowledge and definitely contribute in research and innovation development as well as to support finance performnace in their working place (Magoutas *et al*., 2011). The main reason is persumably their educational background becomes the proxy of intelligence so that the manager or staff on the top positons is able to enhance their working performance.

Several studies found that comissioners with higher level of education achievement have more capacity to process information and do some innovations. For example, Graham and Harvey (2002) have proven that the top management tends to use advanced technology while planning a capital budget. Accordingly, there is a positive connection in which higher education level is able to support higher social relationship among the top management and government and to improve the company performance as well. Karadag (2017) showed that staff with higher level of education have a substantial encouragement to the company performance in terms of wider knowledge and experiences compared to those with average level of education. It is believed that making a decision needs wider knowledge and higher education can lead someone to think critically and develop some inventions. Therefore, it is expected to bring a better transformation for the company performance.

As previously explained, gender diversity and education level basically have influenced the company performance. However, some former studies have found different results about the issues so that it has created a research gap which motivate the researchers to conduct another study. In addition, this research issue is feasible and interesting because nowadays females have been able to hold an equal position with males in the board of commissioner. The current level of education in the board of commissioner as the main topic of research is also rarely conducted because another studies mostly viewed educational background only as the variable.

Moreover, this study is unlikely similar to the previous one in terms of avoiding any endogenity in the research variable. Many former studies have discussed endogeneity between gender diversity and company performance (Conyon & He, 2017; Gantenbein & Volonté, 2012, and Gottesman & Morey, 2010), thus this study generates different variables that are lagged to avoid the endogeneity.

The previous studies about gender diversity in the board of commissioner have discovered different findings. For example, Grant (2000) stated that there is not any significant positive relationship between gender of commissioner and the company performance. Correspondingly, Maula and Rakhman (2018) stated that gender diversity amongst the commissioner members is unlikely giving a positive impact to the company performance. Nevertheless, one study by Letting *et al.* (2012) has shown a distinct argument that female's existance in the commissioner is significantly and positively related to the company performance. It is supported by Tu *et al.* (2017) who also agrees that female proportion in the commissioner has a positive feedback for the company performance. Indeed, Vairavan and Zhang (2020), Ullah *et al.* (2020), Bennouri *et al.* (2018), Tu (2017), and Ararat *et al.* (2015) found that the correlation between gender diversity and company performance brings a positive results. Female leaders are believed to generate some changes in the company, such as processing information and making a decision. Furthermore, they tend to have nurturing personality so that it makes them more democratic by involving their subordinates during the process of decision making. This condition triggers a healthy and comfortable working ambience which are believed to improve the staff and company performance.

In conclusion, gender diversity in the board of commissioner has a strong influence to the company performance.

H₁: Gender diversity in the board of commissioner has a positive impact on the company financial performance.

As Kusumastuti *et al.* (2007) has explained in her study, the education background of commissioner members is irrelevant with the company performance. She argued that a person with higher education level has been unlikely assured to contribute a greater improvement for the company if it is not supported by appropriate skills. On the other hands, Magoutas *et al.* (2011) stated that education certainly has an impact to the company performance. It is approved by Graham and Harvey (2002) who explained that there is a positive line between commissioners' qualifications with the company performance. They believed that a positive relativity or impact exists in between education and working performance, especially a broad knowledge and innovation that are useful in decision making. A successful strategic branding orientation at a global rather than a domestic level is a finding from Tseng and Jian (2016) which contributed by the educational background of Taiwanese firms' board members. Industries with more mature branding practices are more likely to hire graduates from top-rank universities, foreign universities, and top MBA programs. The level of education affects the ability of decision making and well-prepared strategy for the company (Erlim and Julaiana, 2017). Besides, it is going to affect the social relationship as well as useful networking link to upgrade the information for the company.

H₂: Level of education of female commissioners has a positive influence on the company financial performance.

## METHOD

The object of study is gender diversity in the board of commissioner and education level of female commissioner. The data of this study are from non-financial company registered at Indonesia Stock Exchange (IDX) from 2013 to 2017. In this period, three main index such as IHSG, LQ45, and IDX80 has shown a significant increase in comparison to the periods before and after 2013 to 2017. The IDX composite index was nearly 50% increase from 4,274.18 to 6,355.65 (IDX, 2019). Secondary data is administered by collecting financial reports and annual reports of every selected non-financial company from Indonesia Stock Exchange (IDX) official website www.idx.co.id and the company website. Non-financial company sectors have the majority portion with about 65.5% among the listed in IDX in comparison to financial sector with 34.5%

There are 3 main research variabl.es applied in this study, such as dependent variable, independent variable, and control variable. The dependent variable is the company performance which is defined as the ability of company to acquire and manage resources in some different ways as an attempt to create a competitive excellence. It is measured by several methods, such as by counting Return on Assest (ROA), Return on Equity (ROE), and Tobin's Q as reffering to a study by Situmorang and Sudana (2018). The formulation of those methods are as follow:

$$ROA = \frac{Net\ Income}{Total\ Assets} \quad (1)$$

$$ROE = \frac{Net\ Income}{Stockholders'Equity} \quad (2)$$

$$Tobin's\ Q = \frac{(MVS+D)}{TA} \quad (3)$$

Where:
MVS = *Market value of all outstanding shares*
D = *Debt*
TA = *Firm's asset's*

Market values of all outstanding sahres (MVS) is a stock exchange value from total number of outstanding shares multipled by stock price. Meanwhile, Debt is a value of debt market gained from the following equation:

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$$D = (AVCL - AVCA) + AVLTD \quad (4)$$

Where:

| | | |
|---|---|---|
| AVCL | = | *Accounting value of the firm's Current Liabilities* |
| | = | *Short Term Debt + Tax Payable* |
| AVCA | = | *Accounting value of the firm's Current Assets* |
| | = | *Cash + Account Receivable + Inventories* |
| AVLTD | = | *Accounting value of the firm's Long Term Debt* |
| | = | *Long Term Debt* |

Meanwhile, independent variable of this study is gender diversity and female commissioner's level of qualification. Kartikarini and Mutmainah (2013) argued that gender diversity is the composition of female and male in an organisation. Gender diversity is able to be proxied by three measurements, such as:

$GDK_1$ = *Dummy* 1 if commissioner chair is female, otherwise 0 if male

$GDK_2$ = *Dummy* 1 if commissioner chair is female, otherwise 0 if none

$$GDK_3 = \frac{\sum \text{Female Commissioners}}{\sum \text{Board of Commissioners}} \times 100\%$$

The female commissioner education level is defined as the level of female education who has graduated with Master or Doctoral degree which is measured by:

PKW (Female Commissioner Education) = Dummy 1 if there is a female with Master or Doctoral degree, otherwise 0 if none

This study also applies some control variables, such as: 1) the company's scope is measured with natural log of the total assets, 2) leverage is measured with total debts divided by total assests, 3) the liquidity is measured by current assets ratio divided by current liabilities, 4) the cash flow is measured with net profit added by depreciation, and then it is divided by total assets, and 5) the chance of growth is measured with total assets reduced by total assets of last year and then it is divided by total assets of last year.

The data population of study are all non-financial company registered in Indonesia Stock Exchange (IDX) from 2013 to 2017. It applies unbalanced panel data by purposive sampling method in which the samples are decided based on specific requirements like population requirements. It is aimed to gather samples as accurate as the requirements. Herewith, several requirements that have been arranged: 1) Non-financial companies listed in Indonesia Stock Exchange (IDX) have reported their financial report in minimum 1 year from 2013 to 2017, 2) Non-financial companies listed in Indonesia Stock Exchange (IDX) have presented relevant data and information for research variables in this study.

Table 1. Sample Selection Process

| Criteria | Year | | | | |
|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2017 |
| First Criteria | Non-financial companies listed in Indonesia Stock Exchange which reported Financial Statements minimum of 1 year for 2014-2018 period. | | | | |
| Companies | 362 | 362 | 362 | 362 | 362 |
| Second Criteria (Excluded) | Non-financial companies which reported Financial Statements in other currency than Rupiah. | | | | |
| Companies | (71) | (70) | (74) | (74) | (74) |
| Third Criteria (Excluded) | Companies which did not publish data and information relevant in this study. | | | | |
| Companies | (47) | (47) | (46) | (46) | (46) |
| Sample used. | 244 | 245 | 242 | 242 | 242 |
| Total sample used. | 1215 | | | | |

Sources: Data Prepared by Researchers

Based on the requirements, there are 362 non-financial companies that have fulfilled the criteria. Therefore, the selected companies are being utilised as sample of data with total observation 1,215 data.

The model of regression equation in this study is as following:

$$KP_{it} = \beta_0 + \beta1GD_{it} + \beta2PKW_{it} + \beta3SIZE_{it} + \beta4FLEV_{it} + \beta5LQ_{it} + \beta6GROWTH_{it} + \beta7CF_{it} + e_{it} \text{ (5)}$$

Where:

$\beta_0$ = Intercept
$\beta_1 ... \beta_7$ = Coefficient of Regression
KP = Firm Performance (ROA, ROE, Tobin's Q)
GD = Gender Diversity in Board of Commissioners
PKW = Dummy Female Commissioner Education Level
SIZE = Company Size/Firm Size
LEV = Leverage
LQ = Liquidity
CF = Cash Flow
GO = Growth Opportunities
e = Regression Error
it = Object to-i and time to-i

## RESULT AND DISCUSSION
### Descriptive Statistics

Descriptive statistical analysis is a statistic used to analyze data by describing the data that has been processed to be more easily understood. Descriptive analysis presented in a research consists of mean, median, maximum value, minimum value, and standard deviation.

Table 2. Descriptive Statistics

| Variable | N | Mean | Median | Max | Min | Std. Dev |
|---|---|---|---|---|---|---|
| ROA | 1,215 | 0.0374 | 0.032 | 1.1196 | -1.4867 | 0.1353 |
| ROE | 1,215 | 0.0798 | 0.07 | 7.9904 | -11.04 | 0.5836 |
| Tobin's Q | 1,215 | 1.5023 | 0.7209 | 72.3482 | -0.6106 | 3.5575 |
| GDK₁ | 1,215 | 0.0814 | 0 | 1 | 0 | 0.2736 |
| GDK₂ | 1,215 | 0.3456 | 0 | 1 | 0 | 0.4757 |
| GDK₃ | 1,215 | 0.1156 | 0 | 1 | 0 | 0.1901 |
| LEV | 1,215 | 0.5512 | 0.4621 | 8.2498 | 0.0003 | 1.4822 |
| LQ | 1,215 | 2.168 | 1.4735 | 46.4875 | 0.1044 | 2.4687 |
| GO | 1,215 | 0.3234 | 0.1016 | 53.429 | -0.989 | 2.0289 |
| CF | 1,215 | 0.3218 | 0.2152 | 12.9872 | -1.4394 | 0.7844 |
| SIZE (Mil IDR) | 1,215 | 6,822,313 | 1,859,670 | 261,855,000 | 5,080 | 17,575,984 |

Sources: Data Prepared by Researchers

Where:

ROA : Return on Asset
ROE : Return on Equity
TBQ : Tobin's Q
$GDK_1$ : Female Commissioner Chair
$GDK_2$ : Female Commissioner Existence
$GDK_3$ : Female Commissioner Proportion
PKW : Female Commissioner Education
LEV : Leverage
LQ : Liquidity
GO : Growth opportunities
CF : Cash flow
SIZE : Company Size

Based on the results in Table 2, the mean value of ROA ratio is 0.0374 or 3.7% and the standard deviation value of ROA ratio is 0.1353 or 13.5%. The mean value of ROA ratio which is smaller than the standard deviation value of ROA ratio indicates that during the research period the ROA ratio has experienced fluctuating movements and high variability. Based on the data above, the mean value of ROE ratio is 0.0798 or 7.9% and the standard deviation value of ROE ratio is 0.5836 or 5.8%. The mean value of ROE ratio which is smaller than the standard deviation value of ROE ratio indicates that the distribution of the ROE results is good. Based on the data above. the minimum value of Tobin's Q is -0.6106 and the maximum value is 72.3842. The mean value which is 1.7231 with the standard deviation which is 7.0279 shows that the standard deviation value is greater than the mean. showing that during the research period the distribution of the data is high. The variable of gender diversity as measured by the dummy of female commissioner chairman (GDK1) has a mean value of 0.0814. This means that there are only 8.14% of the company observations have a female commissioner chairman. The variable of gender diversity as measured by the presence of chairwoman in the board of commissioner (GDK2) has a mean value of 0.3456. which means that there are 34.56% of the company observations have at least one woman sitting on the board of commissioner. The variable of gender diversity as measured by the proportion of all female commissioners

(GDK3) has a mean value of 0.1156. This means that overall. there are 11.56% women sitting on the board of commissioner in the non-financial company in Indonesia, gained from 1.215 data observation in the period of 2013-2017. The standard deviation value of GDK3 variable is 0.1901. The mean value of GDK3 which is smaller than the standard deviation value indicates that there are fluctuating and varied movements for the presence of all women sitting on the board of commissioner. The mean value of the company size variable (FSIZE) is Rp6.822 billion, and the standard deviation value is Rp 17.575 billion. This indicates that during the research period the size of manufacturing companies has high variability because the standard deviation value is much higher than the mean value. The mean value of the *Leverage* Variable (LEV) is 0.5512. This indicates that during the research period the total *leverage* in non-financial company samples in Indonesian Stock Exchange is 55% from the total assets owned by the company. It can be said that the assets of the company financed by the company's debt is balanced with the assets financed by the company's capital. The mean value of the Liquidity Variable (LQ) is 2.1680 and the standard deviation value is 2.4687. The standard deviation value that is greater than the mean value indicates that the data distribution of liquidity is classified as heterogeneous. because the greater the standard deviation than the mean is. the greater the average distance of each data unit. The mean value of the growth opportunity variable (GO) is 0.3234. It can be said that the mean sample of non-financial companies has a growth opportunity value of 32.34% from the total assets owned by the company. The mean value of the Cash Flow Variable (CF) is 0.3218 and the standard deviation is 0.7844. The mean value which is smaller than the standard deviation value indicates a high variability during the research period.

**Panel Data Regression Test Results: Chow Test**

The hypothesis proposed by the Chow Test is as follows:

$H_0$: *Common Effect Model* (CEM)

$H_1$: *Fixed Effect Model* (FEM)

The criteria of this test is if *p-value* is $\leq 0.05$ then $H_0$ is rejected, meaning that the most appropriate panel data regression model to be used is the *fixed effect model* (FEM). Meanwhile, if *p-value* is $> 0.05$ then $H_0$ is accepted, meaning that the panel data regression model that is most appropriate to use is the *common effect model* (CEM). After that. it is followed by the Hausman's test to determine the most appropriate model whether the *fixed effect model* or the *random effect model*.

Table 3. Chow Test Result

|  | Y | *Chi-Square* | Prob. |
|---|---|---|---|
|  | Model 1 | 808.12 | 0.0000 |
| ROA | Model 2 | 812.07 | 0.0000 |
|  | Model 3 | 819.78 | 0.0000 |
|  | Model 1 | 359.89 | 0.0000 |
| ROE | Model 2 | 358.51 | 0.0000 |
|  | Model 3 | 358.57 | 0.0000 |
|  | Model 1 | 1424.93 | 0.0000 |
| TBQ | Model 2 | 1424.85 | 0.0000 |
|  | Model 3 | 1424.57 | 0.0000 |

Source: Data prepared by researchers using *eviews*10

Based on the data in Table 3 it can be seen that the result of the chow test shows varied chi-square value but with the same probability value which is 0.0000. A probability value which is $0.00 < 0.05$ means that $H_0$ is rejected and $H_1$ is accepted. indicating that the common effect model (CEM) is not the best model to be used as the panel data regression model. Therefore. the Hausman;s test is needed to determine the best model between Fixed Effect Model (FEM) or Random Effect Model (REM).

**Panel Data Regression Test Results: Hausman Test**

The hypothesis proposed by the Hausman Test is as follows:

$H_0$: *Random Effect Model* (REM).

$H_1$: *Fixed Effect Model* (FEM)

The criteria of this test is if chi-square value and p-value has significance level of 0.05. If the p-value is $\leq 0.05$ then $H_0$ is rejected, meaning that the panel data regression model that is most appropriate to use is the Fixed Effect Model (FEM). In the meanwhile. if p-value is $> 0.05$ then $H_0$ is accepted, meaning that the panel data regression model that is most appropriate to use is the Random Effect Model (REM).

Table 4. Hausman Test Result

| Y | | Chi-Square | Prob. |
|---|---|---|---|
| ROA | Model 1 | 19.86 | 0.0059 |
| | Model 2 | 21.89 | 0.0027 |
| | Model 3 | 26.61 | 0.0004 |
| ROE | Model 1 | 11.81 | 0.1068 |
| | Model 2 | 11.02 | 0.1377 |
| | Model 3 | 11.05 | 0.1360 |
| TBQ | Model 1 | 20.61 | 0.0044 |
| | Model 2 | 20.47 | 0.0046 |
| | Model 3 | 20.12 | 0.0053 |

Source: Data prepared by researchers using *eviews*10

Based on the data in Table 4, it can be seen that the result of the Hausman test shows chi-square value and probability value that vary. There are six regressions that show the probability value of $0.00 \leq 0.05$, meaning that the panel data regression model that is most appropriate to use is Fixed Effect Model (FEM). It is with the independent variable of ROE in the regression equation 1, 2. and 3. and the Tobin's Q independent variable in the regression equation 1, 2 and 3.

Multicollinearity test aims to test whether in the regression model found a correlation for each independent variable. A regression model is considered to be decent if there is no perfect correlation between independent variables. If there is a fairly high correlation among the independent variables which is 0.8 or close to 1 then it becomes an indication of the multicollinearity occurrences. This study finds that there is no multicollinearity in Table 5.

Table 5. Multicollinearity Test

| | GDK1 | GDK2 | GDK3 | PKW | FSIZE | LEV | LQ | GO | CF |
|---|---|---|---|---|---|---|---|---|---|
| GDK1 | 1.0000 | - | - | - | - | - | - | - | - |
| GDK2 | 0.4097 | 1.0000 | - | - | - | - | - | - | - |
| GDK3 | 0.4534 | 0.8310 | 1.0000 | - | - | - | - | - | - |
| PKW | 0.0376 | 0.5576 | 0.4772 | 1.0000 | - | - | - | - | - |
| SIZE | -0.0620 | -0.0056 | -0.0914 | 0.0566 | 1.0000 | - | - | - | - |
| LEV | -0.0073 | 0.0540 | 0.0511 | -0.0075 | -0.0100 | 1.0000 | - | - | - |
| LQ | -0.0187 | -0.0646 | -0.0395 | -0.0437 | -0.0582 | -0.0945 | 1.0000 | - | - |
| GO | -0.0102 | -0.0400 | -0.0341 | -0.0092 | -0.0259 | 0.0171 | 0.0148 | 1.0000 | - |
| CF | -0.0243 | -0.0331 | -0.0225 | -0.0661 | -0.0645 | 0.4617 | -0.0361 | 0.0013 | 1.0000 |

Source: Data prepared by researchers using *eviews*10

This study uses three measurements in calculating gender diversity in the board of commissioners as indicated by the codes $GDK_1$, $GDK_2$, and $GDK_3$. Table 6 of the Model 1 column shows that the $GDK_1$ coefficient value is 0.0279 with a probability value of $0.3747 > 0.10$. Table 6 of the Model 2 column shows that the coefficient of $GDK_2$ is 0.0402 with a probability value of $0.0157 < 0.05$. Table 6 of the Model 3 column shows that the coefficient value of $GDK_3$ is 0.1477 with a probability value of $0.0013 < 0.01$. This shows that in general gender diversity in the board of commissioners affects the company's performance (ROA), so the first hypothesis ($H_1$) which states that gender diversity in the board of commissioner has a positive effect on company performance (ROA) is accepted. This result is in line with the research conducted by Aryani (2018) which says that there is a relationship between gender diversity in the board of commissioners and company's performance. This is because the women in corporate governance in Indonesia have the strong attitudes and abilities. Therefore, the presence of women in the board of commissioners can give a good contribution to the company's performance.

Table 6 of the Model 4 column shows that the coefficient value of $GDK_1$ is -0.0407 with a probability value of $0.5659 > 0.10$. Table 6 of the Model 5 column shows that the coefficient of $GDK_2$ is 0.0053 with a probability value of $0.9069 > 0.10$. Table 6 of the Model 6 column shows that the $GDK_3$ coefficient value is 0.0073 with a probability value of $0.9466 > 0.10$. This shows that gender diversity in the board of commissioners has no effect on the company's performance (ROE). It also

indicates that the presence or absence of women in the board of commissioners will not affect company's performance (ROE), so the first hypothesis (H₁) which states that gender diversity in the board of directors has a positive effect on company's performance (ROE) is rejected. This result is in line with the research conducted by Kusumastuti (2014). This is because the position of women in the board of commissioners still generally happens because of family factors and occurs in small companies (Darmadi, 2011). Moreover, Sutrisno and Fella (2020) found that women's appointment in board of commissioners position caused a negative effect on firm value. Thus, considering family relations as a basis for that appointment without requiring them appropriate competence and oversight skills may further decrease the company value. In addition, the presence of women in the board of commissioners is underestimated to be unable to lead the company. Another study conducted by Thoomaszen dan Hidayat (2020) found that gender diversity of the board of commissioners does not have a positive effect on company performance. This means that the portion of male and female members in board of commissioners is not a determinant.

Table 6. Panel Data Regression Results

| Y | ROA | | |
|---|---|---|---|
| Model Approach | Model 1 FEM | Model 2 FEM | Model 3 FEM |
| Intercept | (0.1386) 0.3602 | (0.1487) 0.2702 | (0.1282) 0.3410 |
| GDK1 | (0.0279) 0.3747 | - - | - - |
| GDK2 | - - | (0.0402) 0.0157** | - - |
| GDK3 | - - | - - | (0.1477) 0.0013*** |
| PKW | (-0.0139) 0.5047 | (-0.0311) 0.1599 | (-0.0395) 0.0755* |
| FSIZE | (-0.0065) 0.4846 | (-0.0078) 0.4003 | (-0.0065) 0.0481** |
| LEV | (-0.0020) 0.4752 | (-0.0028) 0.3310 | (-0.0028) 0.3305 |
| LQ | (-0.0008) 0.6127 | (-0.0009) 0.6037 | (-0.0008) 0.6083 |
| GO | (0.0005) 0.7514 | (0.0006) 0.7001 | (0.0007) 0.6724* |
| CF | (-0.0140) 0.0520* | (-0.0133) 0.0653* | (-0.0130) 0.0693* |
| R-squared | 0.5097 | 0.5124 | 0.5146 |
| Adj.R-squared | 0.3735 | 0.3768 | 0.3797 |
| Observation | 1,215 | 1,215 | 1,215 |
| **Y** | **ROE** | | |
| Model Approach | Model 4 REM | Model 5 REM | Model 6 REM |
| Intercept | (-0.2349) 0.1602 | (-0.2490) 0.1386 | (-0.2490) 0.1484 |
| GDK1 | (-0.0407) 0.5659 | - - | - - |
| GDK2 | - - | (0.0053) 0.9069 | - - |
| GDK3 | - - | - - | (0.0073) 0.9466 |
| PKW | (0.0417) 0.3892 | (0.0279) 0.6062 | (0.0296) 0.5677 |
| FSIZE | (0.0204) 0.0688* | (0.0211) 0.0589* | (0.0211) 0.0638* |
| LEV | (0.0165) 0.1983 | (0.0164) 0.2011 | (0.0164) 0.1992 |
| LQ | (0.0054) 0.4406 | (0.0055) 0.4324 | (0.0055) 0.4339 |
| GO | (-0.0048) 0.5504 | (-0.0048) 0.5582 | (-0.0048) 0.5566 |
| CF | (-0.0063) 0.8051 | (-0.0058) 0.8215 | (-0.0058) 0.8210 |
| R-squared | 0.0058 | 0.0055 | 0.0055 |
| Adj.R-squared | 0.0000 | -0.0002 | -0.0002 |
| Observation | 1,215 | 1,215 | 1,215 |
| **Y** | **TOBIN'S Q** | | |
| Model Approach | Model 7 FEM | Modle 8 FEM | Model 9 FEM |
| Intercept | (-1.3148) 0.6343 | (-1.3499) 0.6248 | (-1.2068) 0.6620 |
| GDK1 | (-0.0458) 0.9431 | - - | - - |
| GDK2 | - - | (-0.2337) 0.4913 | - - |
| GDK3 | - - | - - | (-.0747) 0.2533 |
| PKW | (0.0790) 0.8528 | (0.1965) 0.6639 | (0.2893) 0.5256 |
| FSIZE | (0.1716) 0.3660 | (0.1780) 0.3845 | (0.1701) 0.3697 |
| LEV | (0.0185) 0.7570 | (0.0228) 0.7051 | (0.0237) 0.6925 |
| LQ | (0.1078) 0.0026*** | (0.1079) 0.0026*** | (0.1079) 0.0026*** |
| GO | (0.1252) 0.0003*** | (0.1245) 0.0003*** | (0.1239) 0.0004*** |
| CF | (0.1503) 0.3070 | (0.1462) 0.3207 | (0.1435) 0.3293 |
| R-squared | 0.7042 | 0.7044 | 0.7046 |
| Adj.R-squared | 0.6220 | 0.6222 | 0.6225 |
| Observation | 1,215 | 1,215 | 1,215 |

Source: Data prepared by researchers using *eviews*10 *. **. and *** signs represent 10%. 5%. and 1% level of significance. Numbers in the brackets showing coefficient value whilst numbers in italics are p-value. Heteroscedasticity revision using white diagonal standard errors & covariance (d.f. corrected).

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Table 6 of the Model 7 column shows that the coefficient value of $GDK_1$ is -0,0458 with a probability value of 0,9431 > 0,10. Table 6 of the Model 8 column shows that the coefficient value of $GDK_2$ is -0,2337 with a probability value of 0,4913 > 0,10. Table 6 of the Model 9 column shows that the coefficient value of $GDK_3$ is -0,0747 with a probability value of 0,2533 > 0,10. This shows that gender diversity in the board of commissioners does not affect the company's performance (Tobin's Q). It also indicates that the presence or absence of women in the board of commissioners will not affect the company's performance (Tobin's Q), so the first hypothesis ($H_1$) which states that gender diversity in the board of commissioners has a positive effect on company's performance (Tobin's Q) is rejected. This result is in line with the research conducted by Pudjiastuti and Mardiyah (2007), which says that the presence of women in the board of commissioners has no influence on company's performance. This is allegedly because women like risk less than men so comparing to men women have a lower percentage in some positions. In addition, this can be because the presence of women in the board of commissioners may not necessarily be able to give good performance for the company in the future. Another study conducted by Limbago and Sulistiawan (2019) also found that gender in the board of commissioners has no significant effect on firm value. This is because investors are not only considered gender aspect of the board commissioners. They are mainly prioritized other factors such as company background, education, training, and expertise.

Table 6 of the Model 1 column shows that the coefficient value of the female commissioner education level is -0.0139 with a probability value of 0.5047 > 0.10. Table 6 of the Model 2 column shows that the coefficient value of the female commissioner education level is -0.0311 with a probability value of 0.1599 > 0.10. Table 6 of the Model 3 column shows that the coefficient value of the female commissioner education level is -0.0395 with a probability value of 0.0755 < 0.10. This shows that the female commissioner education level has no effect on company's performance (ROA). It also indicates that the presence or absence of the female commissioner education level will affect company's performance (ROA), so the second hypothesis ($H_2$) which states that the female commissioner education level has a positive effect on company's performance (ROA) is rejected. This result is in line with the research conducted by Adnan et al. (2016) which says that education is not the main thing in improving company's performance. Moreover, it may be because of other characteristics such as discipline and working experience.

Table 6 of the Model 4 column shows that the coefficient value of the female commissioner education level is 0.0417 with a probability value of 0.3892 > 0.10. Table 6 of the Model 5 column shows that the coefficient value of the female commissioner education level is 0.0279 with a probability value of 0.6062 > 0.10. Table 6 of the Model 6 column shows that the coefficient value of the female commissioner education level is 0.0296 with a probability value of 0.5677 > 0.10. This shows that the female commissioner education level has no effect on company's performance (ROE). It also indicates that the presence or absence of the female commissioner education level will not affect company's performance (ROE), so the second hypothesis ($H_2$) which states that the female commissioner education level has a positive effect on company's performance (ROE) is rejected. This result is in line with the research conducted by Letting et al. (2012), which says that a person's education level is not able to provide positive results for company's performance. This is because the larger size of the board with their female board members has various expertises to help making better decisions and this is more difficult to dominate a strong CEO/leader. In this context. it is assumed that after a political appointment of the company board to give them higher position probably decreases, and also that board members, especially women. are appointed based on merit, not only by the

high degree of education level, but also by their expertise that can be able to improve company's performance.

Table 6 of the Model 7 column shows that the coefficient value of the female commissioner education level is 0.0790 with a probability value of 0.8522 > 0.10. Table 6 of the Model 8 column shows that the coefficient value of the female commissioner education level is 0.1965 with a probability value of 0.6639 > 0.10. Table 6 of the Model 9 column shows that the coefficient value of the female commissioner education level is 0.2893 with a probability value of 0.5256 > 0.10. This shows that the female commissioner education level has no effect on company's performance (Tobin's Q). It also indicates that the presence or absence of the female commissioner education level will not affect company's performance (Tobin's Q). Thus, the second hypothesis ($H_2$) which states that the female commissioner education level has a positive effect on company's performance (Tobin's Q) is rejected. This result indicates that everyone must have ability or expertise, beside high education, to be able to occupy position in the board commisioners (Muzahid, 2004). Having a relevant expertise in certain position also is also a primary factor to support a better company performance. A person's high education only is not enough in achieving company's performance target without having the above factor (Kusumastuti et al., 2014; Dewi & Dewi, 2016).

**CONCLUSION**

This study aims to determine the effect of gender diversity on the board of directors and women's education level in the company's performance. Following are the conclusions obtained from this study. The results show that: 1) Gender has a significant effect on ROA, but insignificant effect on ROE and Tobin's Q. We can conclude that women do not have an influence in increasing the company's performance. Therefore, non-financial companies in Indonesia rarely have women in their commissioners. It is because women always underestimated their abilities.

The ability they have is still less than the ability possessed by men. Therefore, companies in Indonesia, especially non-financial companies are dominated by men, and 2) The level of education in the board of the commissioners, which is master and doctoral degree does not significantly influence the company's performance (ROA. ROE. Tobin's Q) which means the high title of a person sitting on the board of commissioners does not impact the company.

The suggestions for future research are: 1) Add other independent variables such as independent commissioners, age, board size, managerial ownership, institutional ownership, and variables related to corporate governance with other proxies that are assumed to have a significant effect on the company's performance so the results obtained may vary, and 2) Expanding the subject of research, not only non-financial companies, but also financial companies listed on the IDX.

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