CHAPTER IV

DATA ANALYSIS AND DISCUSSION

This chapter would explain the data analysis and discussion the influence of board gender diveristy in corporate governance to the firm performance and firm risk taking on banking companies registered in *Otoritas jasa Keuangan* for the period 2015-2017. The discussion of the results of this chapter begins with the results data, descriptive analysis, classical assumption test analysis, multiple regression analysis and then hypothesis testing analysis.

4.1. Data Collection

This study used secondary data from the annual reports of each bank on the official website during 2015 - 2017. Based on the purposive sampling, obtained a sample of 103 banks registered with *Otoritas Jasa Keuangan*, thus the total data obtained was 252. The following table shows the study samples:

Table 4. 1 Sample Observation

Sample Criteria	Amount
Banks listed on Otoritas Jasa Keuangan from 2015 - 2017	103
Banks did not have access the annual report during the period	5
Banks do not provide complete information (BoC,BoD, and Financial Report)	14
Total Banks	84
Years Observation	3 years
Total sample for research	252

Source: Data Proceed (2019)

4.2. Descriptive Statistic Analysis

Descriptive statistics provide an overview or description of the variables in the study seen from the average, standard deviation, maximum and minimum. The following table shows descriptive statistics from the results of data processing.

Table 4. 2 Descriptive Statistic Table

	N	Minimum	Maximum	Mean	Std. Deviation
Board of Director (%)	252	0	83	17.17	18.808
Board of Commissioner (%)	252	0	100	10.46	16.625
Firm Size (Rp)	252	494.605.682.951	1.126.248.442.000.000	73.969.301.184.566,14	182.471.679.037.110,03
Leverage (%)	252	13.79	94.79	83.1492	8.59122
Return on Assets (%)	252	-11.15	4.96	1.2383	2.14294
Return on Equity (%)	252	-83.79	65.76	7.8551	15.35119
Equity to Assets	252	.05	.86	.1685	.08591
Non-Performing Loan (%)	252	.00	15.82	2.6264	1.93371
Valid N (listwise)	252				

Source: Data Proceed (2019)

The table number 4.2 showed descriptive variables from the banking industry in Indonesia in 2015 - 2017 which cover the number of observations (N), minimum, maximum, mean, and standard deviation. The variables in this study were board of commissioners (BoC) and board of director (BoD) as independent variables, firm performance (return on assets

and return on equity) and risk taking (equity to assets) as the dependent variable, and firm size (size) and leverage (lev) as a control variable.

Based on the table above, we could conclude the description of each variable as follows:

1. The average value of the board of directors in 84 banks that were sampled in this study was 17.1682. The standard deviation showed a number of 18.80820 which is greater than the mean (18.80820> 17.1682) showing homogeneous or not variable data and not spread. The lowest value of the board of directors was 0.00 and the highest value was 83.33.
2. The average board of commissioner value on 84 banks sampled in this study was 10.4619. Standard deviation showed a number of 16.625281 which is greater than the mean (16.62528> 10.4619) showing homogeneous data or not varied and not spread. The lowest value of the board of commissioners was 0.00 and the highest value was 100.00.
3. The average value of the firm size on 84 banks which was sampled in this study was Rp 73.969.301.184.566,14. Standard deviation showed a number of Rp 182.471.679.037.110,03 which is smaller than the mean (Rp 182.471.679.037.110,03 < Rp 73.969.301.184.566,14) showing heterogeneous or varied and scattered data. The lowest value of firm size was Rp 494.605.682.951 and the highest value was Rp 1.126.248.442.000.000.

4. The average value of leverage on 84 banks that were sampled in this study was 83.1490. The standard deviation showed a number of 8.59147 which is smaller than the mean (8.59147 <83.1490) showing heterogeneous or varied and scattered data. The lowest value of return on equity was 13.79 and the highest value was 94.79.
5. The average value of return on assets at 84 banks that were sampled in this study amounted to 1.2383. Standard deviation showed a number of 2.14294 which is greater than the mean (2.14294> 1.2383) showing homogeneous or not varied data and not spread. The lowest value of return on assets was (11.15) and the highest value was 4.96.
6. The average value of return on equity at 84 banks that was sampled in this study was 7.8551. The standard deviation showed a number of 15.35119 which is greater than the mean (15.35119> 7.8551) showing homogeneous or not varied data and not spread. The lowest value of return on equity was (83.79) and the highest value was 65.76.
7. The average value of equity to assets at 84 banks sampled in this study is 0.1685. Standard deviation showed a number of 0.08591 which is smaller than the mean (0.08591 <0.1685) showing heterogeneous or varied and scattered data. The lowest value of equity to assets was 0.05 and the highest value was 0.86.
8. The average value of non-performing loans at 84 banks that were sampled in this study amounted to 2.6264. Standard deviation showed a number of 0.93371 which is smaller than the mean (0.93371 < 2.6264)

showing heterogeneous or varied and scattered data. The lowest value of equity to assets was 0.05 and the highest value was 0.86.

4.3. Classical Assumption Test

Classical Assumption Test used in this study is the multicollinearity test, heteroscedasticity test, and normality test. The writer conducted outlier data after screening the normality. Outlier is case or data that have unique characteristics that look very different from other observations (Ghozali, 2016).

4.3.1. Multicollinearity Test

Multicollinearity test is intended to test the regression model that there is a correlation between independent variables (independent) or not (Ghozali, 2016). The cut-off value used to indicate the presence of multicollinearity was a tolerance value of < 0.10 or equal to VIF > 10. The results of the multicollinearity test can be shown in table 4.3 above.

Table 4. 3 Multicollinearity Test Table

Model	ROA		ROE		EA		NPL	
	Tol	VIF	Tol	VIF	Tol	VIF	Tol	VIF
(Constant)								
Board of Commissioner	0.984	1.016	0.984	1.016	0.984	1.016	0.984	1.016
Board of Director	0.988	1.013	0.988	1.013	0.988	1.013	0.988	1.013
Firm Size	0.916	1.092	0.916	1.092	0.916	1.092	0.916	1.092
Leverage	0.926	1.08	0.926	1.08	0.926	1.08	0.926	1.08

Source: Data Proceed (2019)

Based on the table above, all variables were board of commissioner, board of director, firm size, leverage, return on assets, return on equity, equity to assets, and non-performing loans with tolerance values was greater than 0.1 and VIF values less than 10. Thus it can be concluded that the regression model used in this study does not contain multicollinearity. Thus the multicollinearity assumption was complied with, Ho was accepted and Ha was rejected.

4.3.2. Heteroscedasticity Test

Heteroscedasticity test can be done by observing at the scatterplot graph between the predicted value of the dependent variable, ZPRED and the residual SRESID. Detecting the presence or absence of heteroscedasticity can be done by looking at the presence or absence of certain patterns on the scatterplot graph. The basis of the decision is if there was a certain pattern, such as the existing points form a certain pattern that is regular, then heteroscedasticity has occurred. However according to Widarjono (2010), there were several ways to detect the presence or absence of heteroscedasticity, such as Park and Glejser method, Spearman correlation method, and White method. In this study will use the Spearman correlation method.

Table 4. 4 Heteroscedasticity Test Table

Variables	ROA	ROE	Equity to Assets	NPL
BoC	0.132	0.139	0.733	0.631
BoD	0.719	0.87	0.494	0.629
Firm Size	0.824	0.339	0.87	0.536
Leverage	0.728	0.011	0.998	0.721

Source: Data Proceed (2019)

Based on table above, the p-value from all of the variables were greater than 0.01. It concluded there was no heteroscedasticity in this regression. This was consistent with the results of scatterplots.

4.3.3. Normality Test

Normality test is showing the residual value is normally distributed or not. A good regression equation model by having a residual value which is normally distributed. To detect normally distributed data using the *One-Sample Kolmogorov-Smirnov Test* for normality test. Kolmogorov-Smirnov test uses a cumulative match of sample X with a normal probability distribution. Probability distributions on certain variables were accumulated and compared with cumulative samples. This study used a value of $\alpha = 1\%$. The results of the normality test could be seen in table 4.5, namely as follows:

Table 4. 5 Normality Test Table

	Return On Assets	Return on Equity	Equity to Assets	Non-Performing Loan
Test Statistic	.051	.066	.062	.062
Asymp. Sig. (2-tailed)	.200	.016	.034	.029

Source: Data Proceed (2019)

Based on table 4.3 showed that the value of Asymp. sig of return on assets was 0.200 > 0.01, return on equity 0.16 > 0.01, equity to assets 0.034 > 0.01, and non-performing loans 0.029 > 0.01. Therefore, it can be concluded that the data has been normally distributed.

4.4.Hypothesis Testing and Discussion

4.4.1. Regression Analysis

Regression analysis of regression models is accomplished to define the effect 2 or more variables. Besides showing the direction of the variables, it is also shown the relationship between dependent variable and independent variable. This study, would use multiple linear regression methods, there were three models in this study, as follows:

Table 4. 6 Regression Analysis Table

Variable	B	Sig.	B	Sig.	B	Sig.	B	Sig.
(Constant)	-4.143	0.008	-44.394	0	0.99794	0	-1.824	0.363
BOARD OF COMMISSIONER	-0.013	0.008	-0.101	0.003	-0.00002	0.141	-0.009	0.164
BOARD OF DIRECTOR	-0.002	0.572	-0.021	0.465	-0.00001	0.598	0	0.954
FIRM SIZE	0.239	0	1.393	0	0.00011	0.353	0.125	0.047
LEVERAGE	-0.016	0.172	0.164	0.038	-0.01001	0	0.005	0.716
F	8.585		10.314		33389.54200		1.869	
R Square	0.132		0.154		0.99800		0.032	
	RETURN ON ASSETS		RETURN ON EQUITY		EQUITY TO ASSETS		NON PERFORMING LOAN	

Source: Data Proceed (2019)

Based on the table (number) in the level, the equation of the regression model in this study were as follows:

Model 1:

Y = -4.143 - 0.013BoC - 0.002BoD + 0.239Size - 0.016Lev

From the results of the equation the multiple linear regression model could be interpreted as follows:

1. The constant (α) of -4.143 means if all the independent variables were constant or equal to zero (0), then the value of Return on Assets (RoA) was equal to - 4.143 units.
2. Board of Commissioner (BoC) variable, a coefficient of 0.013 was obtained with a negative sign means, if the BoC variable increases by 1 unit, then the value of Return on Assets (RoA) will decrease by 0.013 units assuming that the other independent in constant conditions.
3. Board of Director (BoD) variable, the value of 0.002 was obtained with a negative sign means, if the BoD variable increases by 1 unit, then the value of Return on Assets (RoA) will increase by 0.002 units assuming that the other independent in constant conditions.
4. Firm Size (Size) variable, the coefficient value was 0.239 with a positive sign means, if the variable size decreases by 1 unit, then the value of Return on Assets (RoA) will increase by 0.239 units assuming that the other independent conditions constant.

5. Leverage (Lev) variable, the coefficient value of 0.016 was obtained with a negative sign means, if the Lev variable increases by 1 unit, then the value of Return on Assets (RoA) will decrease by 0.016 units assuming that the other independent conditions were constant.

Model 2:

Y = -44,394 - 0.101BoC - 0.021BoD + 1.393Size + 0.527Lev

From the results of the equation the multiple linear regression model can be interpreted as follows:

1. The constant (α) of -12,081 means that if all the independent variables were constant or equal to zero (0), then the Return on Equity (RoE) value occurs at -12,081 units.
2. Board of Commissioner (BoC) variable, the coefficient value of 0.101 was obtained with a negative sign means, that if the BoC variable increases by 1 unit, then the value of Return on Equity (RoE) will decrease by 0.101 units assuming that the other independent in constant conditions.
3. Board of Director (BoD) variable, a coefficient of 0.021 was obtained with a negative sign means, that if the BoD variable increases by 1 unit, then the value of Return on Equity (RoE) will increase by 0.021 units assuming that the other independent in constant conditions.

4. Firm Size (Size) variable, the coefficient value was 1.393 with a positive sign means, if the variable size decreases by 1 unit, then the value of Return on Equity (RoE) will increase by 1,393 units assuming that the other independent conditions constant.
5. Leverage (Lev) variable, the coefficient value of 0.527 was obtained with a positive sign means, if the Lev variable decreases by 1 unit, then the value of Return on Equity (RoE) will decrease by 0.527 assumption that the other independent conditions were constant.

Model 3:

Y = 0.99794 - 0.00002BoC - 0.00001BoD + 0.00011Size - 0.01001Lev

From the results of the equation the multiple linear regression model can be interpreted as follows:

1. The constant (α) of 0.99794 means that if all the independent variables were constant or equal to zero (0), then the value of Equity to Assets was - 0.99794 units.
2. Board of Commissioner (BoC) variable, a 0.00002 coefficient was obtained with a negative sign means, that if the BoC variable increases by 1 unit, then the value of Equity to Assets will decrease by 0.00002 units by assuming that the other independent conditions were constant.

3. Board of Director (BoD) variable, the value of 0.00001 was obtained with a negative sign means, that if the BoD variable increases by 1 unit, then the value of Equity to Assets will increase by 0.00001 units by assuming that the other independent conditions were constant.
4. Firm Size (Size) variable, the coefficient value was 0.00011 with a positive sign means, if the variable size decreases by 1 unit, then the value of Equity to Assets will increase by 0.00011 units assuming that the other independent conditions were constant.
5. Leverage (Lev) variable, the coefficient value of 0.01001 was obtained with a negative sign means, if the Lev variable increases by 1 unit, then the value of the Equity to Assets will decrease by 0.01001 units assuming that the other independent conditions were constant.

Model 4:

Y = -1.824 - 0.009BoC - 0BoD + 0.125Size + 0.005Lev

From the results of the equation the multiple linear regression model can be interpreted as follows:

1. The constant (α) of 1.824 means that if all the independent variables were constant or equal to zero (0), then the value of Non-Performing Loans was - 1,824 units.
2. In the variable Board of Commissioner (BoC), the coefficient value of 0.009 was obtained with a negative sign which means

that if the BoC variable increases by 1 unit, then the value of Non-Performing Loan will decrease by 0.009 units assuming that the other independents were in constant condition.

3. In the Board of Director (BoD) variable, a coefficient value of 0 was obtained with a negative sign which means that if the BoD variable increases by 1 unit, then the value of Non-Performing Loan will increase by 0 units assuming that other independent conditions were constant.
4. In the Firm Size (Size) variable, the coefficient value of 0.125 was obtained with a positive sign which means that if the variable size decreases by 1 unit, then the value of Non-Performing Loan will increase by 0.125 units assuming that the other independent conditions were constant.
5. In the Leverage (Lev) variable, the coefficient of 0.005 was obtained with a positive sign which means that if the variable Lev decreases by 1 unit, then the value of the Non-Performing Loan will decrease by 0.005 units assuming that the other independent conditions were constant.

4.4.2. Coefficient Determination R^2

The purposes of Coefficient of determination or R^2 is to find out how much effect the independent variable, there were two independent variables namely board of commissioner and board of directors effect the dependent variables, firm performance and risk taking. To find out the results of R^2, it

can be seen from value. If the adjusted R^2 value is equal to or near to zero, the variation of the independent variables used in the regression model contributes less to the dependent variable. In other words, if the adjusted R^2 value is small, the ability of the independent variables to explain the dependent variable is very limited. However, if the adjusted R^2 value is equal to or near 1, the variation of the independent variable used in the regression model contributes significantly in explaining the dependent variable. The test results of R^2 can be seen in the number table as follows:

Table 4. 7 R-Square Table

	RETURN ON ASSETS	RETURN ON EQUITY	EQUITY TO ASSETS	NON PERFORMING LOAN
R Square	0.132	0.154	0.99800	0.032

Source: Data Proceed (2019)

Based on the data presented in table 4.8, the results of Adjusted R^2 has a value of 0.132 on return on assets, 0.154 on return on equity, 0.99800 on equity to assets, and 0.032 on non-performing loans. This means that the independent variables in this study were the board of commissioner and the board of directors can explain 13.2% of the variable return on assets. The remaining 86.8% was explained by other variables outside the model that were not included in this study. Whereas in the second measurement, namely using return on equity, R square explains by 15.4%, the rest was explained by other variables. For the dependent variable risk taking, equity to assets explains as big as 99.8%, this showed that r square was close to number 1 which means that the independent variable used provides a large

contribution. Furthermore, in the second calculation in the second dependent variable, the independent variable only explains 3.2% of the non-performing loan.

4.4.3. F-Test

F test is conducted to find out whether the regression model is fit or not. This test will use the independent variables included in the regression model, board of commissioner and board of director were effect significantly the dependent variable or not. This study used the level of significance is 1% because more precise and has smaller error. The results of the F test can be seen in table 4.9 as follows:

Table 4. 8 F-Test Table

RETURN ON ASSETS		RETURN ON EQUITY		EQUITY TO ASSETS		NON PERFORMING LOAN	
F	Sig	F	Sig	F	Sig	F	Sig
8.585	0.000	10.314	0.000	33389.54200	0.000	1.869	0.117

Source: Data Proceed (2019)

Based on the data presented in the number table, the F test results indicate that the significance value was 0,000. It can be seen that the significance value of 0,000 is smaller than 0.01 (sig <0.01). This showed that the board of commissioner and board of director variables effect firm performance and risk taking. While for the second measurement of risk taking, the non-performing loan has bigger amount in sig value. Thus it indicates the board of commissioner and director were not affect the risk taking.

4.4.4. T-Test

The T test is conducted to test the independent variables that have a significant effect on the dependent variable. The T test uses a formulation that is a confidence level of 99%, then the value of α = 1%. The results of the t test can be seen in table 4.10 as follows:

Table 4. 9 Hypothesis Testing Table

	Description	B	Sig	Decision
H1a	The proportion of female on board directors affect positively firm performance.	-0.002	0.572	Rejected
H1b	The proportion of female on board commissioner affect positively firm performance.	-0.013	0.008	Rejected

Source: Data Proceed (2019)

Hypothesis 1 measured by Return on Assets:

From table 4.9 show that board of commissioner were significant negative to the return on assets. While the board of commissioner is not significant negatively. It can be concluded that the first and second hypothesis measured by return on assets in of this study were rejected.

Regression analysis was used to determine the influence of independent variables with dependent variables. In model 1, hypothesis testing purposes to find out the influence of the board of commissioners and board of directors to firm performance measured by return on assets. Based on the table (number), the significance value of BoD was 0.572. The value was greater than α = 0.01, it could be concluded that there was not influence between the board of directors on ROA. However, in the BoC variable, the significance value was 0.008. This value was smaller than α = 0.01.

Nevertheless, on coefficient B on BOC was negative values. It could be concluded that there was no effect between BOD and BOC on ROA. Therefore, it could be concluded from the two variables (BOC and BOD) that measure the influence of gender in board members to firm performance did not have a positive effect on firm performance measured by return in assets. This result was contrary to hypothesis 1 which states that the proportion of board members has a positive influence on firm performance, thus H1 was rejected.

Table 4. 10 Hypothesis Testing Table

	Description	B	Sig	Decision
H1a	The proportion of female on board directors affect positively firm performance.	-0.021	0.465	Rejected
H1b	The proportion of female on board commissioner affect positively firm performance.	-0.101	0.003	Rejected

Source: Data Proceed (2019)

Hypothesis 1 measured by Return on Equity:

From table 4.10 showed that board of commissioner were significant negative to the return on equity. While the board of commissioner was not significant negatively. It could be concluded that the first and second hypothesis measured by return on equity in of this study was rejected.

In model 2, hypothesis testing helps to find out the influence of the board of commissioners and board of directors to firm performance measured by return on equity. Based on the table 4.10, the significance value of BoD was 0.465. The value was greater than $\alpha = 0.01$, it could be

concluded that there was no influence between the board of directors on ROE. However, in the BoC variable, the significance value was 0.003. This value was smaller than $\alpha = 0.01$. On the other hand, on coefficient B on BOC was negative values. It could be concluded that there was no effect between BOD and BOC on ROE. Therefore, it can be concluded from the two variables (BOC and BOD) that measure the influence of gender in board members to firm performance did not have a positive effect on firm performance measured by return on equity. This result was contrary to hypothesis 1 which states that the proportion of board members has a positive influence on firm performance, thus H1 was rejected.

The results from the two models were in contrast to resource dependency theory that proposed about gender diversity on the board of commissioners and the board of directors has the potential to gain unique information to be given to management thus it was expected to provide good value. There was no relationship between gender diversity on the firm's financial performance, and agency theory which states that it still has a definite relationship that the diversity of board members provides corporate financial assistance (Carter, D'Souza, Simkins, & Simpson, 2010).

Table 4. 11 Hypothesis Testing Table

	Description	B	Sig	Decision
H2a	The proportion of female on board directors affect positively firm risk taking	-0.00001	0.598	Rejected
H2b	The proportion of female on board commissioner affect positively firm risk taking	-0.00002	0.141	Rejected

Source: Data Proceed (2019)

Hypothesis 2 measured by Equity to Assets:

From table 4.11 showed that board of commissioner and board of director were not significant negative to equity to assets. It could be concluded that the first and second hypothesis measured by return on equity in of this study was rejected.

Table 4. 12 Hypothesis Testing Table

	Description	B	Sig	Decision
H2a	The proportion of female on board directors affect positively firm risk taking	0	0.954	Rejected
H2b	The proportion of female on board commissioner affect positively firm risk taking	-0.009	0.164	Rejected

Source: Data Proceed (2019)

Hypothesis 2 measured by Non-Performing Loan:

In model 3, hypothesis testing helps to find out the influence of the board of commissioners and board of directors to risk taking measured by non-performing loan. Based on the table 4.11, the significance value of BoD was 0.598. The value was greater than $\alpha = 0.01$, it can be concluded that there was no influence between the board of directors on equity to assets. However, in the BoC variable, the significance value was 0.141. This value was greater than $\alpha = 0.01$. While on the last model, based on the table 4.12, the significance value of BoD was 0.954. The value was greater than $\alpha = 0.01$, it can be concluded that there was no influence between the board of directors on Non-Performing Loan. However, in the BoC variable, the significance value was 0.164. This value was greater than $\alpha = 0.01$. This

result was contrary to hypothesis 2 which states that the proportion of board members has a positive influence on risk taking, thus H2 was rejected.

This was contrary to the results of the study which states that women in board members have a tendency to pass profitable investment opportunities with higher risk. On the other hand, female directorship was found to be negatively associated with bank risk taking (Abou-el-sood, 2018). The other study also explain that We find that the presence of two women directors reduces only managerial risk taking and can increase investment policy of the firm (Loukil & Yousfi, n.d.)