The Impact of Board Gender Diversity on Bank Credit Risk

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Abstract. Credit risk is the most important risk to consider because it is the biggest risk faced by banks. To control these risks, banks make various efforts such as implementing good corporate governance. One of the GCG strategies undertaken by banks is to diversify the company's board members. This research aims to examine the effect of board gender diversity on credit risk. The sample was determined using purposive sampling with data analysis techniques using linear regression. Research data using Stata 14. Using a sample of 41 Indonesian banks over a period from 2012 to 2018, this research finds that board gender diversity has a significant negative effect on bank credit risk. This study concludes that the greater the proportion of women on the bank's board, the less credit risk the bank has.

Keyword. board gender diversity; credit risk; good corporate governance; risk management

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INTRODUCTION

The 1997-1998 monetary crisis was the worst financial crisis in Indonesia. The Asian crisis greatly affected the Indonesian economy, with several reports showing a contraction of growth of 13.7 percent. In one year, the Rupiah weakened from 2,500 to the US dollar, to Rp. 10,000 to Rp. 17,000 (www.cnbc.com). One of the main causes of the crisis was the fall of one of the main pillars of the country's economy, the banking industry. The collapse of the national banking industry was partly caused by excessive risk-taking by banks. After the issuance of Pact 88, the number of banks in Indonesia grew very rapidly. However, the banking boom was not accompanied by proper management. Many banks look for sources of funding from short-term foreign exchange loans. Besides, the biggest risk taken by banks at that time was by lending to risky businesses and lending was concentrated on debtors in one business group (insider lending). So when the economy experiences contraction in growth, the number of defaulted loans jumps sharply. In addition, the plummeting rupiah caused banks to be unable to repay their foreign exchange loans, which eventually led to the bankruptcy of these banks. This event indicates how big the impact of bank risk-taking on the Indonesian economy.

Bank risk-taking or hereinafter referred to as bank risk-taking is the behavior of banks in making risky policies or decisions to achieve maximum profit. Based on Basel II, bank risk consists of credit risk, market risk, and operational risk (www.lipsus.kontan.co.id). Credit distribution is the main activity of banks in generating profits, so the biggest risk usually faced by banks is credit risk. Credit risk itself is a risk arising from the failure of other parties to meet obligations to banks and can be measured using a ratio of problem loans (Zhu & Yang, 2016).

Because of the large influence of bank risk-taking on the Indonesian economy, good risk management is needed to maintain bank stability. Risk management is a way to protect the organization from any adverse possibilities through a risk assessment process that is the identification, assessment, and evaluation of risks so that these risks can be minimized and business activities run efficiently. The implementation of risk management in an

organization is inseparable from the implementation of the principles of good corporate governance (GCG). GCG is a mechanism of good organizational governance in managing organizational resources efficiently, effectively, economically, or productively with the principles of transparency, accountability, responsibility, independence, and fairness to achieve organizational goals (Syakhroza, 2018). GCG considers that it is very important for councils to have a balance of diversity on the right skills, knowledge, and experience as well as gender, race, and other forms of diversity (www.pwc.co.uk). The diversity of the board will produce many different points of view so that it will improve the quality of the board's decision making.

This study focuses on the effect of board gender diversity on bank credit risk. Gender diversity needs to be investigated for several factors. First, there is an increase in public pressure for gender equality in the workplace throughout the world, especially Indonesia. Second, there are differences in results from previous studies on the influence of the existence of a female commissioner on company risk. (Berger et al., 2013) found a positive relationship caused by the lack of experience of female directors in the German banking sector. In contrast, (Mateos de Cabo et al., 2012) found a negative relationship because women tend to take fewer risks to avoid failure. Therefore, how gender diversity can affect bank credit risk remains an open question.

The purpose of this study is to measure the impact of the board of directors' gender diversity on bank credit risk in Indonesia. Indonesia was chosen to be the subject of this study for three reasons. First, increasing awareness of gender equality in Indonesia. Second, as far as researchers know, gender diversity that focuses on women as members of the board of commissioners is still very little in Indonesian banks. Third, it is interesting to examine how the diversity of the board in Indonesia influences bank credit risk because it is the fourth most populous country in the world.

This research makes three contributions to the existing literature. First, previous research on this topic was mostly carried out in Europe and the US; thus, this research will provide a new perspective on how the diversity of the board influences credit risk in developing countries such as Indonesia. Second, most research is mainly conducted in non-financial companies. Finally, most studies in Indonesia examine the relationship between board diversity and performance. However, little research has been done to see its effect on bank credit risk.

Board Gender Diversity on Bank Credit Risk

The presence of women on the bank's board of commissioners can bring several benefits to banks such as 1) different connections and networks that can be useful to expand the banking business in previously neglected areas, currently many banks classify women as special class customers (Granovetter, 2019); 2) women tend to avoid risk because women are often considered to be more conservative than men (Mateos de Cabo et al., 2012; Wiersema & Bantel, 1992); 3) tighter supervision than men (Watson et al., 1993). Although stronger good corporate governance achieved through women's participation in the bank's board can increase shareholder value, oversight by female members can reduce shareholder value. In particular, women on the bank's board of commissioners can incur additional costs for companies such as 1) conflicts arising from differences in perspectives and opinions between female members and men, which ultimately hinder the decision-making process (Zander, 1979); 2) disruption in communication between men and women, which ultimately hinders the strategic oversight and effective risk of banks (Lau & Murnighan, 1998).

Overall, in terms of risk, women tend to be more risk-averse than men. Previous studies that were mostly dedicated to non-financial companies showed that women avoid

risk more than men and that their presence is associated with lower risk-taking (Mateos de Cabo et al., 2012).

H1: Board gender diversity has a negative effect on bank credit risk

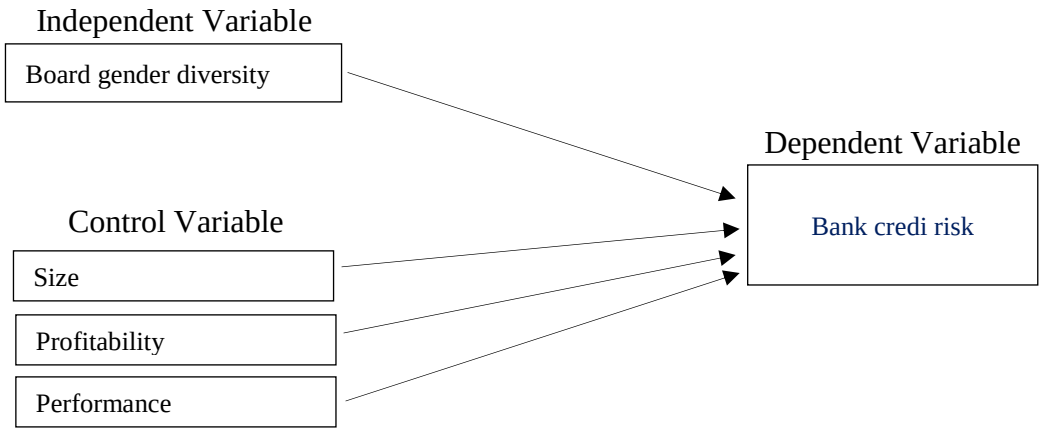

Figure 1. Conceptual Framework

METHOD

Regression Model

$$NPL_{i,t} = \beta_0 + \beta_1 BGD_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 PERF_{i,t} + \varepsilon$$

where :

β_0	: constant
$NPL_{i,t}$	: Non-performing loan of bank i year t
$BGD_{i,t}$	: Board gender diversity of bank i year t
SIZEi, t	: Size of bank i year t
ROAi, t	: Profitability bank i year t
PERFi, t	: Performance of bank i year t
ε	: error

Variable Definition and Meeasurement

Bank credit risk

Bank credit risk is the level of defaulted credit risk faced by banks in the year t, as measured by the ratio of non-performing loans (NPLs).

Board gender diversity

Baord gender diversity (BGD) is the gender diversity of the company's board of commissioners in the t year which is measured using the formula:

$$BGD_{i,t} = \frac{FD_{i,t}}{BM_{i,t}}$$

where :

$BGD_{i,t}$	: Board gender diversity of bank i year t
$FD_{i,t}$	: Number of female commissioners of bank i year t
$BM_{i,t}$	: Number of all commissioners of bank i year t

Bank size

Bank size is the size of the bank measured using the formula:

$$SIZE_{i,t} = Log(TA)_{i,t}$$

where :
SIZEi, t : Size of bank i year t
TAi, t : Total assets of bank i year t

Profitability

Profitability is the level of net profit obtained by the bank using all its assets measured by return on assets (ROA).

Performance

Bank performance is proxied by the company's revenue growth in the t year, as measured by the following formula:

$$PERF_{i,t} = \frac{(Operating\ Income_{i,t} - Operating\ Income_{i,t-1})}{Operating\ Income_{i,t-1}}$$

where :
$PERF_{i,t}$: Performance of bank i year t
Operating $Income_{i,t}$: Operating income of bank i year t
Operating $Income_{i,t-1}$: Operating income of bank i year t-1

METHOD

This study uses a quantitative approach, which is a research approach that has value and uses measured data and analyzes data with statistical procedures to test a theory, present facts or describes statistics, show relationships between variables (Zhao et al., 2015).

The population of this study consists of banks listed on the Indonesia Stock Exchange (IDX). Data is obtained from financial reports and annual reports published on the bank's official website. The observation period is from 2012 to 2018. The method used in sampling is purposive sampling, which is the method of selecting samples to achieve representative samples following the specified criteria. The sample criteria to be used are as follows:

1. Banks listed on the Indonesia Stock Exchange (IDX)
2. The company publishes an annual report that ends December 31, 2012-2018
3. Financial reports are presented in Indonesian rupiah (IDR)

Data obtained from various sources as written previously then processed using Microsoft Office Excel 2013 and Stata 14. The data analysis method used is the method of starting multiple linear regression analysis with descriptive tests. In conducting a regression analysis of multiple linear requirements for testing classic assumptions consisting of multicollinearity and heteroscedasticity tests. It also passes hypothesis testing consisting of F-tests and t-tests, regression equations, and determination of coefficients.

RESULTS AND DISCUSSION

Descriptive Test

Table 1. Statistic Descriptive

Variable	N	Min	Max	Mean	Std. Dev
NPL	259	0	25,67	3,212	3,364
BGD	259	0	0,5	0,113	0,144
SIZE	259	14,06	20,93	17,258	1,746
ROA	259	-11,15	12,4	1,214	2,391
PERF	259	-11,83	236,64	1,437	15,308

Source: Stata Output, Data Processed

Table 1 shows that bank credit risk measured by NPLs of banks in Indonesia in the period 2012 to 2018 showed an average of 3,212. This figure shows that on average banks

in Indonesia have a credit risk of 3.2% of the total loans they disburse. The lowest value for the NPL variable is 0, while the highest value for the variable is 25.67. The average board gender diversity (BGD) is 0.113 which means that the majority of the board of commissioners of the company are male.

Multicollinearity test

Table 2. Correlation Matrix

	BGD	SIZE	ROA	PERF
BGD	1			
SIZE	-0,24	1		
ROA	-0,02	0,39	1	
PERF	0,12	-0,07	-0,04	1

Source: Stata Output, Data Processed

Table 2 shows that there are no multicollinearity problems between independent variables in the regression model in this study because there is no correlation value between variables that exceed 0.8.

Hypothesis test

The following are the results of testing the hypothesis of a regression model using the dependent variable, namely bank credit risk measured using NPL, an independent variable, namely board gender diversity, and control variables in the form of company size, profitability, and company performance.

Table 3. Summary of Result of Multiple Linear Regression

Nama	Koefisien	T-stat	Sig
Konstanta	4,337	2,04	0,042**
BGD	-2,85	-2,09	0,038**
Size	-0,005	-0,04	0,966
Profitability	-0,597	-6,9	0,000***
Performance	0,009	0,71	0,479
R^2	0,1951		

*, **, *** significant at α of 10%, 5%, 1%

Source: Stata Output, Data Processed

Based on the results of the regression analysis shown in Table 3, board gender diversity (BGD) has a regression coefficient of -2.85 with a significance value of 0.038, which means that α is higher so that H0 is rejected or the gender diversity of the board has a significant negative effect on NPL. These results indicate that the greater the proportion of women on the board of commissioners, the lower the level of the credit risk of the bank. Empirical evidence reveals that companies with a greater proportion of women board members have tighter supervision and tend to have a lower risk (Mateos de Cabo et al., 2012).

CONCLUSION

Based on the results of data analysis and discussions conducted to determine the effect of board gender diversity on the credit risk of Indonesian banks in 2012-2018, it can be concluded that board gender diversity has a negative and significant effect on bank credit

risk. This finding shows that the more female members in the bank's board of commissioners will tend to reduce the level of bank credit risk because it has tighter supervision. The control variable in this study also provides a significant influence on bank credit risk. Profitability has a significant and negative influence on bank credit risk.

Furthermore, this study implies that shareholders must appoint a board of commissioners with a more diverse sex to maintain their level of credit risk. For further research, this research can be modified into a more complex research model by involving or adding several other relevant variables in it.

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