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THE DIRECT AND INDIRECT IMPACTS OF GOOD CORPORATE GOVERNANCE ON BANKING STABILITY: AN EMPIRICAL STUDY IN INDONESIA

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ABSTRACT

This study describes the dimensions of good corporate governance (GCG), bank risk, market discipline, banking stability and analyzes the influence of GCG on banking stability, both directly and indirectly (bank risk and market discipline as an intervening variable). Data are analyzed by Structural Equation Modeling. We describe the contribution of each variable and examine the causal relationship of GCG as an exogenous variable on banking stability as an endogenous variable, through bank risk and market discipline as intervening variables. Our results show that, first, GCG is determined by managerial ownership and independent board of directors; Market discipline is determined by the growth of deposits and the ratio of margin levels; bank risk is determined by the Non-performing Loans (NPL) and Loan Loss Reserve (LLR); Banking stability is determined by the Z-score, Capital Adequacy Ratio (CAR), and Net Interest Margin (NIM). Second, GCG influences banking stability both directly and indirectly through banking risks. Third, GCG directly influences banking stability but does not directly affect market discipline.

Keywords: Bank risk; Banking stability; Good corporate governance; Market discipline

1. INTRODUCTION

Banking stability is strong and tenacious banking system on varies economic problems or disturbance so that it can conduct the system of intermediation function, make the payment and distribute risk well (Segoviano & Goodhart, 2009). Risks that are accepted by the bank is the possibility of the occurrence of an event that is negative and undesirable, which can lead to failure and losses for the bank. However, without the risk of bank operations, banks will not generate returns as the yield. Market discipline is an act carried out by customers and creditors, as well as investors in the case of listed banks, to discipline the banks that take a high risk. The action is realized by transferring funds to other banks or resell debentures/bonds/shares of the bank (Flannery & Sorescu, 1996; Greenspan, 2001; Laeven, 2004). Market discipline concerns the

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mechanism of information, incentives, and institutional controls to reduce moral hazard problems and asymmetric information in the banking sector (Stephanou, 2010)

The problem is, market discipline does not always carry out their duties to monitor risks. Market discipline can be weakened when the depositor has been fully guaranteed by the government (Yaling & Yingzhi, 2012). Market discipline cannot apply to all the risks because the bank's decision has been borne by the deposit guarantee (blanket guarantee). But if the guarantee is limited and applied in general, the market discipline is still responding, taking bank risk (Yan, Skully, Avram, & Vu, 2011). This is also supported studies that stated that deposit supply increased after the implementation of the limited guarantee system. This is consistent with the general view that an improvement in the quality of institutions and supervision will improve the overall confidence in the financial system (Nys, Tarazi, & Trinugroho, 2015).

In general, the establishment of market discipline through the existence of deposit insurance that is linked to its role in maintaining banking stability is still a study that led to the pros and cons. The emergence of the pros and cons, in general, cannot be separated from the perspective that the existence of deposit insurance may cause interference with market discipline and moral hazard. A decrease in market discipline and moral hazard either directly or indirectly will stimulate banking instability sector (Berger & Turk-Ariss, 2012).

Ioannidou & Dreu (2006) used the criteria to assess the level of market discipline through several banking performance indicators such as the leverage ratio, non-performing loans, loan loss reserve, and overhead expenses. Increasing ratios reflect the higher level of lading risk of banks; if it is done through a mechanism of interest rates, it tends to reduce market discipline. High-interest rates have implications for the higher-risk because it will increase the cost of funds resulting in higher borrowing rates. The high-interest rate is a reflection that the bank will endure a higher risk. Regarding assets, it will affect the ability of customers to repay their loans while on the liabilities side, it will raise the cost of funds. Studies conducted by other researchers are trying a different approach. Martinez-Peria & Schumukler (2001) which used a quantitative approach, namely the link between the growth of deposits and the risk level. Hosono, Iwaki, & Tsuru (2005) used traditional tools based on the analysis of the effect of the interest rate and the growth of deposits on bank risks.

The debt agent theory argues that risk control involves an external party of a bank, for example, depositors. Jensen & Meckling (1976) stated that the increase of the debt funding sources (e.g., cheques, savings, deposits or bonds) would reduce the issuance of shares. With the higher source of funding from debts, there are several alternative ways to move the cost of supervision by the shareholders to the deposit. Therefore, depositors will be encouraged to monitor the condition and performance of the bank constantly, although the control mechanism may not work properly. It is the kind described Demirgüç-Kunt & Detragiache (2002) which stated that the lack of discipline of the market is also driven by the indiscipline of the depositors, managers, and owners of banks and other related parties such as banks and other stakeholders. Implementation of effective corporate governance mechanisms is expected to anticipate the emergence of moral hazard. Corporate governance is essentially a matter of controlling the behavior of the top executives of companies to protect the interests of the owner of the company (shareholders). Research conducted Baumann & Nier (2003) showed that the effect of market discipline on financial stability through the strengthening of bank capital. According to Hamid & Yunus (2017), this confirms that banks

are subject to market discipline that disclose more risk related information hold more capital against their non-performing loan.
The purposes of this study are to describe the dimension of market discipline, good corporate governance, bank risk, banking stability variables, and to analyze the effect of good corporate governance (GCG) on banking stability, both directly and indirectly (bank risk and market discipline as intervening variables).

2. LITERATURE REVIEW AND HYPOTHESES

Agency problem is the background of this conducted research. The existence of a conflict of interest between owners, managers, depositors, government, and other stakeholders, in particular about the bank's risk management.

In the implementation of good corporate governance (GCG), independent boards are indispensable for supervising company and guarantee the interests of minority shareholders and other stakeholders. The phenomenon of the high value of Non-performing Loans (NPL) also describes their lending practices with high credit risk that requires the bank to establish a large of loan loss reserves (Khrawish & Al-Sa'di, 2011). Permatasari & Novitasary (2014) and Sunarjo & Yuniarti (2017) conducted a study related to risk management and found that a good GCG implementation can minimize bad debts existing at the bank so that when the implementation of GCG, the bank's risk management would also be good. Laeven & Levine (2009) also stated that managerial ownership affects the risk management of banks. Based on the conceptual studies and supported by previous studies, the first hypothesis of this study is:

H_1: good corporate governance mechanisms influence the banks' risk.

Research conducted by Labrosse (2005) suggested that to minimize moral hazard could be overcome through effective GCG implementation and establishment of discipline-supervision and various regulations (Laeven, 2004). Hamalainen, Hall, & Howcroft (2005) and Hasan (2013) stated that put transparency into the conditions that must be present in the effective market discipline. Without disclosure and transparency of banks, market participants will not recognize the risks faced, so it cannot perform appropriate actions in conducting discipline on banks. Based on conceptual studies and supported by previous studies, the second hypothesis of this study is:

H_2: good corporate governance mechanisms influence on market discipline.

According to Lloyd (2009) financial crisis shows that there is potential interference of corporate governance, in which members of the board of directors failed to understand and appropriately respond to financial risks. Research conducted by Staikouras, Christos, & Agoraki (2007), Agoraki, Delis, & Staikouras (2010), Adusei (2011), and Pathan, Skully, & Wickramanayake (2007) showed that the mechanism of GCG through the application of the proportion of commissioners has a positive effect on the performance of the banks, where the preferable the banks' performance, the higher the banks' stability. The mechanism of GCG through the implementation of the ownership structure, managerial ownership, and the proportion commissioners positively affects banks' performance (Barako & Greg, 2007; Kapopoulos & Lazaretou, 2007; and Beck, Hesse, Kick, & Von Westernhagen, 2009), but a negatively influences

the composition of the board of directors (Kyereboah & Biekpe, 2006). Based on conceptual studies and supported by previous studies, hypothesis 3 of this study is:
H_3**:** good corporate governance directly affects banking stability

Research market discipline using the ratio of interest and changes in the volume of deposits has been conducted by Hannan & Hanweck (1988), Ellis & Flannery (1992), Cook & Spellman (1994), and Jatna (2007). The result was that market discipline is applied in punishing banks that take high risks. Research in the market discipline that uses changes in the volume of deposits has also been done by Billet, Garfinkel, & O'Neal (1998), Park & Peristiani (1998), Jagtiani & Lemieux (2001), Hasan & Tandelilin (2012), and Taswan (2012). The research is based on the premise that as a result of high risk, then depositors react to attract or retain deposits. These results indicated that the volume of deposits guarantees not to decrease the bank to increase risks even though banks respond to the premise by offering deposit with a higher interest rate. Based on the conceptual studies and supported by previous studies, hypothesis 4 used in this study is:

H_4: bank risk influences market discipline.

Some studies related to systemic risk, banks explained some indicators related to the stability of banks (Saunders, Strock, & Travlos., 1990; Nier & Baumann, 2006; Agusman, Monroe, Gasbarro, & Zumwalt., 2008; Soedarmono 2011; Haq & Heaney, 2012). The indicator is a total risk, systematic risk and idiosyncratic risk (bank-specific risk). Research of Agusman et al. (2008) found that the ratio of equity to total assets (ETA) and the ratio of liquid assets to total assets, respectively, as a proxy for the risk of leverage (leverage risk) and liquidity risk is positively related to banking stability. Research conducted Soedarmono (2011) showed that the specific risk of the bank (risk idiosyncratic) consisting of the ratio of total debt to total assets, the ratio of total deposits to total assets, the ratio of allowance for earning assets to total gross loans, the ratio of total equity to total assets and the ratio of liquid assets to total assets significantly influence the banking stability. Of the total risks, systematic risk and specific risk of the bank, it is known that the risk of an off-balance sheet has an important role in the banking stability (Haq & Heaney, 2012). Based on previous conceptual and empirical studies, hypothesis 5 of this study is:

H_5: bank risk influences banking stability

Research conducted Baumann & Nier (2003) showed that the effect of market discipline on financial stability through the strengthening of bank capital. According to research conducted Demirgüç-Kunt & Detragiache (2002) shows that market discipline through the deposit insurance institution (e.g. LPS) influences the stability of the banking and decreases the probability of bank failure. Several studies indicate that market discipline provides a positive indication in the context of maintaining the stability of the financial system. Based on conceptual studies and supported by previous studies, hypothesis 6 used in this study is:

H_6: market discipline affects the banking stability system.

Depositors will respond the decline in liquidity and bank capital. Depositors monitor and respond to the increased risk of the bank through market discipline. Depositors (as principal) want to ensure that the bank (as agent) maintains its assets, namely savings. The response to the increased risk is made through a pricing approach (by increasing deposit rates), and through quantitative approach

(with tilts) (Levy-Yeyati et al., 2004), The mechanism should occur continuously in the entire banking sector; it can threaten a bank to be stable by itself (Nier & Baumann, 2006; Agusman et al., 2008; Soedarmono, 2011; Haq & Heaney, 2012). The existence of market discipline is an effort to reduce the banks to take a very high risk. When banks take higher risks, and public savings are not guaranteed, the depositors may react by penalizing banks that are at a higher risk by requiring higher interest rates or attract deposits. A decrease in market discipline and moral hazard either directly or indirectly will stimulate the banking instability sector (Berger & Turk-Ariss, 2012). Based on conceptual studies and supported by previous studies, hypothesis 7 used in this study is:

H_7**:** bank risk influences banking stability through market discipline.

The GCG mechanism can relate the interests of between the parties concerning in banks to reduce the moral hazard through a mechanism of monitoring and risk control. The existence of such control mechanisms requires banks to provide transparent information to the public as the owner of the funds. Transparency is necessary for stakeholders can take decisions and appropriate action against the bank (market discipline). When depositors have access to information and determine the condition of the bank, depositors are more interested in investing in the bank than any other companies that do not provide access to information. Hence, the role of market discipline will walk if the market has access to sufficient and adequate information. In countries where the market discipline pillars already exist, the mechanism of reward and punishment can proceed smoothly. So it is expected that the banking sector would also avoid moral hazard on the level of risk that they face it directly related to the security of depositors' funds. Based on conceptual studies, hypothesis 8 is as follows:

H_8: GCG mechanisms influence the market discipline through bank's risk

The high mechanism of GCG reflects the high commitment of banks to create high-value of market discipline, with these conditions, the mechanism of reward and punishment can proceed smoothly. So it is expected that the banking sector would avoid moral hazard on the level of risk that will be directly related to the security of depositors' funds. If the security of depositors' funds as a source of external capital increases, the mechanism will impact the stability of the banking system (Shleifer & Vishny, 2010). Based on the concepts and empirical, hypothesis 9 is as follows:

H_9: GCG mechanisms influence the banking stability through market discipline.

3. METHODOLOGY

This study uses secondary data which are derived from the annual report of 27 listed bank companies at the Indonesia Stock Exchange during five years (2010-2014). Data are analyzed using Structural Equation Modeling (SEM). This research uses the aid of AMOS 22.0 to answer the research hypothesis. At this stage, the research model has been justified regarding the theoretical and empirical study of depth from previous studies. The construct that is built in this study is classified into three groups of variables, namely: the exogenous variables comprising variable mechanism GCG (X_1), an intervening variable that consists of a variable risk of bank (Y_1) and market discipline (Y_2), and an endogenous variable that consists of a variable, i.e. banking stability (Y_3).

The variables in this study consist of (1) banking stability variable measured by the z-score, Capital Adequacy Ratio (CAR), and Net Interest Margin (NIM). (2) Market discipline variable, measured by changes in the volume of deposits and deposit interest margin. (3) Bank risk variable measured by Non-performing Loans (NPLs) and Loan Loss Reserve (LLR). (4) GCG mechanism measured by managerial ownership and the proportion board of independent. The measurement of the variables is shown in Table 1.

Table 1: Variables and Measurement Variables

Variables	Proxy	Measurement	Justification
Endogenous variable			
Banking Stability	Z-score	$\text{Z-score}_{it} = \frac{ROA_{it} + (E/A)_{it}}{\partial(ROA)_{it}}$ Total of Return on Assets (ROA) plus capital ratio (E) to Assets Total (A) divided by the standard deviation of bank ROA in year	Laeven & Levine (2009); Demirgüc-Kunt & Huizinga (2010); Altunbas, Manganelli, & Marques-Ibañez, (2011); Köhler, (2012); Yudaruddin (2014).
	Capital Adequacy Ratio (CAR)	$\frac{Core\ Capital}{ATMR}$ x 100%	Mpuga (2002); Baumann & Nier (2003); (Büyükşalvarcı & Abdioğlu, 2011)
	Net Interest Margin (NIM)	$\frac{Net\ interest\ income}{Productive\ assets\ average}$ x 100%	Ho & Saunders (1981); Maudos & de Guevara (2004); Lepetit, Nys, Rous, & Tarazi, (2008); Köhler (2012).
Exogenous variable			
GCG mechanism	Managerial Ownership (KM)	$\frac{Total\ of\ shares\ owned\ by\ commissioners\ and\ management\ board}{spread\ stock\ total}$ x 100%	McConnell (1990); Drobetz, Schillhofer, & Zimmermann (2004); Barako & Greg (2007), Myeong, 2008; Beck et al. (2009), Fanani (2014).
	The Proportion Board of independent (DK)	$\frac{Number\ of\ independent\ commissionaires}{Number\ of\ commissionaire\ board}$ x 100%	Chtourou, Be´dard, & Courteau, (2001); Klein (2006); Kyereboah & Biekpe (2006); Kapopoulos & Lazaretou (2007), Fanani (2014).

Intervening Variables			
Bank Risk	Non-Performing Loans (NPL)	$\frac{Complicated\ credit\ total}{Credit\ Total}$ x 100%	Ioannidou & Dreu (2006); Delis & Kouretas (2011); Festic, Kavkler, & Repina (2011); Berger & Turk-Ariss (2012).
	Loan Loss Reserve (LLR)	$\frac{Loan\ loss\ reserve}{Total\ assets}$ x 100%	Keeton & Morris (1987); Hatfield & Lancaster (2000); Ioannidou & Dreu (2006); Agusman et al. (2008); Ng & Roychowdhury (2014).
Market Discipline	Volume Change Ratio Deposits (DEP)	$\frac{Deposit_t - Deposit_{t-1}}{Deposit_{t-1}}$	Billet et al. (1998); Park & Peristiani (1998); Jagtiani & Lemieux (2001); Hasan & Tandelilin (2012); Taswan (2012).
	Deposit Interest Margin Ratio (INTE)	$\frac{The\ interest\ charge}{Total\ deposit}$ x 100%	Ellis & Flannery (1992), Jagtiani & Lemieux (2000); Sironi (2000) Martinez-Peria & Schmukler (2001); Ghosh & Das (2003); Taswan (2012)

4. RESULTS AND DISCUSSION

4.1. Result

Analysis research description data supported by the result statistical data by using SPSS program that can be described in the summary of research data such as mean, minimum, maximum and standard deviation. The result of the statistical descriptive is shown in Table 2.

Table 2: Statistical Descriptive Research Data

Indicators	N	Min	Max	Mean	Std. Deviation
Banking Stability					
Z-score	135	1,15	16,26	8,572	3,2540
Capital Adequacy Ratio	135	10,05	45,75	16,609	5,3029
Net Interest Margin	135	1,77	16,64	5,770	2,5331
Market Discipline					
Volume Changes Ratio Deposit	135	-68,10	69,30	18,783	19,6689
Deposit Interest Margin Ratio	135	1,84	32,30	6,305	3,7927
Bank Risk					
Non-performing Loan	135	0,21	9,95	2,186	1,6703
Loan Loss Reserve	135	0,04	6,88	1,425	1,1137
GCG Mechanism					
Managerial Ownership	135	0,00	28,23	1,339	4,6133
The Proportion Board of Independent	135	0,00	80,00	56,822	11,1857

Table 2 describes that the description of data shows relatively homogeneous data. This can be a sight from the standard deviation score which mostly low value, it means that the standard deviation of the data on the average (mean) is relatively small. The average of research data in the range of minimum data with the maximum average distribution is not different.

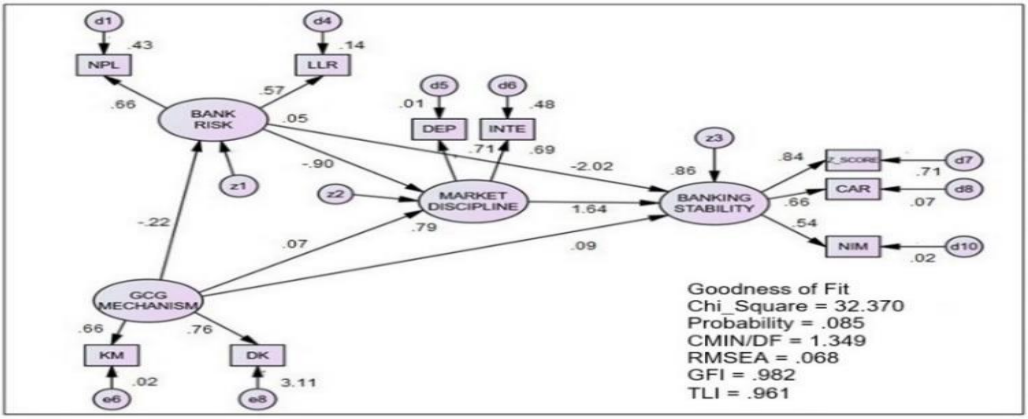
A research model is created to examine the effect of the bank's risk and good corporate governance mechanism on the market discipline and to examine the effect of bank risk and good corporate governance mechanism on the banking stability. The result of this evaluation is expected to be able to improve the suitability of the research model. The size of the research sample is 135 samples.

The result of the normal and multivariate test shows that normal distribution is achieved when the calculation result C.R. is at between -2,58 and 2,58. All indicators reached is in that range. The C.R. has value 1,45 of multivariate normal distribution, so that, the assumption of normal and multivariate normal distribution has been fulfilled.

The examination through Mahalanobis distance squared has shown that statistically there is no observation detected as an outlier. The observation has a big Mahalanobis distance from chi-square table df=24 with α= 0,05 that is 36,415. Based on the analysis, it can be described that all observations have Mahalanobis value < 36,415, there is no outlier.

This research obtained the criterion of goodness-fit of Structural Equation Model that the result can be seen in Figure 1.

Figure 1: The Result of Structural Equation Modeling



The SEM model generates goodness of fit on Table 3. By comparing index values and cut the value of each index, hopefully, the model has better goodness of fit than or at least has the same goodness of fit with the cut of value. Figure 1 is the last evaluation of the structural model. The goodness of fit measures the suitability of observation or actual input (covariance or correlation matrix) with the predictions of the proposed model.

Table 3: The Result of Goodness of fit

The Goodness of Fit Index	Cut-off Value	Result	Keterangan
Chi-Square	36,415	32,370	Good
Probability Chi-square	≥ 0,05	0,085	Good
CMIN/DF	≤ 2,00	1,349	Good
RMSEA	≤ 0,08	0,068	Good
GFI	≥ 0,90	0,982	Good
TLI	≥ 0,95	0,961	Good

The goodness of fit on Table 3, describes that all of the evaluation models have already been representative so that the model can be accepted. The next step is analyzed parameters each indicator to latent indicator (factor loading in AMOS as standardized regression weight). Table 4 shows the result of testing four latent variables to construct the research model.

Table 4: Confirmatory Factor loading of Testing Model

Indicators		Variables	Loading	C.R.	Value p
GCG Mechanism (X_1)					
Managerial Ownership	←	GCG Mechanism	0,66	4,00	***
The proportion Board of Independent	←	GCG Mechanism	0,76	Fixed	Fixed
Bank Risk (Y_1)					
Non-Performing Loan	←	Bank Risk	0,66	Fixed	Fixed
Loan Loss Reserve	←	Bank Risk	0,57	3,64	***

Indicators		Variables	Loading	C.R.	Value p
Market Discipline (Y_2)					
Deposit Volume Changes	←	Market Discipline	0,71	Fixed	Fixed
Interest Margin Deposit	←	Market Discipline	0,69	2,93	***
Banking Stability (Y_3)					
Z-score	←	Banking Stability	0,84	Fixed	Fixed
Capital Adequacy Ratio	←	Banking Stability	0,66	5,78	***
Net Interest Margin	←	Banking Stability	0,54	3,25	***

Testing the hypothesis of the structural model associated with the regression coefficient test results on each path is generated, if the probability value <0.05, that there is a significant effect. The results of the calculation of direct influence between the variables shown in Table 5.

Table 5: Hypothesis Testing Results in Direct Impact among Variables Research

Variable			Factor Loading		S.E	C.R	P
			Std. Regression Weight	Estimate			
Bank Risk	←	GCG	-0,22	-0,31	0,04	-7,75	****
Market Discipline	←	GCG	0,07	0,13	0,10	1,32	0,075
Banking Stability	←	GCG	0,09	0,08	0,01	8,00	****
Market Discipline	←	Bank Risk	-0,09	-0,13	0,03	-4,33	****
Banking Stability	←	Bank Risk	-2,02	-5,34	0,77	-6,94	****
Banking Stability	←	Market Discipline	1,64	2,02	0,25	8,08	****

The analysis of hypothesis testing presented in Table 5 shows that only hypothesis 2 (H_2) is rejected. Variable GCG mechanism does not affect variable market discipline. This is indicated by the value of the critical ratio (CR) that the CR is 1.3 (smaller than 2) and p-value (0.075) greater than 0.05 (0.075> 0.05). In a standardized form, the factor-loading coefficient is worth 0.07, so it can be stated that the corporate governance mechanism does not significantly affect market discipline. These results give us a ruling that the variable of GCG mechanism does not affect market discipline so that the research hypothesis (H_2) is rejected. The results of the calculation of indirect influence among variables shown in Table 6.

Table 6: Hypothesis Testing Results in Indirect Impact among Variables Research

Variables	Direct Impact	Indirect Impact	Total Impact
GCG → BR → MD	**0,07**	-0,22 x -0,09 = **0,20**	0,07 + 0,20 = **0,27**
GCG → BR → BS		-0,22 x -2,02 = 0,44	
GCG → MD → BS	**0,09**	0,07 x 1,64 = 0,115	
GCG → BR → MD → BS		-0,22 x -0,90 x 1,64 = 0,325	0,09 + 0,88 = **0,97**
		0,44+0,115+0,325 **= 0,88**	
BR → MD → BS	**-2,02**	-0,90 x 1,64 = **-1,48**	-2,02 -1,48 = **-3,50**

Notes: BR=Bank Risk; BS=Banking Stability; MD=Market Discipline; GCG=Good Corporate Governance

Hypothesis seventh proposes that the GCG mechanism affects market discipline through banks' risk. The analysis in hypothesis testing presented in Table 6 shows that the indirect effect of GCG mechanism on the market discipline through banks' risk is 0.20. Based on the calculation results, it can be seen that the banks' risk acting as intervening variables influences corporate governance mechanism on market discipline because the total effect is greater than the value of the direct effect (0.27> 0.07). Thus, the statistical test results obtain evidence that the hypothesis (H_7) which states that corporate governance mechanisms influence market discipline through the bank's risk is acceptable.

Hypothesis eight states that corporate governance mechanisms affect banking stability through bank risk and market discipline. The analysis in hypothesis testing presented in Table 6 shows that there is an indirect effect of GCG mechanisms on the banking stability through bank risk and market discipline that the value is 0.88. Based on the calculation results, it can be seen that the risk of bank and market discipline acting as an intervening variable influence the corporate governance mechanism of banking stability because the total effect is greater than the value of the direct effect (0.97 > 0.09). Thus, the results of the statistical test have been obtained the evidence that the hypothesis (H_8) stated that corporate governance mechanisms affect the banking stability through bank risk and market discipline is acceptable.

Hypothesis nine states that the banks' risk influences banking stability through market discipline. The analysis of hypothesis testing presented in Table 6 shows that the indirect effect of bank risks to the banking stability through market discipline is 1.48. Based on the calculation results, it can be seen that market discipline is acting as an intervening variable influences the stability of banks' risk, because the total effect is greater than the value of the direct effect (3.50> 2.02). Thus, the results of the statistical test have been obtained evidence that the hypothesis (H_9) stated that banks' risk influences banking stability through market discipline are acceptable.

4.2. Discussion

The results show that the GCG mechanism affects the bank risk. This means that the greater the role of good corporate governance through the role of managerial ownership and the proportion of independent boards would further reduce the risk of banks. The independent boards should also direct, monitor, and evaluate the implementation of the strategic policy of the bank. Board size determines the effectiveness of the monitoring of bank performance. According to Chtourou et al. (2001) the greater the number of boards the better the monitoring mechanism of companies' management. Monitoring activity by an independent party is needed. The greater the proportion of managerial ownership, the more active management in the interests of shareholders where the shareholders are themselves. They are more detail in managing risks. Iannotta et al. (2007) stated that the GCG mechanism measured by ownership structure affects risk-taking by banks. The results of this study supported the research of Laeven & Levine (2009), Khrawish & Al-Sa'di (2011), and Permatasari & Novitasary (2014).

The results showed that the corporate governance mechanism affects the banking stability system. This means that the greater the role of good corporate governance will improve the banking stability system. Borolla (2011) explains the ownership of the managers will lower propensity to commit acts to consume excessive perquisites. With the majority proportion of shares owned by the company management, it will make the management benefit from the taken decisions.

Likewise, the impact of risk due to an improper decision could disrupt management (Taswan, 2012).

Similarly, the results of the study found that GCG mechanisms through the implementation of the ownership structure, managerial ownership, and the proportion commissioners positively affect the bank performance (Barako & Greg, 2007; Kapopoulos & Lazaretou, 2007; and Beck et al. 2009), but negatively affect the composition of board directors (Kyereboah and Biekpe, 2006). The results of this study supported the research of Staikouras et al. (2007), Agoraki et al. (2010), Adusei (2011), and Pathan et al. (2007) which indicated that the GCG mechanism through the application size of the board of directors, positively affect the performance of the bank, where the better performance of banks the better the banking stability

The results of the analysis showed that the risk of banks negatively affects market discipline. This means that the higher the risk, the bank will further lower market discipline. NPL and LLR are variables that can explain the credit risk. NPL can adversely affect the performance of the bank, because bad loans may reduce bank profits. Banks must reserve allowances for earnings asset (Loan Loss Reserve / LLR) to anticipate bad loans. LLR indicating the high level of credit quality is low leading to high default rates/credit crunch happened so that it will cause losses and a negative impact on the bank. The higher the NPL and LLR higher the risk that is owned by the bank. The higher the bank owns the risk of which, the depositors will seek to protect their assets through withdrawal of funds in the bank and put on investment that has a lower risk. In other words, when banks face high risk, the depositors will perform its function to discipline the banks. This is supported by research conducted by Hannan & Hanweck (1988), Ellis & Flannery (1992), Cook & Spellman (1994), Ioannidou & Dreu (2006) and Jatna (2007), the result is that market discipline applies in punishing banks that take high risks. A research-market discipline that uses deposit volume changes has also been made by Billet et al. (1998), Park & Peristiani (1998), Jagtiani & Lemieux (2001), Hasan & Tandelilin (2012), and Taswan (2012).

The results of the analysis showed that the risk of banks negatively affects the banking stability system. This means that the higher the risk of banks that are reflected in the high NPL and LLR will decrease the banking stability. The high NPL influences the loss of opportunity to earn revenue from loans, thereby reducing the bank's revenue. The high NPL also impact on the increase in the number of loan loss reserves (LLR) that have to be provided by the bank. If this happens continuously, it will have an impact on banking stability. The results support some studies associated with the systematic risk of banks to explain some of the indicators related to the banking stability (Saunders et al., 1990; Nier and Baumann, 2006; Agusman et al., 2008; Soedarmono, 2011; Haq & Heaney, 2012). The indicator is a total risk, systematic risk and idiosyncratic risk (bank-specific risk).

The results of the analysis indicate that market discipline affects the banking stability system. This means that the higher the banking stability, market discipline is getting better reflected by the growing value of the Z-score, CAR, and NIM. In general, market discipline is a mechanism through which the interested parties (creditors, depositors, investors, other stakeholders) to monitor and discipline the behavior of banks which undertake excessive risk. The higher the market discipline means, the higher growth rate of deposits/customer funds and interest margin deposits because banks do not take excessive risks. The high growth of deposits and deposit interest margin impact on improving banking stability, which is reflected in an increase in z-score (a potential drop in

bankruptcy), CAR (capital gains), and NIM (interest income). Research conducted by Baumann and Nier (2003) showed the effect of market discipline on financial stability through the strengthening of bank capital. This study supports research conducted by Demirgüç-Kunt and Detragiache (2002) showing that the market discipline through the Deposit Insurance Institution (LPS) affect banking stability and decreases the probability of bank failure.

Based on the results of the analysis show the GCG mechanism affects market discipline through the bank's risk. Disclosure of the information submitted on the market is expected to drive the market to discipline management (Ariffin et al., 2005). The GCG mechanism (internal corporate governance) gives an opportunity to the parties concerned to monitor and control banks' management in their preference of risks. Good supervision of bank risks impacting on the improvement of corporate governance through the external role of market discipline. The results of this study are supported by research Permatasari and Novitasary (2014), but this study does not support research conducted by Ariffin et al. (2005). The GCG implementation mechanisms cannot be done optimally both regarding transparency and the parties responsible for the bank to meet its obligations to the owner.

The results of the analysis showed that the corporate governance mechanism affects banking stability through bank risk and market discipline. GCG mechanisms influence the banking stability through bank risk, and market discipline can be explained that GCG mechanism can improve the financial performance of banks, reducing the risk due to management actions which tend to benefit themselves. The mechanism controlling risk taking became the basis for the depositor to conduct market discipline. GCG mechanisms can provide quality information that indicates a high performance bank. Disclosure of the information submitted on the market is expected to drive the market to discipline management (Ariffin et al., 2005). The high GCG mechanism reflects the high commitment of the bank to create a high-value market discipline, so that the mechanism of reward and punishment can proceed smoothly. So it is expected that the banking sector would also avoid moral hazard on the level of risk faced by banks that will be directly related to the security of depositors' funds. If the security of depositors' funds as a source of external capital increases, it will eventually impact the banking stability system.

The results of the analysis showed that the risk of bank influences banking stability through market discipline. Credit risk would be faced by the bank when the debtor fails to pay the debt or credit received at the maturity. The greater the credit granted to the public, the higher the credit risk, i.e., NPL, and the impact on the profit (Han & Ji-Yong, 2012). The decrease in profits will affect the bank's ability to maintain liquidity and capital base. Depositors will respond to the decline in liquidity and bank capital. Depositors monitor and respond to the increased risk of the bank through market discipline. Depositors (as principal) want to ensure that the bank (as agent) maintains its assets, namely savings. The results of this study are supported by research Levy-Yeyati et al. (2004), Nier & Baumann (2006) Agusman et al. (2008), Soedarmono (2011), and Haq & Heaney (2012).

An important finding of this study is more independent board members and the greater the proportion of managerial ownership will stimulate corporate governance mechanisms to work better so that it can suppress the occurrence of bad loans in the banking. The lower bad loans will minimize the risk of bank failure. This will increase trust in the market (customers or depositors) to invest their funds into the banking which is reflected in an increase in the volume of deposits

from time to time. Such a situation is commonly referred to as increasing market discipline. Furthermore, customer trust will stimulate the company's management to work well to realize the companies' profit according to the planned schedule. Likewise, if the majority of companies can achieve a profit, according to plan, then the banking stability will be maintained.

5. CONCLUSION

This study shows that the more independent board members, the higher the value of good corporate governance achieved by the bank. The more independent board members to control the bank, then encourage them to work well according to the plan. Also, managerial ownership contributes greatly to the mechanism of corporate governance. The greater proportion of managerial ownership will trigger managers to sense the owner of the company increases so that it will work positively in maintaining the survival of the company. Bank risk is explained by the size of the NPL and LLR charged to banks. The greater the NPL and LLR will worsen the bank's liquidity, thereby increasing the risk of bank failure. Market discipline is described by changes in the volume of deposits in banks. The greater the volume of deposits, the greater the level of market discipline. The higher the level of trust of depositors in saving funds, the more profit margins. The Z-score is a value that describes how fluctuations in banking profit. The greater the Z-score indicates that the profit is as planned. The profit obtained is smaller or greater than the planned profit. The high Z-score indicates that management is working well.

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