

The Analysis of Corporate Governance on Non-Performing Loans: Evidence from Indonesia

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ABSTRACT

Objective – This study aims to know the impact of corporate governance mechanisms on the non-performing loan of a bank. This study also aims to analyze which corporate governance aspects are significant to the banks' non-performing loans in Indonesia. Another objective of this study is to examine whether the relationship between corporate governance and non-performing loan depends on bank ownership. This study's corporate governance variables are the board size, board independence, and bank ownership category. This study focuses on the non-performing loan of the banks in Indonesia.

Methodology – This study will examine 26 banks in Indonesia listed on the Indonesian Stock Exchange (IDX). It includes both foreign-owned (foreign bank) and domestic banks. The length of the period of observation is seven years, from 2012 to 2018. Panel data of these banks are analyzed using the fixed-effect regression.

Findings – The regression result shows that board size and bank ownership category have no significant impact on the non-performing loan, while the board independence impacts non-performing loans negatively.

Novelty – This study contributes to the academic literature, specifically on the issue of corporate governance in the banking sector. This study's result and findings could be used as the reference for other studies and further research on the corporate governance issue. This study will also expand the literature about corporate governance in the Indonesian banking sector since there are still a limited number of studies that discussed this specific matter.

Keywords: *Corporate Governance; Credit Risk; Non-Performing Loan; Board Independence*

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I. INTRODUCTION

The US financial crisis in 2008-2009 has an enormous impact on the global economic condition. This incident resulted in the deep drop of the stock prices and the bankruptcy of several prominent financial institutions in the US (Tarraf, 2011). Grove and Vistoravich (2012) mentioned that several financial institutions, such as Citigroup, American International Group, and Merrill Lynch, were not aware of the credit risks associated with the massive amount of mortgage loans that existed in the market at that time. US Financial Crisis Inquiry Commission reported that “when the housing and mortgage markets cratered, the lack of transparency, the extraordinary debt loads, the short-term loans and the risky assets all came home to roost” (Grove & Vistoravich, 2012). While the impact generated from this crisis has proven substantial, the root cause of this occurrence should be identified to prevent a similar incident in the future.

One of the possible root causes of the US financial crisis in 2008 was the bad corporate governance in the financial institutions. According to the OECD Steering Committee on Corporate Governance in Thomsen (2013), the economic crisis in 2008 “can to an important extent be attributed to failures and weaknesses in corporate governance.” The financial institutions' corporate governance was a failure due to the lack of transparency and appropriate risk management. Moreover, this crisis

happened also due to the principal-agent problem in the financial institution. Lang and Jagtiani (2010) mentioned that, as the agent in the agency relationship, the managers' interests were to "increase the profitability of the business line rather than consider the firm's overall risk position." The managers at that time saw the subprime mortgage loan as the opportunity to increase the profitability without adequately considering the risk associated with it. Consequently, the non-performing subprime mortgage loans became the source of significant loss of the financial institution.

The topic of corporate governance then becomes an important issue after the occurrence of the crisis. Improper corporate governance practices might result in poor risk management and high non-performing financial institutions' loans, especially the banks as the most prominent financial institution. Non-performing loans are defined as "loans which are not paid in the structured time period as set in the contract between the borrower and the bank" (Mazreku, et al., 2018). Non-performing loans reflect the bank's quality of assets and can be used as the proxy of credit risk in the bank. Credit risk is the risk associated with the borrower's inability to pay back the loan and default on loan (Hefferman, 2005). Non-performing loans are unfavorable in the banking sector as they might result in the loss for the bank. This condition applied to all the banks in the world, including Indonesia. Below is the trend of the non-performing loan in Indonesia from 2012 to 2017.

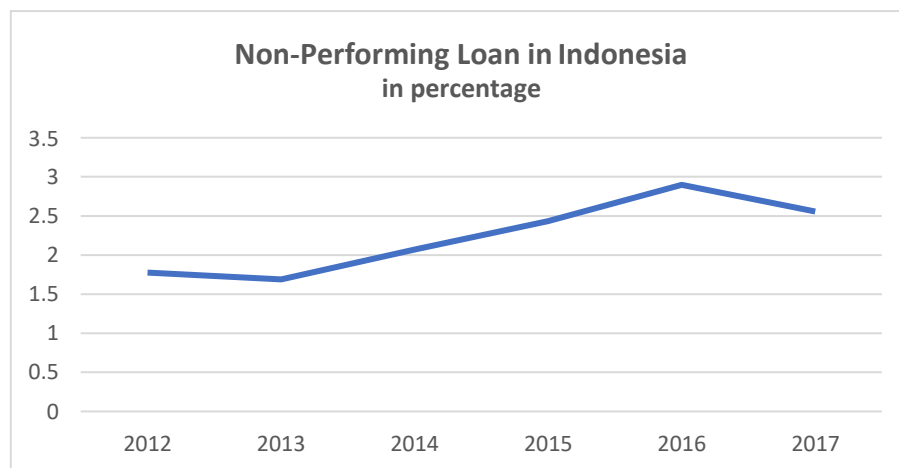


Figure 1. Non-Performing Loan in Indonesia
Data source: The World Bank (2019)

Since the non-performing loan is unfavorable for the bank, this issue should be prevented and controlled. The factors which contributed to this aspect should be investigated and identified. As exhibited by the 2008 financial crisis issue, one factor that might influence the non-performing loan is its corporate governance. Corporate governance refers to "how the company will properly utilize their available financial, material, and human resources to achieve the overall corporate's goal" (Onakoya et al., 2012). Corporate governance has become an essential issue in the banking industry since it might impact bank performance.

Corporate governance of banks has also become an important issue in Indonesia. While most of the big banks in Indonesia are owned by private entities, only four big banks are owned by the government. The Indonesian financial services authority (OJK) has recently allowed foreign investors to have more than 40 percent shares in local banks, making foreign entities own up to 99 percent of banks' shares (Tang, 2019). This decision has been taken as a measure to reduce the number of banks that existed in Indonesia. Moreover, by allowing foreign investors to own Indonesian banks' shares, the competition between the local banks will be more intensified. It is expected that this condition would urge the bank's management to set better strategies and improve the banks' quality. Hence, it would be necessary for the banks to improve the banks' corporate governance mechanism to make it more effective and efficient.

Several studies have emphasized the influence of corporate governance on banks' performance and non-performing loans. Many studies have found that corporate governance impacts the banks'

risk management and non-performing loans, such as the results found by Liang et al. (2013) and Grove et al. (2011). However, only a few studies examined the impact of corporate governance on non-performing loans in Indonesia. Whereas Indonesia is considered one of the Asian countries that are still facing some good corporate governance practices (Teen & Bennet, 2013). Hence, there is a gap in the research literature about the impact of corporate governance on Indonesian banks' non-performing loans. This study will examine the impact of corporate governance variables on the non-performing loan in Indonesia. The corporate governance variables analyzed in this study are the board size, board independence, and the board ownership category. Based on the research background discussed above, this study's research problems are: (1) What is the impact of corporate governance variables, such as board size, board independence, and board category, towards the non-performing loan of Indonesian banks? (2) Does the relationship between governance variables (i.e., board size and independent directors) and non-performing loans depend on bank ownership?

II. LITERATURE REVIEW

Banking

The banking industry is an integral part of business activities nowadays. The emergence and development of this industry served an essential purpose in the world. According to Gobat (2012), banks are the "intermediaries between depositors and borrowers." The origin of the word "Bank" came from diverse languages, such as French *Banque*, Italian *Banca*, and English *bench* which refer to "an establishment for the custody, loan, exchange, or issue, of money, and for facilitating the transmission of funds by drafts or bills of exchange" (Sayfullin & Özsoy, 2006). The bank has been developed from merely a place that facilitates money exchange to a great financial institution that performs many functions.

Bank was established a long time ago. There is no one common idea about when the bank started to emerge globally—many different indicators were used to mark bank emergence. Hildreth (2001) mentioned that the first regular institution which resembled a bank is the Chamber of Loan, a corporation in Venice established around 700 years ago, which oversaw the management of forced loans for war purposes. Conant (1915) marked that the idea of the bank was initially founded from the seventh to the ninth century before Christ in Assyria. They used a small clay tablet to record the payment of a given weight of silver or copper and stored the tablet in the temple or the city's recording chamber.

Moreover, Roussakis (1997) believed that the early beginnings of investment and commercial banking might be traced to Italy's twelfth century when the Italian merchant banking houses arose. These houses performed a bank's functions, such as accepting deposits, financing foreign trade, creating a market in foreign exchange, extending loans to particular people, and investing in industrial and commercial ventures. These different points of time in the history of banking built the development of the world's banking industry.

Currently, the bank is an essential factor in the financial world. As the financial intermediary, the bank's performance and efficiency can affect the economic growth, implementation of monetary regulation, and macroeconomic stability in a country (Khan & Sattar, 2014). The banking system affects economic development in a country by facilitating the mobilization of financial resources and distributing it to productive purposes to achieve capital formation (Mala & Vasanthi, 2016). Banks perform several functions. Firstly, banks act as intermediaries between borrowers and lenders. It offers a unique form of liquidity or asset transformation. As it manages people's money, banks could also participate in the payments system. Lastly, it plays a vital role in the macroeconomy. In performing those functions, there are two main activities of the banks which are collecting deposits or saving from the public and distributing the credit or loan to the people.

The activities of a bank are closely related to the interest rate applied in both saving and credit. Interest is a simple and familiar term in the economic and finance field. Interest is a fee paid by someone who uses someone else's money (Khan & Sattar, 2014). The borrowers should pay the interest along with the repayment of the loan or the credit principal. Interest is a form of reward to the lender since the lender gives up the right to spend the money and delivers the right to the other

people or the borrower. Interest is the reason why people want to delay their spending. It is usually stated in the form of a percentage to the loan principal called the interest rate. In a bank, the interest rate is applied to both savings and loans. It becomes a dynamic aspect because it changes over time, according to the current situation in society. The interest rate has become a crucial aspect of the banking system and financial condition in the world.

Interest rate plays a significant role in the monetary regulations. The central bank of a country can adjust the interest rate to control the circulation's money supply. By raising the interest rate, people start to save their money to the banks and avoid making a loan from the banks. Therefore, the money in circulation will be decreased. On the other hand, by lowering the interest rate, people start to withdraw their money and applying for credit to the banks.

In consequence, the money in circulation will increase. This effort is essential to maintain financial stability in a country while avoiding inflation. Other than monetary regulation, the interest rate is essentially the source of profit for the bank. As it is applied to both bank's main activities, the interest rate becomes a primary aspect of the bank's profitability. The bank's profit increases rapidly with the increase in banks' interest rate (Malik et al., 2014). It can happen because the bank collects a higher interest from credit and loan than the interest gives to the saving and deposit accounts. The difference between the two rates becomes the bank's profit. In the banking system, the impact of interest rate changes is significant on profitability (Khan & Sattar, 2014). Hence, the interest rate is an essential aspect of the banking system.

Credit Risk: Non-Performing Loan

One of the banks' key activities is distributing loans or credit to the people. The distribution of the loans is selective and structured. There are some aspects that banks usually consider when granting loans, such as the owner/manager character, capacity of the business, capital size, credit report, credibility, and the enterprise relationship between the bank and the borrower (Boushnak et al., 2018; Naima, Rahima, & Redouan, 2017). Despite the selective and careful consideration in granting loans, there is still a risk when a borrower defaults on a bank loan, which is called the credit risk (Heffernan, 2005). This risk could result in a non-performing loan in a bank. Mazreku et al. (2018) defined non-performing loans or problem loans as "loans which are not paid in the structured period as set in the contract between the borrower and the bank." Under Basel II, a loan is considered nonperforming when payments of interest and principal are past due by 90 days or more (Bloem & Freeman, 2005). However, the definition of non-performing loans is varied across the countries.

In Indonesia, the non-performing loan classification is regulated by the BI Regulation No. 7/2/PBI/2005 about the assessment of commercial banks' asset quality and the regulation of the Indonesian Financial Service Authority (OJK) No. 29/POJK.05/2014 about financing company operations. There are five loan categories in Indonesia: Current/Pass, Special Mention, Substandard, Doubtful, and Bad loans. A loan will be considered current if there is no late payment or the payment days past due are only below 30 days. Particular mention loans are the loans that have days past due between 30 to 90 days. A substandard loan is a loan that has days past due between 90 to 120 days. A loan that has days past due around 120 to 180 days will be considered a doubtful loan. Lastly, bad loans are loans that have more than 180 days past due. As the loan's interest becomes a source of profit for the banks, the banks would not profit and even get a loss when the loans become defaulted.

Numerous studies have shown that non-performing loans have a significant negative impact on bank profitability and economic development. Non-performing loans have a significant negative impact on the Return on Assets of domestic and foreign banks listed on the Indonesia Stock Exchange (Yudha, Chabacib, & Pangestuti, 2017). Non-performing loans also had a statistically significant negative impact on the net profit margins of 30 Dhaka Stock Exchange companies, according to Akter and Roy (2017). Furthermore, Morakinyo and Sibanda (2016) and Erdoğan (2016) found that non-performing loans had a statistically significant negative impact on Nigerian and Turkish economic growth. As a result, non-performing loans are extremely unfavorable in the banking industry.

A variety of factors may influence the number of non-performing loans at banks. According to Ozili (2019), non-performing loans had hostile relationships with bank efficiency, loan loss coverage ratio, competition, banking system stability, regulatory capital, and bank liquidity globally and regionally. Non-performing loans had a positive relationship with the banking crises and bank concentration. The

negative relationship represents the adverse effect that would occur if a factor increased or decreased, whereas the positive relationship represents the supportive effect that would occur if a factor increased or decreased. Mazreku et al. (2018) discovered that GDP growth rate and inflation had a significantly negative correlation with non-performing loans in transition countries, whereas unemployment had a significantly positive relationship with non-performing loans.

Furthermore, Ahmad et al. (2016) discovered that aspects of corporate governance were significantly related to non-performing loans. For example, board size has a positive effect on non-performing loans in Pakistani banks, whereas ownership concentration and board independence have a negative effect. As a result, bank-specific determinants, macroeconomic factors, and corporate governance may all have an impact on non-performing loans.

Corporate Governance

Corporate governance is an essential topic in every industry, including the banking industry. The term “corporate governance” is a broad term defined differently by a different person. Khan (2011) defined corporate governance broadly as “the processes, customs, policies, laws, and institutions that direct the organizations and corporations in how they act, administer and control their operations.” By this definition, corporate governance aims to help the business achieve its goals and maintain its relationship, including the management and the shareholders. On the other hand, Shleifer & Vishny in Tirole (2001) defined corporate governance simply as “how the suppliers of finance to corporations assure themselves of getting a return on their investment.” Under this definition, corporate governance is based on the basic agency theory, when the managers are selected to act upon the shareholder’s interest. Hence, the definition and meaning of corporate governance are diverse and not rigid.

Corporate governance arose as a result of business necessity. According to Siebens (2002), the motivation for corporate governance in any business is the need for adjustment in the mutual relationships of power between majority and minority stakeholders, general assembly, and management, as well as a focus on more qualitative and ethical awareness about the importance of establishing a proper direction. Minority stakeholders had little opportunity and power in management matters such as questioning products, production, and sales. As a result, corporate governance should act to adjust and represent all stakeholders while maintaining their relationship. Furthermore, it addresses how management can better meet the interests and needs of all stakeholders. Management should “do the right (good) things and do them well” (Siebens, 2002). As a result, corporate governance is required in the business environment.

In corporate governance, there are two different concepts or views that are commonly known in the business environment. The first concept argued that corporate governance mainly focuses on the fund supplier or the shareholders, such as the debt and equity supplier. In this view, corporate governance emerged as a way the shareholder could assure themselves that they will get their investment back (Ferrarini, 2017). However, this concept or view is too narrow since the firms have many other stakeholders involved. As a response to the critique of the first view, the second concept argued that corporate governance is an action to resolve the problems and conflicts of interest between several different business stakeholders (Becht et al., 2002). This concept or view could also create a business problem since there are too many interests involved that may blur the corporate objectives. As a resolution, the Basel Principles in Ferrarini (2017) offer the bank regulators’ view of corporate governance, which defines it as: “A set of relationships between a company’s management, its board, its shareholders and other stakeholders which provides the structure through which the company’s objectives are set, and the means of attaining those objectives and monitoring performance. It helps define the way authority and responsibility are allocated and how corporate decisions are made.”

Under this definition and view, corporate governance should help the firms to achieve their objectives by fulfilling the interests and maintaining the relationships between the management, board, shareholders, and other stakeholders. Hence, corporate governance could be a beneficial solution in managing the business. The application of corporate governance in banks will differ slightly from corporate governance in non-financial enterprises. Banks are different from non-financial entities due to two factors. First, banks are more “opaque” than other firms, and second,

banks receive frequent heavy intervention from the government (Levine, 2004). Banks are more opaque than other non-financial firms, which means that the asymmetrical information is larger in banks than the other firms, as shown by the research conducted by Furfine in Levine (2004). This condition affects the banks' corporate governance since the asymmetrical information could hinder the traditional corporate governance mechanism. It is also regulated heavily and strictly by the government, as the banks have considerable influence on the national economy. Some of the big commercial banks in many countries are even owned by the government to ensure the banks' quality. It is affected by the banks' corporate governance since the government now plays a significant role in the banking industry. The goals of the banks owned by the government will be different from those owned by private shareholders. Hence, corporate governance in the banks will be different from corporate governance in the familiar non-financial firms.

The concept of stakeholders is closely related to corporate governance. A stakeholder, according to McGrath and Whitty (2017), is "an entity with a stake (interest) in the subject activity." Many entities are involved in the stakeholders, including shareholders, management, employees, suppliers, and the society surrounding the firms, but the primary stakeholders are "shareholders and investors, employees, customers, and suppliers, as well as what is defined as the public stakeholder group" (Clarkson, 1995). The main stakeholder in the joint venture would be the company's shareholders. According to the OECD (2015), shareholders have several fundamental rights in the corporation, including the right to: 1) secure methods of ownership registration; 2) conveyer transfer shares; 3) timely and regular access to relevant and material information on the corporation; 4) participate and vote in general shareholder meetings; 5) elect and remove members of the board; and 6) share in the profits of the corporation. Depositors' interests would take precedence over shareholders' interests in banks (Basel Committee on Banking Supervision (BCBS), 2015). As a result, the shareholder plays an important role in a company's corporate governance.

The Agency Theory

Agency theory is a well-known corporate governance theory. This theory is regarded as one of the oldest in management and economics literature (Panda & Leepsa, 2017). Adam Smith (1776), who recognized the agency problem and negligence in his work *The Wealth of Nations*, may have been the first to propose the theory. Smith (1776) stated that if an organization is managed by a person or group of people who are not the true owners, there is a risk that they will not work for the benefit of the owners. Jensen and Meckling (1976) popularized this theory by including a reference to it in their original work. The agency theory was defined by Jensen and Meckling in L'Huillier (2013) as "a contractual relationship between one party (principal) engaging another party (agent) to perform a service(s) on behalf of the principal, which involves some decision-making authority being yielded to the agent." As a result, the agency theory's relationship is a kind of contract between the principal and agent, in which both parties work for their own self-interest, resulting in agency conflict. The agency conflict or problem that arises within the agency relationship will be detrimental to the organization. According to L'Huillier (2013), the three primary agency problems associated with the separation of ownership and control are as follows. For starters, there is a conflict of interest between the owners, who act as principals, and the managers, who act as agents. Second, there are information asymmetries between the owners as principals and the managers as agents. Finally, the agency issue could arise as a result of "the inability to write the entire contract for all potential future eventualities" (L'Huillier, 2013). These issues have the potential to initiate and exacerbate the agency problem that occurs in the agency relationship.

Because the agent must always consider the principal's interests, the agency problem makes it difficult for the agent to perform its function. The major challenge in agency theory, according to Monks and Minow (1995), is "how to grant managers enormous discretionary power over the conduct of the business while holding them accountable for the use of the power." This challenge highlights the importance of corporate governance. According to Sternberg (1998), corporate governance plays an important role in ensuring that "corporate actions, assets, and agents are directed at achieving the corporate objectives established by the corporation's shareholders." As a result, corporate governance emerged as a solution to the agency problem or conflict in the agency relationship, according to agency theory.

The Stewardship Theory

The stewardship theory is another well-known corporate governance theory. According to some sources, this theory evolved from the human relations school of management, organizational theory, and the disciplines of sociology and psychology (Hung, 1998; Clarke, 1998; Muth & Donaldson, 1998). This theory can be thought of as the polar opposite of agency theory. The stewardship theory also seeks to explain the role and behavior of directors in achieving firm objectives (Chrisman et al., 2007). It also acknowledges the existence of the agency relationship in the context of an organization. Unlike agency theory, however, stewardship theory proposes that the executive manager, as the agent in the agency relationship, “far from being an opportunistic shirker, essentially wants to do a good job, to be a good steward of the corporate assets” (Donaldson & Davis, 1991). While agency theory focuses on the economic aspects of the relationship, this theory focuses on non-economic influences that guide managerial activity, such as achievement and recognition, intrinsic motivations and satisfaction, and strong work ethics (L’Huillier, 2013).

Managers, according to this theory, serve as stewards of the corporation or organization. The latter are eager to do their best to help the corporation or organization achieve its goals. The stewardship relationship would benefit both the organization and the managers. According to Donaldson and Davis (1991) research, when the principal and steward in an organization coincide, the organization’s performance is higher than when the two figures are separated. According to Davis et al. in L’Huillier (2013), the “model of man” is depicted as when managers as stewards “are team players and not motivated by individual goals but rather align themselves with the objectives of their principals.” As a result, according to this theory, the primary goal of corporate governance is to “focus not on the CEO’s motivation but rather facilitative, empowering structures... [that] will enhance effectiveness and, as a result, superior returns to shareholders” (Donaldson & Davis, 1991). According to the stewardship theory, corporate governance is the power and authority to control the stewards.

The Resource Dependency Theory

One of the most well-known theories in corporate governance is resource dependency theory. Pfeffer and Salancik (1978) first introduced the concept in their book “The External Control of Organizations: A Resource Dependence Perspective,” and it quickly became a well-known corporate governance theory among academics. According to resource dependency theory, “the corporation is characterized as an open system, dependent on contingencies in the external environment” (Pfeffer & Salancik, 1978). According to L’Huillier (2013), the resource dependency theory’s “model of man” saw managers as part of a “networking directorship chain” with significant influence over the organizations and companies’ decisions and policies. Furthermore, Nienhüser (2008) argued that the resource dependency theory’s underlying assumption is that “dependence on critical and important resources influences organizational actions and that organizational decisions and actions can be explained depending on the specific dependency situation.” According to this theory, the external environment has a significant impact on the corporation’s management decisions.

The resource dependency theory emphasizes the organization’s interdependence with its surroundings. The outside environment is viewed as a source of uncertainty and constraint (Nienhüser, 2008). As a result, corporate governance is established in order to assist the organization in controlling the uncertainty that comes from outside the organization. Using corporate governance, the organization attempts to reduce other parties’ control over them while increasing their own power over them (Hillman et al., 2009). According to Hung (1998), “corporations rely on one another for access to valuable resources and thus seek to establish links in an attempt to regulate their interdependence.” The board of directors, for example, serves as a medium to connect the organization with the outside world (Palmer, 1983; Ornstein, 1984). As a result, according to this theory, the external environment influences how an organization develops its structure and management, as well as the distribution of power and control within and outside the organization (Nienhüser, 2008). According to the resource dependency theory, corporate governance is a way for an organization to connect with its external environment.

The Roles of Directors & Commissioner

The board of directors is one of the company stakeholders with a significant role in corporate governance. Each company will have its own board of directors, such as a supervisory board, management board, and executive board. The company that uses a “two-tier” management board has a supervisory board as well as a management board. In contrast, a company that uses a one-tier board may have both the executive and non-executive boards merged into a unitary board (OECD, 2015). According to the OECD (2015), the board has the following responsibilities: 1) guiding corporate strategy; 2) monitoring managerial performance; 3) achieving an adequate return for shareholders; 4) preventing conflicts of interest and balancing competing demands on the corporation; and 5) overseeing the risk management system and systems designed to ensure that the corporation complies with applicable laws. The specific responsibilities of the board may differ depending on the firm and type of business, but the general duties are largely the same.

Table 1. Previous Empirical Studies

No.	Literature	Research Problems	Observed Country	Findings
1	NPL and Corporate Governance: A Case of Banking Sector of Pakistan (Ahmad et al., 2016)	What is the role of corporate governance on the non-performing loans of the banking sector of Pakistan?	Pakistan	Corporate governance matters significantly on non-performing loans.
		How does the government type influence the banking industry in a non-performing loan context?		During dictator regimes, non-performing loans decrease significantly.
2	Impact of Corporate Governance on Non-Performing Loans of Nigerian Deposit Money Banks (Nyor et al., 2013)	What is the impact of corporate governance variables on non-performing loans of Nigerian deposit money banks?	Nigeria	Corporate governance variables have no significant impact on non-performing loans of Nigerian deposits. Money Banks.
3	The Influence of the Corporate Governance Mechanism on the Financial Performance of Rural Banks (Andriyan & Supreme, 2010)	What impact do corporate governance mechanisms have on non-government rural banks in Central Java, Indonesia?	Indonesia	The corporate governance mechanisms influence the ratio of NPL, KPMM, and ROA simultaneously.
4	How to explain non-performing loans by many corporate governance variables simultaneously? A corporate governance index is built for US commercial banks (Tarchouna et al.2017)	What is the impact of the corporate governance system on non-performing loans?	United States	Small banks have a strong corporate governance system that reduces non-performing loans, whereas corporate governance fails to protect medium and large US commercial banks from excessive risk-taking.

Another group that plays an important role in corporate governance in banks is the supervisors. Supervisors “guide and supervise corporate governance at banks, requiring improvement and corrective action as needed, and sharing corporate governance information with other supervisors” (BCBS, 2015). In Indonesia, supervisors are known as commissioners or the Board of Commissioners, and they are in charge of “supervising management policy and its implementation and advising the Board of Directors” (IFC, 2014). These functions may also be available in typical firms or business entities to ensure the smooth operation of corporate governance. One or more independent commissioners should be present on the board of commissioners. The independent commissioner should come from outside the corporation, according to the Indonesia Financial Service Authority (OJK) regulation No.33/POJK.04/2014, about the board of directors and board of commissioners of issuers and public corporations. They should not work for the corporation, nor should they have any duties or obligations to it, nor should they own any of its stock. Furthermore, the independent commissioner should not have a financial or business relationship with the corporation, its board members, or its shareholders. The regulation also requires that every issuer or public corporation have an independent commissioner who

represents at least 30% of the board of commissioners' total membership.

Types of Bank in Indonesia

There are several types of banks in Indonesia based on several different indicators. The classification of the banks helps to measure the performance of the banks precisely. The types of banks in Indonesia are regulated under Undang Undang Republik Indonesia No. 10 of 1998, Undang Undang Republik Indonesia No. 7 of 1992 about Banking, and Undang Undang Republik Indonesia No. 14 of 1967. Under these laws, banks in Indonesia could be classified by function, ownership, status, and how to determine prices. Based on function, the banks can be classified into a commercial banks and rural bank. Based on ownership, the banks can be classified into a state-owned bank, regional development bank, national private bank, foreign bank, joint venture bank, and cooperation bank. Based on status, the banks can be classified into foreign exchange banks and sharia banks.

Previous Empirical Studies

Corporate governance has become an essential issue in the business world, including the banking sector. With the incidence of the global economic crisis, this issue has been discussed even more. Several studies are conducted to examine the relationship between corporate governance and many banking aspects, such as the non-performing loan. Table 1 summarizes the previous studies about the impact of corporate governance on non-performing loans. Ahmad et al. (2016) and Andriyan and Supatmi (2010) found that corporate governance practices significantly affected the banks' non-performing loans.

Conversely, Nyor et al. (2013) found that corporate governance did not significantly impact the non-performing loan. Based on the previous studies conducted, only a limited number of research studies studied the impact of corporate governance variables on the non-performing loan in Indonesia. The current studies on corporate governance in Indonesia are also limited. Moreover, the previous studies have not considered the corporate governance practices in Indonesian banks. Hence, there is a need to study the impact of corporate governance mechanisms in Indonesian banks. As such, this research aims to investigate the impact of several corporate governance variables, such as board size, independent commissioners, and bank category, on the non-performing loans of Indonesian banks.

III. RESEARCH METHODOLOGY

Research Method

The quantitative research method was used in this study. The quantitative research method, according to Williams (2007), "involves a numeric or statistical approach to research design," involves independent researchers, and is intended "to establish, confirm, or validate relationships and to develop generalizations that contribute to theory." The quantitative method will increase the study's reliability by proving the previously developed hypothesis. This research method is appropriate for this study because it employs a numerical and statistical approach and seeks to confirm or validate the relationship between variables. The quantitative method is used in this study to examine the relationship between Indonesian banks' corporate governance and non-performing loans.

Research Sample and Data Collection

Some units of analysis will be examined and discussed in this study. The unit of analysis, according to Koepsell (2005), is "the type of item in which data values are summarized to draw statistical inferences." The units of analysis in this study are Indonesian banks. In this study, 26 banks are investigated. Domestic banks and foreign banks are the two types of banks. The banks are chosen based on their availability and appearance in the Fact Book of the Indonesian Stock Exchange (IDX). From 2012 to 2018, the banks are consistently available in the factbook, identified by the ticker. Because several cross-sectional data sets have been observed over a number of years, this study employs panel data sets. The panel data analysis of the bank's financial data from 2012 to 2018 will be used in this study. Secondary data is being analyzed in this study. Secondary data, according to

Johnston (2014), are “data that was collected by someone else for another primary purpose.” In this study, secondary data are in the form of annual reports obtained from each bank’s website. The time span of this study is seven years, from 2012 to 2018. The data are primarily available in the annual report’s financial report section. All financial reports are completed on December 31st of each year. The information primarily consists of financial performance and corporate governance of banks. The names of the banks are listed in Table 2.

Table 2. Research Samples

No.	Domestic Banks	Foreign Banks
1	Bank Artha Graha Internasional	Bank CIMB Niaga
2	Bank Bukopin	Bank Danamon Indonesia
3	Bank Bumi Arta	Bank Woori Saudara (formerly Bank Himpunan Saudara 1906)
4	Bank Capital Indonesia	Bank Maybank Indonesia (formerly Bank Internasional Indonesia)
5	Bank Central Asia	Bank Mayapada Internasional
6	Bank MNC Internasional (formerly Bank ICB Bumiputera)	Bank Nusantara Parahyangan
7	Bank Mega	Bank OCBC NISP
8	Bank Pan Indonesia	Bank of India Indonesia
9	Bank Rakyat Indonesia Agroniaga	Bank Permata
10	Bank Sinarmas	Bank Tabungan Pensiunan Nasional
11	Bank Victoria International	Bank China Construction Bank (formerly Bank Windu Kentjana International)
12	Bank Mandiri	-
13	Bank Negara Indonesia	-
14	Bank Rakyat Indonesia	-
15	Bank Tabungan Nasional	-

Research Variables

There are some variables used in this research. According to Forsythe et al. in Schoenfeld and Arcavi (1988), a variable is “a letter or a string of letters used to stand for the number,” which is the value of the variable that “may change from time to time.” There are three types of variables involved in this research: the independent, dependent, and control variables. According to Kerlinger (1986), an independent variable is “the presumed cause of the dependent variable,” which is the presumed effect. The independent variable acts as the antecedent, while the dependent variable acts as the consequent. Moreover, the control variables are the “variables that are not of primary interest (i.e., neither the exposure nor the outcome of interest) and thus constitute an extraneous or third factor whose influence is to be controlled or eliminated” (Salkind, 2010). In this research, the dependent variable and the control variable are the banks’ non-performing loans (NPL) and bank age. In contrast, the independent variables are the board size, the board independence, and the banks’ category (foreign or domestic). The definitions of the research variables are presented in Table 3.

Non-Performing Loans (NPL)

The dependent variable of this research is the non-performing loan (NPL). NPL has been widely used as an indicator of financial performance in many studies. According to Nyor and Mejabi (2013), NPL has a significant impact on the bank and reflects the bank’s asset quality. Ahmad et al. (2016) also used this variable in their research on the Pakistani banking sector. The higher the NPL of a bank, the risk associated with it will also be higher. In this research, the type of NPL that is considered is the gross non-performing loan, which consists of the loans with collectability 3 (substandard), 4 (doubtful), and 5 (bad). Gross NPL is chosen rather than net NPL (loan with collectability 5 only) to address the credit risk associated with the loans with the collectability of 3 and 4.

Board Size (SIZE)

Board size is one of the board characteristics variables used in this research. This variable has

been examined in many other research types, such as in Ahmad et al. (2016) and Gafoor et al. (2018). Some studies argue that the bigger board size might benefit the banks' advising and monitoring process, which will then improve governance and return (Gafoor, 2018). However, another research also found that board size negatively affects board size and firm performance (Liang et al., 2013). Hence, board size might influence the banks' non-performing loans, either positively or negatively. In this research, board size reflects the number of directors in the banks' board of directors (BOD).

Board Independence (INDP)

Another board characteristic variable used in this research is board independence. This variable indicates the proportion of independent commissioners in the banks' board of commissioner (BOC). It is used in several research pieces, mainly research on Indonesian banking, such as in Herawanto et al. (2017) and Zulfikar et al. (2017). Independent commissioners usually do not have the interest, obligation, or duties to supervise and control the banks or companies directly; hence, it could minimize the agency problem in the banks (El-Chaarani, 2014). This condition could result in the better performance of the banks and minimized risks.

Table 3. Variable Operationalization

Variable	Definition	Previous Study	Data Source
<i>Dependent Variable:</i>			
Non-Performing Loan (NPL)	Gross NPL (Total loans with collectability 3, 4, & 5)	Nyor & Mejabi (2013); Ahmad, et al. (2016)	Annual Report
<i>Independent Variable:</i>			
Board Size (SIZE)	Number of directors on the board	Ahmad et al. (2016); Gafoor et al. (2018)	Annual Report
Board Independence (INDP)	The proportion of independent commissioners to the total commissioners	Herawanto, et al. (2017); Zulfikar, et al. (2017)	Annual Report
Bank Category (FORD)	Dummy variable (1 for foreign-owned bank, 0 for domestic- owned bank)	Mardinna (2008); Bouzgarrou, et al. (2018)	Performance Summary in IDX
<i>Control Variable:</i>			
Bank Age (AGE)	Bank age since the establishment	Hidayat & Utama (2016); Gupta & Wei (2018)	Performance Summary in IDX
Bank Size (BSZ)	Natural logarithm of the bank's total assets	Gafoor, et al. (2018); Bouzgarrou, et al. (2018)	Annual Report

Bank Category (FORD)

The bank category variable distinguishes the foreign-owned banks from the domestic-owned banks. This variable is a dummy variable. Bouzgarrou *et al.* (2018) and Mardinna (2008) noted that a value of 1 is given to the banks owned by a primarily foreign entity, while 0 is given to the banks owned mainly by the domestic entity. The banks' ownership is defined as the major shareholders or the ultimate shareholder (if available). In this research, the state-owned banks and private banks owned by the local entity will be included in the domestic-owned bank category. On the other hand, private banks owned by the foreign entity will be considered as foreign-owned bank category. Hence, the origin of a bank's major shareholder (foreign-based or domestic-based) will be considered the bank's category for that year.

Bank Age (AGE)

Bank age is used in this research as the control variable. This variable has been used in several research types, such as in Hidayat and Utama (2016) and Gupta and Wei (2018). The bank age might correlate with the non-performing loan of the bank. Coad et al. (2013) argued that firms improved with age since they will become steadier and more experienced. It could also happen in banks. As the

banks aged, they could gain customer loyalty, benefits, and experiences. In this research, AGE is defined as a bank’s age since its date of establishment.

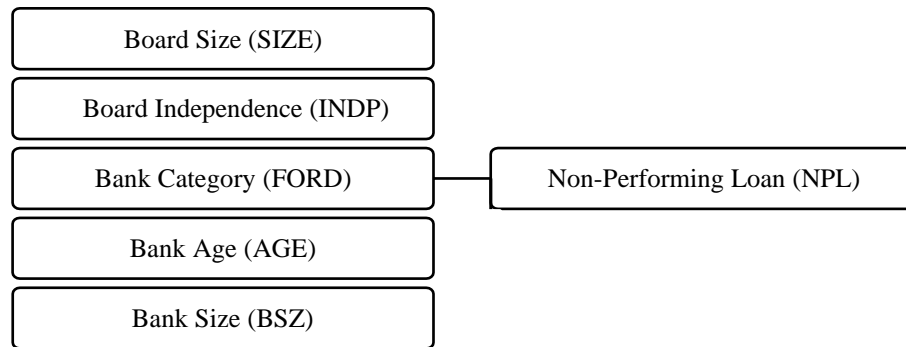
Bank Size (BSZ)

Another control variable that is considered in this research is the bank size. Many researchers have incorporated this variable into their models, such as in Gafoor et al. (2018) and Bouzgarrou et al. (2018). In this research, bank size is defined as the natural logarithm of the bank’s total assets. Banks with bigger assets could benefit from higher product and loan diversification possibilities (Bouzgarrou et al., 2018). Hence, the bank would have more loans and prone to non-performing loans. The risks associated with the bigger size of the banks will also be higher.

Research Model

Using the dependent, independent, and control variables discussed above, the framework of this research can be seen in Figure 2.

Figure 2. Research Framework



This research uses the Multiple Regression Model, a statistical tool that is useful for analyzing the relationship between several independent variables and a dependent variable (Ghozali, 2016). Since there are three independent variables and one control variable involved in this research, the Multiple Regression Model is suitable to be used in this case. The statistical model of this research is as follows:

$$NPL_{it} = \alpha + \beta_1 SIZE_{it} + \beta_2 INDP_{it} + \beta_3 FORD_{it} + \beta_4 AGE_{it} + \epsilon_{it}$$

where:

- i = bank
- t = Time
- NPL = Non-Performing Loan
- SIZE = Board Size
- INDP = Board Independence
- FORD = Bank Category
- AGE = Bank Age
- α = Alpha (Constant)
- β₁, β₂, β₃, β₄ = Beta (Coefficients of the independent variables)
- ε = Error

Hypothesis Development

Several corporate governance aspects, such as board size, board independence, and bank ownership category, could assist a bank in addressing the agency problem. Several researchers have investigated each factor to determine its impact on bank performance indicators such as the non-performing loan ratio. It is critical to understand how these factors affect bank performance in order to assist management in making strategic decisions and improving both the bank’s performance and the quality of the bank’s

corporate governance.

The number of directors on the board is reflected in the board's size. According to John and Senbet (1998), the board of directors is appointed by the shareholders to exercise control over the bank's management and corporate governance mechanism. This condition may be related to the bank's agency problem and may have an impact on the bank's performance. The size of the board of directors may have an impact on the banks' non-performing loans. Several studies looked at the impact of board size on a bank's non-performing loans. Ahmad et al. (2016) investigated the effect of board size on non-performing loans in Pakistan's banking sector. It divided the banks into three categories: state-owned banks, private banks, and foreign private banks. Using regression analysis, it was discovered that the size of the board of directors has a statistically significant impact on the non-performing loans of state-owned banks, private banks, and foreign private banks in Pakistan. This outcome could occur as a result of an ineffective number of directors, which could lead to a coordination problem on the board (Jensen, 1993). Nyor et al. (2013) conducted another study that looked at the impact of board size on non-performing loans at Nigerian deposit money banks. According to the findings of this study, bank size has no significant relationship with non-performing loans. As a result, the first hypothesis developed in this study is as follows:

Hypothesis 1 (H1): Board size impacts the non-performing loan.

Board independence is also one of the corporate governance factors that is expected to have an impact on non-performing loans. Several works of literature have also looked into this variable. However, the majority of the literature focused on the impact of board independence on bank profitability. Adusei et al. conducted research on the relationship between board independence and non-performing loans (2014). According to this study, board independence has a significantly positive relationship with the bank's credit risk in Ghana, as measured by non-performing loans.

Furthermore, Ahmad et al. (2016) investigated the impact of board independence on non-performing loans. According to the findings of this study, board independence has a significant negative impact on non-performing loans. As a result, the second hypothesis developed in this study is as follows:

Hypothesis 2 (H2): Board independence impacts the non-performing loan.

Another aspect of corporate governance which might impact banks' non-performing loan is the bank ownership category. Bank ownership category refers to the classification of the bank based on the origins of the owner. A bank could be owned by foreign, domestic, or government entities. In this research, the bank category consisted of two groups: the foreign-owned bank and domestic-owned bank. Yağcılar and Demir (2015) analyzed the impact of foreign banks dummy variables on 26 Turkish deposit banks between 2002 to 2013. This study found that foreign banks dummy variable has a positive relationship with the non-performing loan. Beaton et al. (2016), included the bank ownership category in their research model to assess the non-performing loans' determinants in the Eastern Caribbean Currency Union (ECCU). It found that the foreign bank dummy variable has a significantly negative impact on the non-performing loan. Hence, considering these research findings, the third hypothesis of this research is as follows:

Hypothesis 3 (H3): Bank ownership category impacts the non-performing loan.

Data Analysis

This research uses Stata IC 12.0 in analyzing and processing the data. This study's data analysis process starts with descriptive statistics, classic assumption test (multicollinearity test), and hypothesis testing.

Descriptive Statistics

This research uses descriptive statistics in analyzing the data. According to Ghazali (2016),

descriptive statistical analysis is “a technique in processing statistical data which aims to describe a data concisely and clearly.” The information included in the descriptive analysis includes the characteristics of the banks’ groups, such as the average value, standard deviation, maximum value, and minimum value of the data.

Classical Assumption Test (Multicollinearity Test)

The classical assumption test conducted in this research is the multicollinearity test. Since this research utilizes the Rogers or clustered standard errors approach, the standard errors must be kept consistent and robust to the disturbances that are heteroscedastic and autocorrelated (Hoechle, 2007). Hence, the two tests are not performed in this research. The multicollinearity test aims to analyze whether there is any strong correlation between the independent variables (Ghozali, 2016). There are two ways to test multicollinearity: Pearson’s Product Moment correlation test and Variance Inflation Factor (VIF) test. Pearson’s correlation test shows the correlation matrix or covariance matrix for a group of variables. When the value of correlation in the matrix is > 0.75 , it is said that there is multicollinearity between the two variables. On the other hand, when the value of correlation is < 0.75 , no multicollinearity occurred. On the other hand, the VIF test uses the VIF value to determine the multicollinearity between variables. If the tolerance value is > 0.10 and the VIF value is < 10 , there is no multicollinearity. Conversely, if the tolerance value is ≤ 0.10 and the VIF value is > 10 , there is multicollinearity between variables.

Table 4. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
NPL	0.027	0.019	0.002	0.158
SIZE	7.582	2.579	3.000	12.000
INDP	0.572	0.085	0.400	0.750
FORD	0.401	0.491	0.000	1.000
AGE	48.038	22.600	9.000	123.00
BSZ	17.891	1.624	14.748	20.983
Observation	182			
Banks	26			
Year	7			

Regression Analysis

This research conducts the Hausman test to know the best model between the standard, fixed, and random effect approaches. This test is used to determine whether the model should be treated fixed or random (Hsiao, 2014). The hypothesis testing involves three parts: the coefficient of determination (R-squared) analysis, the T-test, and the F test. The R-squared analysis is a test that aims to measure how far the ability of the model to explain the variation of the dependent variable (Ghozali, 2016). The R-squared value ranges from 0 to 1, where 0 means that the independent variables do not explain the dependent variable at all, and one means the independent variables can fully explain the dependent variable. The F test aims to examine whether all the independent variables included in the model simultaneously influence the dependent variable (Ghozali, 2016). When the significance value (P-value) of F is ≥ 0.05 , the regression model is not fit and feasible to be used in the research, and when the significance value (P-value) of F is < 0.05 , the regression model is fit and feasible to be used in the research (Santoso, 2014). Furthermore, the T-test aims to determine each independent variable’s effect and significance on the dependent variable (Ghozali, 2016). It could be determined by looking at the significance value of each independent variable. According to Santoso (2014), if the P-value of an independent variable is ≥ 0.05 , it does not significantly affect the dependent variable. If the P-value is < 0.05 , it has a significant effect on the dependent variable.

IV. RESULTS & ANALYSIS

Descriptive Statistics

Descriptive statistics provides the summary statistics of the research variables. Table 4 shows the descriptive statistics table of this research variable. The regression involves 182 observations with 26 cross-sections and seven-time series. The cross-section or panel variable is firmly balanced as the number of observations is the same for each cross-section. The mean of the dependent variable, NPL, is 2.735%, with an overall standard deviation of 0.0186818. The overall minimum value of NPL is 0.21%, and the overall maximum value is 15.82%. For the variable SIZE, the variable’s mean is 7.58, with an overall standard deviation of 2.579417. The overall minimum value of SIZE is 3, and the overall maximum value is 12. The mean of INDP is 57.18%, with an overall standard deviation of 0.084905. The overall minimum value of INDP is 40%, and the overall maximum value is 75%. The mean of FORD is 0.4011, with an overall standard deviation of 0.491. Since this variable is a dummy variable, this variable’s overall minimum value is 0, while the overall maximum value of this variable is 1.

Classic Assumption Test (Multicollinearity Test)

The classic assumption test that will be performed in this research is the multicollinearity test. There are two types of multicollinearity tests conducted: the Pearson correlation matrix test and the VIF test. The result of the Pearson correlation test for the complete model is shown in Table 5.

Table 5. Correlation among Variables (with BSZ)

	NPL	SIZE	INDP	FORD	AGE	BSZ
NPL	1.0000					
SIZE	-0.1336	1.0000				
INDP	-0.1926	-0.3617	1.0000			
FORD	0.0926	0.0631	-0.2942	1.0000		
AGE	-0.1086	0.4889	-0.1234	0.1259	1.0000	
BSZ	-0.1505	0.8810	-0.3094	-0.0615	0.5554	1.0000

In determining the multicollinearity using the Pearson correlation, the correlation value between the two independent variables should not exceed 0.75. In Table 5, the correlation of BSZ and SIZE is 0.8810, which is higher than 0.75. Other than that, BSZ also has a comparatively high correlation with another control variable, AGE, which reaches 0.5554. This could be unfavorable for the model since it indicates that there is multicollinearity between the two variables. Multicollinearity could affect the model’s prediction, so it would not be as accurate as it should. Hence, the BSZ variable, which is the control variable in this research, should be dropped from the model. Table 6 shows the Pearson correlation matrix after the BSZ variable has been dropped. It can be seen that there is no correlation between the two independent variables, which exceed 0.75.

Table 6. Correlation among Variable (without BSZ)

	NPL	SIZE	INDP	FORD	AGE
NPL	1.0000				
SIZE	-0.1336	1.0000			
INDP	-0.1926	-0.3617	1.0000		
FORD	0.0926	0.0631	-0.2942	1.0000	
AGE	-0.1086	0.4889	-0.1234	0.1259	1.0000

Another type of test that can be used to measures the multicollinearity of the variables is the VIF test. The result of the VIF test for this research’s independent variables is shown in Table 7. Multicollinearity occurs when the mean of the VIF test is > 10. In Table 7, it can be seen that the value of the VIF is 6.55, which is lower than 10. Hence, multicollinearity does not exist in this model.

This research does not involve heteroscedasticity and autocorrelation tests since this research utilizes the Rogers or clustered standard errors approach. By using this approach, the standard errors are assumed to be robust and consistent with the disturbances that are heteroscedastic and autocorrelated (Hoechle, 2007). Hence, the two tests are not performed in this research.

Table 7. VIF Test

Variable	VIF	1/VIF
SIZE	10.15	0.098509
AGE	7.45	0.134270
INDP	6.95	0.143810
FORD	1.65	0.605129
Mean VIF	6.55	

Regression Result and Discussion

A regression tool is used in this research to analyze the panel data sets. The regression is performed using the Stata statistical software. This research uses a multiple regression model, which involves three independent variables: SIZE, INDP, and FORD. In determining the proper estimator or approach, the Hausman specification test is conducted in this research.

Table 8. Hausman Test (Coefficients)

	(b) fe	(B) re	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E.
SIZE	0.001065	-0.0009148	0.0019796	0.0009402
INDP	-0.432862	-0.0564929	0.0132067	0.0034189
FORD	-0.0026551	0.0014989	-0.004154	0.0055025
AGE	0.0027768	0.0000019	0.0027749	0.0005361
Chi2(4)	29.92			
Prob > chi ²	0.0000			

Looking at the result of the Hausman test, it is shown that the fixed effects (FEs) estimator is preferred over the random effect (REs) estimator. Hence, this research utilized the fixed effect within regression approach with robust standard errors. The result of the regression analysis is shown in Table 9.

Table 9. Regression Result (All Banks)

NPL	Coefficient	Robust Std. Error	t	p> t
SIZE	0.0010649	0.0012842	0.83	0.415
INDP	-0.0432862*	0.0190891	-2.27	0.032
FORD	-0.0026551	0.0068018	-0.39	0.700
AGE	0.0027768***	0.0006368	4.36	0.000
N		182		
F Statistics		6.70		
Prob > F		0.0008		
Adjusted R²		0.18033112		

The regression result shows the value of adjusted R-squared, P-value for the F-test, and the P-value for the T-test. The value of the adjusted R-squared for this model is 0.1803 or 18.03%. This number means that the independent variables, which are SIZE, INDP, and FORD, could explain 18.03% of the dependent variable, NPL. In comparison, the other 81.97% could be explained by other variables outside this model. The P-value for the F-test of this model based on the regression analysis is 0.0008. This value is lower than the significance level of 0.05, which means that the model is fit and feasible to be used. The independent variables mutually could predict the dependent variable.

Each of the independent variables individually has its P-value. An independent variable is considered significant if the P-value is less than the significance level of 0.05. SIZE has a P-value of

0.415, which is much higher than the significance level of 0.05. Looking at this value, this research concludes that the H0 is accepted. This means that SIZE is statistically insignificant to the dependent variable NPL, and SIZE does not impact NPL. The addition or reduction in the number of directors in the board size does not significantly affect the banks' non-performing loans. This finding is consistent with the finding of Nyor et al. (2013). However, it is inconsistent with the finding of Ahmad et al. (2016). Board size might not impact the NPL due to certain reasons. Firstly, the board size does not reflect the quality of the board. According to Ljubojević and Dašić (2018), some studies found that board size does not have a significant impact on the processes within the board and its effectiveness. Hence, the board's quality of processes, such as the decision-making and deliberation process, is not determined by the board's size. The size of the board might not affect the decision-making, such as the decision was taken to prevent or solve the non-performing loans in the bank. Secondly, the size of the board might not determine the tendency of risk-taking and risk aversion of the banks. Lestari (2018) found that board size does not have a statistically significant impact on bank risk-taking. The bank could be eager to extend more loans and prone to non-performing loans regardless of the size of the board. Hence, this research finds that board size does not impact banks' non-performing loans.

The independent variable INDP refers to the proportion of independent commissioners serving on the board. The regression analysis shows that INDP has a P-value of 0.032, which is lower than the significance level of 0.05. This result suggests that the H0 is rejected and H2 is accepted. INDP impacts the non-performing loan of the bank significantly. The coefficient of this variable based on the regression result shows a negative sign. So, the independent commissioner impacts the non-performing loan negatively. This result is consistent with the findings of Ahmad et al. (2016). Independent commissioner might reduce the bank's non-performing loans since it could eliminate the agency problem in the bank. According to Zulkifar et al. (2017), the independent directors and the commissioner are "a mechanism specifics expected to conduct surveillance and control conflicts of interest between the controlling shareholders and minority shareholders resulting inefficiencies in significant impacts." Since the independent commissioners do not have the financial, management, share ownership, or related to the board members and the controlling shareholders, they could act independently with the board's size of interest. The independent directors could initiate the best possible decision to prevent the non-performing loan and minimize the credit risk. Hence, board independence impacts the non-performing loan of the banks.

Table 10. Regression Result (Foreign-Owned Banks)

NPL	Coefficient	Robust Std. Error	t	p> t
SIZE	0.0036289	0.0022779	1.59	0.139
INDP	-0.0560968	0.0518877	-1.08	0.303
AGE	0.0049184**	0.0012774	3.85	0.003
N		73		
F Statistics		6.85		
Prob > F		0.0072		
Adjusted R ²		0.22155625		

** = significant at 0.01

The bank ownership category variable, FORD, has a P-value of 0.700 based on the regression analysis. The P-value is much higher than the significance level of 0.05, which implies that the H0 is accepted. The ownership category of the bank does not impact the non-performing loan. Any changes in the ownership category of Indonesian banks do not significantly impact the non-performing loan of the banks. This result is inconsistent with the previous studies, which found that the bank category affected the banks' non-performing loans, either negatively or positively. However, this finding is consistent with Lestari (2018), which found that the ownership structure has no significant impact on bank risk-taking. This condition could happen because every bank has a unique policy to decide the degree of bank risk-taking (Lestari, 2018). The bank ownership, either foreign-owned or domestic-

owned bank does not imply that the banks will be more or less risk-taking. The shareholders only appoint the director on the board but not directly engage in the banks’ management. Decision over non-performing loans and risks are not in the hand on the shareholder, regardless of the ownership category. Hence, bank ownership category does not impact the non-performing loan of Indonesian banks.

The control variable, bank age (AGE), has a P-value of 0.000, as shown in Table 9. This number is much lower than the significance level of 0.05 and even significant on the 0.001 significance level. The relationship between bank age and the non-performing loan is positive, as indicated by the variable’s coefficient in the regression analysis. This means that the older the bank is, the non-performing loan seems to increase. The possible cause of this condition is that as the banks grow older, they have more experience and become more confident in extending loans. This condition might make the banks exposed to more credit risk and non-performing loans. However, further study needs to be conducted to know the actual cause of this condition.

To understand more about the impact of the independent commissioner on the banks’ non-performing loan in Indonesia, additional regression analysis is performed. Further regression is conducted to find out whether the board independence impacts the non-performing loan of all ownership categories of the banks. Two different regressions are performed. The analysis involves two independent variables, which are the board size (SIZE) and the proportion of independent commissioners to total commissioners (INDP). It also involves one control variable, which is bank age (AGE). The regression includes the “IF” command to differentiate the variables’ impact on domestic-owned banks and foreign-owned banks. The results of the regressions are shown in Table 10 and Table 11.

Table 11. Regression Result (Domestic-Owned Banks)

NPL	Coefficient	Robust Std. Error	t	p> t
SIZE	-0.0000441	0.0020716	-0.02	0.983
INDP	-0.0335513*	0.0141612	-2.37	0.031
AGE	0.0021713**	0.0007371	2.95	0.009
N		109		
F Statistics		4.66		
Prob > F		0.0159		
Adjusted R ²		0.22267235		

* = significant at 0.05

** = significant at 0.01

As shown in the tables above, the P-value of INDP in the first regression is 0.303, which is higher than the significance level of 0.05. Hence, board independence does not impact the non-performing loan of foreign-owned banks. On the other hand, the P-value of INDP in the second regression is 0.031, which is lower than the significance level of 0.05. Therefore, board independence affects the non-performing loan of domestic-owned banks significantly. Moreover, the coefficient of INDP in the second regression shows a negative sign. This means that there is a negative correlation between board independence and non-performing loan of Indonesian domestic-owned banks. There are several possible reasons for this condition. Firstly, this might be a result of the “liabilities of foreignness” concept. This concept refers to “the additional costs that multinational enterprises have to face relative to their indigenous competitors when operating in foreign markets” (Denk et al., 2012). Foreign owners and commissioners of the banks might find it challenging to create a compelling and suitable strategy for Indonesia. The same condition also happened in other countries. Leye and Micco (2007) found that foreign banks have higher risks than domestic banks in Latin American countries. Hence, liabilities of foreignness might affect the way the foreign-owned banks deal with credit risks.

Moreover, the size of the foreign-owned banks is relatively smaller than the domestic-owned banks. Based on the data gathered, the biggest five banks are occupied by domestic-owned banks, especially state-owned banks. This condition might make it hard for the banks to find qualified independent directors. Lastly, as the foreign investor entrance to Indonesian banks might increase the

competitiveness between local banks in Indonesia, foreign-owned banks might try to extend more loans and make it prone to the credit risk even more. These reasonings, however, should be proven by further research and examinations.

To answer this study's research question, corporate governance seems to impact the banks' non-performing loans in Indonesia. Nevertheless, there is only one independent variable which is found to be significant to the non-performing loan, which is board independence. Independent commissioner has a negative relationship with the non-performing loan. The other two independent variables, which are the bank size and the bank ownership category, are not significant to Indonesian banks' non-performing loans. Also, board independence seems to be significant only to domestic-owned banks. Simultaneously, it does not have a significant impact on the non-performing loan of foreign-owned banks in Indonesia.

V. CONCLUSION

In this research, the relationship between corporate governance and the non-performing loan is being investigated. It is important to examine the impact of corporate governance on Indonesian banks' non-performing loans since Indonesia is considered one of the Asian countries that still experience some problems with corporate governance practices (Teen & Bennett, 2013). Hence, the influence of corporate governance on the Indonesian banks should be analyzed to prevent the increase of non-performing loans due to improper corporate governance practice. There are three corporate governance aspects examined in this research: board size, board independence, and the bank ownership category. Board size refers to the number of directors on the board. Board independence refers to the percentage or proportion of independent commissioners in the board of commissioner. The board ownership category refers to the origin of the bank's major shareholder (foreign-owned or domestic-owned). The study involves 26 banks in Indonesia. The period of observation starts from 2012 to 2018.

The regression analysis shows that the corporate governance variables mutually have a significant impact on the non-performing loan. However, not all variables are individually significant, like the bank ownership category has no significant impact on the non-performing loan. This result is consistent with the study conducted by Nyor et al. (2013) and Lestari (2018). This could happen due to the insignificant relationship between both the board size and bank ownership with the bank risk-taking propensity (Lestari, 2018). Since these two factors do not affect the banks' tendency to take risks, those factors might not influence the bank's credit risk. On the other hand, board independence has a significant relationship with the non-performing loan of Indonesian banks. This result is consistent with the findings of Ahmad et al. (2016). There is a negative relationship between board independence and non-performing loan. Hence, when the board independence increase, the non-performing loans will decrease, and vice versa. Also, further regression shows that the domestic-owned banks' independent commissioner seems to be more influential to the non-performing loan than the independent directors in foreign-owned banks. A further examination needs to be conducted to know the precise reasoning behind this condition. This result could answer the research question of this study by proving the impact of corporate governance mechanisms on non-performing loans in the Indonesian banking sector.

This study provides new insight regarding the corporate governance impact on non-performing loans. This study could help the bank management and regulator in Indonesia in governing the right decision regarding the corporate governance mechanism to be implemented in the banks. There are several recommendations implied from the result of the study. First, since the board size does not significantly impact the non-performing loan, it is important to keep the number of directors as efficient as possible. Moreover, since the board size does not influence the non-performing loan, the management and directors should consider more on the other aspects, such as bank risk-taking and capability in handling the risks, rather than changing the board's number of directors. Bank risk-taking propensity and capability in handling credit risk might influence the banks' amount of non-performing loans. Hence, better decisions and strategies on these aspects could help the banks to reduce the non-performing loans. Next, it is important for the bank to have an independent commissioner serving on the board. It becomes more crucial, when it comes to domestic banks since those banks' independent commissioners' impacts the non-performing loan significantly. The bank should increase or make the

proportion of independent commissioners bigger to help reduce the banks' non-performing loans. This could happen because the independent commissioner might help in reducing the agency problems that happened in the banks, such as conflict of interest. Independent commissioner could give objective opinions and advice to the bank, which are helpful to improve the banks' performance. Lastly, the banks should not worry about the type of ownership in the bank since it does not significantly impact the non-performing loan of the banks.

This research is limited to the 26 banks in Indonesia. The period of observation is also limited to seven recent years (2012-2018). The variables considered in this study are also limited to three corporate governance variables: board size, board independence, bank ownership category, and one dependent variable. Hence, future studies could expand this research by incorporating a new type of bank, such as the corporate governance of the rural banks and sharia banks, to be analyzed. New industries or geographic areas could also be included in the observation to give a broader perspective on corporate governance's impact on the non-performing loan. Expanding the research sample could provide a new perspective on the non-performing loan, so new findings and insight might appear. Future studies could extend the observation period to a more extended period, such as 10 to 15 years. The time dummy variable might help in identifying and controlling the disruption related to the time aspect. Lastly, future studies on this topic are suggested to add new variables, such as dependent, independent, or control variables. Another dependent variable, such as return on assets (ROA) and return on equity (ROE), could improve the understanding of the corporate governance influence on the Indonesian banking sector's profitability and financial performance. Future studies could compare the performance between domestic-owned banks and foreign-owned banks using those dependent variables. The other independent variables related to corporate governance, such as women CEO, audit committee size, and management ownership, could give a better and broader picture of the corporate governance practices in the Indonesian banking sector.

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