

Corporate Governance Practices and Non-performing Loans of Banking Sector of Bangladesh: A Panel Data Analysis

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Abstract

This paper tries to inspect the association and relationship between corporate governance determinants and level of non-performing loan (NPL) of listed commercial banks in Bangladesh. Recently Banks are facing a problem of default loan. This default loan or NPL may reduce the loan giving capacity of the Banks and it may decrease the economic growth of a country. Moreover, there is less research to find out the implication of good governance on the level of NPL in banking sector of Bangladesh than that of developed countries. Here, data from thirty listed commercial banks for the year 2008-2017 (10 years) are taken to explore the rapport between the corporate governance variables and NPL. Random Effect GLS regression method is used to analyze the data. Findings told that commercial banks follow the code of corporate governance on a comply basis however their relationship with NPL is positively significant within the taken determinants of corporate governance. It is

expected that, banks with good quality management may ensure the quality of loan and it will reduce the level of NPL.

Keywords: Non-performing loan, Board size, Board independence and independence of audit committee chairman, Random effect GLS method

1. Introduction

Financial institutions play a significant role in accelerating a country's economic growth. Among all other financial institutions, commercial bank's activeness is very much essential for a developing country. Banks do their operation with others money. Generally, banks bring funds from the surplus unit and mobilize funds to the deficit unit, and it means they work as a financial intermediary. Banks make money or earn money from the interest for mobilizing funds to deficit part, which denotes they give loan to the required persons or entity. The main income source for the bank is interest income. When customer or borrowers are unable to pay loan interest as well as its principal then it becomes default. This loan default is known as non-performing loan (NPL).

According to IMF, NPL will be those with delays in payment of interests and the loan itself of 90 days or more. World Bank defined NPL as the ratio between non-performing loans to total loan portfolio. NPL is the sum of classified loan, sub-standard loan and bad/loss loan in Bangladesh.

NPL becomes one of the most serious concerns of global financial crisis for many countries of the world (Mingaleva et al. 2014). For increasing the level of NPL in banks macroeconomic factors like inflation, GDP, interest rate, unemployment and bank specific factors like board size, board related committees, performance of the banks all act as the determinants (Curak et al., 2013, Tanuskivic & Jandric, 2015, Vinh, 2107 and Muratbek, 2017). Banks internal structure and policy are interchangeably related with its total operation. Good governance depends on structural hierarchy of a bank and it denotes the corporate governance. Corporate governance is a set of principles that helps an organization to conduct its activities with integrity, fairness and transparency. With the help of corporate governance an organization is able to make necessary disclosures and decisions of its transactions with an ethical manner. Corporate governance is the widest control device, which is a hybrid of internal and external control mechanisms with a view to achieving efficient utilization of corporate resources (Chowdhury, 2012).

Bangladesh Securities and Exchange Commission (BSEC) released a policy on Corporate Governance namely 'Code of Corporate Governance 2006' for ensuring more accountability and operational transparency of the listed companies in Bangladesh. 'Code of Corporate Governance 2006' was issued to create more discipline in the stock market by ensuring good governed behavior of the listed companies of stock exchange.

Since independence, Bangladesh had experienced two stock market crash in 1996 and 2010. The stock market crash in 2010 was the devastating one as it had crossed record fall in the Capital Market. Investors lost their investment because of less governance practices in the listed public limited companies. To overcome the shock in the stock market, BSEC had

decided to compel more restrictions on the activities of the listed companies. To do so, a new and modified version of corporate governance guideline was published by BSEC in 2012. To comply with the code of corporate governance every listed company operating in Bangladesh has to disclose all its governance and operation related information.

Managers tend to leverage their own interest by misusing their discretionary power (Castellano, 2011). This provides a potential threat to the organization as well as to the Policymakers’ for ensuring good governance in the economy. To curtail this kind of potential threats, policy makers revise the policies on a regular basis. After 2012, BSEC has issued a recent amendment of ‘Corporate Governance Guidelines 2018’ on July 10, 2018 (Bangladesh Securities & Exchange Commission 2018). This amended guideline will be effective from 2019. In this paper, data have been taken from 2008 to 2017.

In Bangladesh, thirty (30) listed commercial banks are operating their activities and some banks have branch outside the country. Recently, NPL has been increasing at an alarming level. According to World Bank Bangladesh had examined the average rate of NPL is 9.73% in 2012 but it was on an average 8.40% in 2017. But according to Bangladesh bank, at present NPL ratio reaches more than 9%.

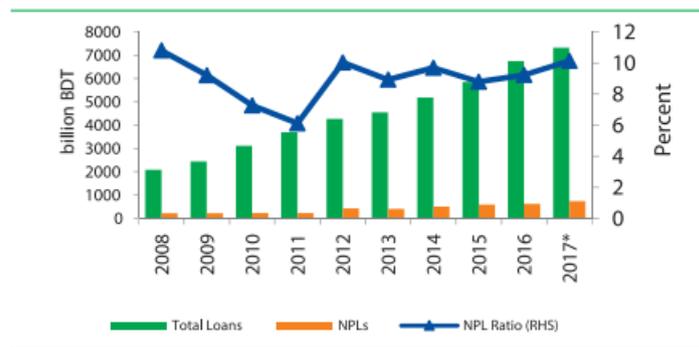


Figure 1. Trends of NPL to total loans (Bangladesh Bank annual report 2017)

From the previous information given by the World Bank and Bangladesh Bank, it can be concluded that the average level of NPL in Bangladesh is not in a stable situation rather it is fluctuating.

This paper tries to find out the relationship between corporate governance practices and level of NPL for listed commercial banks of Bangladesh. More specifically, the objective of this study is to evaluate how the structures of governance of a bank influence the level of NPL. Generally, board size, number of independent directors in the board, audit committee composition, ownership composition tells about the reliability of any organizational operation. In Bangladeshi perspective, previous studies have been done to scrutinize the association between the NPL and profitability but less emphasize has been given to find the association between the corporate governance variables and NPL. This study will also try to explore the direction of the relationship of Corporate Governance Variables and NPL.

Thirty (30) listed commercial banks of Bangladesh are used for doing this study. Descriptive statistics, correlation and regression are used for analyzing the panel data taken for this study.

This will be helpful for the stakeholders of those banks to gather knowledge about the corporate guidelines they implement and the effect of those.

This study reveals that all corporate governance variables those are taken as an indicator has a positive significant relation with the level of NPL. This denotes board member and their related committees are not able to play a vivid role for controlling or minimizing the level of NPL.

The remainder of the paper is organized as follows. Next section tells about the prior works related to this field with hypothesis and theoretical background. Third section gives idea about the data and methodological factors. Following section provides the information regarding the results and its interpretation. Final section concludes the study with suggestion for further study and limitations.

2. Literature Review

Usually Corporate Governance Guidelines are introduced with a view to making the Management of the firms more transparent and accountable in every aspect including both financial and non-financial activities as the management is working for the maximum utilization of shareholders' investment. Theories and researches show that the management may behave in a self-interest way to maximize their very own interest. Eventually, it will not be possible to maximize shareholders' interest.

This kind of Self-interest behavior of the management is very much detrimental to the growth of the firm especially for any Financial Institutions. Rehman et al. (2016) stated that Poor Corporate Governance practices affect banking industry more severely than any other sectors. Non-Performing Loan has become a major problem in the growth of banking industry. Researches show that Poor Governance practices are leading to the rising level of NPL.

Ben et al. (2015) investigated the relation between financial and non-financial indicators of corporate governance and firm's profitability. They argued that effectiveness of the corporate governance depends on the integrity and sanctity of the board member not having intention to endanger the stakeholders of the firm.

Nyor and Mejabi (2013) tried to examine the relationship between NPL and some corporate governance predictors. In their estimation, they used multivariate regression analysis and found no significant relationship between them. They took board size, board composition, composition of audit committee and power separation between board chairman & managing director as corporate governance variables. According to their study, board size and board composition are positively, and composition of audit committee and power separation are negatively associated with non-performing loan.

Ahmed et al. (2016) investigated the impact of non-performing loan on corporate governance in Pakistan. They completed their analysis using average banking impact, foreign private banks, domestic commercial banks and state-owned banks. They concluded in every category that corporate governance has significant impact on NPL. Among the variables of corporate governance, board size is positively and board independence, ownership concentration and

government form are negatively associated with non-performing loan. Here government form acts as a moderating variable since Pakistani banking sector dominated by state-owned banks.

Ahmed (2013) concluded that state-owned banks reduce bank performance and increase riskiness which has dispersed ownership and privately-owned banks increase firm performance and reduce riskiness of banks having concentrated ownership. Here, riskiness is determined by the level of non-performing.

Etale et al. (2016) found that doubtful loans and bad loans have significant negative association with return on common equity (ROCE) whereas and substandard loan has insignificant negative association with ROCE. All category of loans is depicted the level of non-performing loan of the sampled bank. They concluded that increase level of non-performing loan will decrease the bank performance in the long run.

Vinh (2017) conducted an analysis using generalized method of moments (GMM) technique and concluded that non-performing loan has negative impact on banks performance and lending behavior. High level of NPL deteriorated the asset quality and it is the cause for low profitability. Moreover, it also reduces the ability of offering more loans or new loans in future.

Francis et al. (2012) claimed that board structure of banks has influence on the loan quality. They outlined that when the board members are able to work independently then it is quite possible to give loan by doing proper investigation. Even the other board characteristics, audit committee, number of board members have also impact on the price and non-price terms of giving loan.

In the Namibian Context, Sheefani (2015) explained the impact of bank specific predictors on NPL. He used time series model to analyze quarterly report from 2001 to 2014. He concluded that ROA, ROE, ratio between loan and asset and Logged Total Assets are the key bank specific factors of Non-Performing Loan in Namibia. It is commented that Banks with higher income are less interested in risky investments (Possible NPLs) as ROA and ROE are negatively associated with NPL. Asset quality and size of the total assets are positively related with NPL. It dictates the higher quality of assets, the lower chances of NPL

Layola et al. (2016) argued that impact of corporate governance variables on the loan loss provision is mixed. With their analysis they found that meeting attendance of the board members and regulation has positive and significant impact on loan loss provision of Indian banks. On the other hand, board size, independent directors, CEO duality have negative impact on loan loss provision. Their status of relationship was also mixed in nature; some relationships were significant, and some were insignificant. They concluded with their empirical result that, when the corporate governance has no strong regulation then the level of credit risk is increasing in nature and it results in high loan loss provision.

Karim et al. (2010) found that cost efficiency of a bank and level of non-performing loan are significantly related. Their result proved that when cost efficiency is decreasing then the non-performing loan is increasing, and it was supported by the hypothesis of bad

management by Berger and DeYoung (1992). The hypothesis was in banking sector poor management accelerated bad quality loan and it turned as a non-performing loan.

Lestari (2018) wanted to find how the governance of banks shapes the decisions and its competition policy. To do this, author mixed up the corporate governance variables and financial performance variables (capital adequacy ratio and non-performing loan) and found an impact on risk taking decision taken by the banks. Here risk was measured risk weighted asset portfolio. That study concluded that non-performing loan acted as a controlling factor for Indonesian banks and preferences for taking risk.

Magembe et al. (2017) concluded that board size and CEO duality have positive impact on the non-performing loan. It means when the number of board member will increase then the quality of loan will be quite good. With this the role of power separation (Chairman of the board and managing director will be two different persons) is needed to accelerate the situation. But the role of independent director was in a questioned mark and audit committee was not able play a perfect role as both had negative association with non-performing loan.

Maria et al. (2016) claimed that board size and non-performing loan are significantly and negatively related to each other. This denotes that when the board number increases then the level of non-performing loan will decrease and vice-versa. Therefore, this ensures the quality and transparency of the board member towards their activity. This study also concluded that independent directors have positive and significant relationship with the non-performing loan, and it established a question mark on the performance of non-executive directors on the board.

Rose (2017) found that corporate governance structure is related with the bank's credit risk exposure. Here credit risk exposure is measured with the help of credit growth of a bank. Author claimed that inside directors (board member) are more helpful for managing the overall bank management and reduces the risk exposure of a bank. On the contrary, outside directors are not much effective for this credit risk exposure as their tenure with the bank is for short-term basis.

Bussoli et al. (2015) conducted an analysis to find the impact of corporate governance on the loan quality of Italian cooperative banks. Their result showed that board dimension and quality of loan were significantly and negatively related and number of committees had negative impact on the quality of loan. It extends the meaning that more board members ensure the quality of bank management and committees without reason decelerate the quality of loan and the performance of the banks of Italy.

Fajar and Umanto (2017) conducted a study using dynamic panel data GMM-system method on 20 listed Banks in Indonesian Stock Exchange (IDX). Empirical evidence suggests that Operating Profit ratio and ROE have a positive and significant impact on NPL whereas Bank Size and Solvency ratio are in powerless in explaining NPL in Indonesian Context.

For examining financial vulnerability in Pakistan due to Non-Performing Loans, Ahmed and Bashir (2013) investigated bank specific determinants of NPL. They considered 10 bank specific factors namely Inefficiency ratio, solvency ratio, loan to deposit ratio, market power

ratio, ROA, ROE, Credit growth, total liability to income ratio, deposits rate ratio and reserve ratio. Empirical results show that loan to deposit ratio, ROA, Credit growth and reserve ratio have a significant positive relation with NPL. They also argued that growth of NPL over last couple years is a result of Bad Management and moral hazard in the Pakistani Banking Industry.

Rajha (2017) empirically examined the variables that are associated with the growth of Non-Performing Loan in Jordan. In Jordanian Banking Sector, the rate of NPL was 4.1% in 2007, the lowest in last 10 years. He argued that the rate of NPL has started to rise in Jordan after the global financial crisis in 2008. The rate of NPL was 7.7% in 2012. To explain such abrupt rise in the NPL, he considered the period 2007 to 2012. He incorporated NPL, Loans to Total Assets ratio and Bank Size as the proxy for Bank specific factors. Among these variables, Lagged NPL & Loans to Total Assets Ratio affect NPL significantly. He added that Large Banks (In terms of Total Assets) are not efficient enough in assessing credit quality of the client as a result they experience a higher amount of NPL rate over last couple years.

From the above-mentioned scholarly works on Non-Performing Loans (NPL) and Corporate Governance Practices in Banking Sector, it can be stated that the growing level of NPL can be controlled with corporate governance mechanisms.

2.1 Conceptual Framework

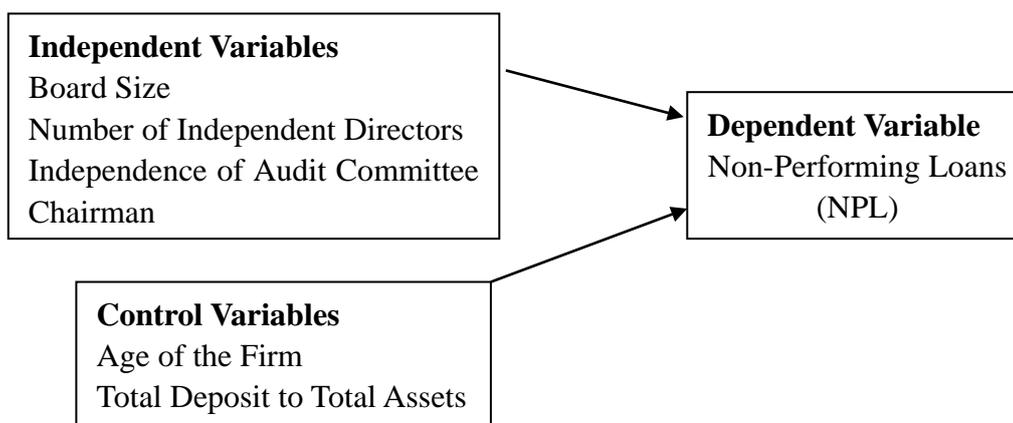


Figure 2. Conceptual framework of the study (author's compilation)

2.2 Hypothesis

As this study is quantitative in nature, it is needed to develop hypothesis to prove the relationship with the estimated model. Here, it is tried to find the impact of corporate governance variables on level of NPL of listed commercial banks of Bangladesh. So, the hypothesis of concern for this study will be:

H_1 = Corporate Governance factors influence the level of non-performing loan.

Here, for corporate governance factors number of Board size, Independency of audit committee chairman and number of independent directors in the board are taken. More concretely hypotheses will be as follows.

H_{1a} = Board size has positive influence on non-performing loan.

H_{1b} = Independency of audit committee chairman has positive influence on non-performing loan.

H_{1c} = Independent Director has positive influence on non-performing loan.

3. Research Methodology

This study intends to find out the relationship between the level of NPL of a bank and some corporate governance variables. Detail research design and methodology of this study is as follows.

3.1 Sample Selection

This study covers the financial institutions specially banks those are listed in Dhaka Stock Exchange (DSE). There are thirty (30) commercial banks listed under DSE. For this study purpose all 30 banks are taken for generating a better view related to the commercial banks operating in Bangladesh. Data collection procedure will be secondary in nature. Data have been taken for 10 years (2008-2017) for the 30 listed commercial banks of Bangladesh. So, this study is done with panel data.

3.2 Dependent Variable, Independent Variables and Control Variables

Natural logarithm of NPL is used as a dependent variable here. This variable is taken from the annual report of respective banks for respective year. Here NPL is taken as the summation of sub-standard loan, doubtful loan and bad/loss loan.

As the study tries to find out the association between NPL and corporate governance so, it is needed to find some variable indicating governance situation of a bank. Selecting corporate governance variable is a troublesome activity because best determinant of corporate governance is controversial among the researchers. With the help of previous literature, it can be said that different researchers used different corporate governance variable (Ahmed et al., 2016; Angahar and Mejabi 2014). For this study board size, number of independent directors and independence of audit committee chairman are the corporate governance indicating variable.

Variable Definition

Variable Name	Sign	Operational Definition
Dependent Variable		
Non-Performing Loans	LnNPL	Natural Logarithm of Non-Performing Loan
Independent Variable:		
Board Size	BSIZE	The ratio of number of directors in the board and the

			highest number of directors allowed as per Corporate Governance Guideline 2012.
Number of Independent Directors	NID		The ratio between number of independent directors and total directors in the board.
Independence of Audit Committee Chairman	ACH		A Dichotomous Variable for representing the presence of Independence of audit committee chairman. If Chairman of Audit Committee is an independent director, then 1 otherwise 0.
Control Variable:			
Total Deposit to Assets	Total Assets	TDTA	The ratio of total deposit to total assets.
Age	AGE		Years of Operation after Listing Year.

3.3 Test of Hypothesis

To test hypothesis descriptive statistics is used here. NPL and other variables are analyzed with the help of descriptive statistics to know about the level and extent of those variables in listed commercial banking sector of Bangladesh. Multiple regression analysis is used to analyze the impact of corporate governance variable on the extent of NPL.

The general form of a multiple regression model can be represented by the following equation.

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n$$

In this model, y is dependent variable, α is the constant and it is defined as the expected value of the dependent variable when all independent variables are equal to zero. Regression coefficient β_n shows the average change in the dependent variable when the independent variable X_n increases by one unit, if all other independent variables remain unchanged. Based on this assumption the regression equation for this study to test the hypotheses is given below.

$$\ln NPL = \alpha + \beta_1 BSIZE + \beta_2 NID + \beta_3 ACH + \beta_4 TDTA + \beta_5 AGE + \epsilon$$

Where, $\ln NPL$ is the natural logarithm of NPL, α is the constant value and ϵ is the error term.

4. Result and Interpretation

This study is related to the impact of corporate governance variables on NPL of listed commercial banks of Bangladesh. For interpretation purpose descriptive statistics, correlation and multiple regression of panel data are used here. Element wise discussions are as follows.

4.1 Descriptive Statistics

To have a view of overall data set, descriptive statistic is the easiest way. Using the descriptive statistics, it is possible to say about the overall central tendency measure of a data set.

Variable	Observations	Means	Std. Dev	Min	Max
LnNPL	300	22.09	0.91	18.78	24.55
BSIZE	300	0.68	0.19	0.25	1.3
NID	300	0.12	0.09	0	0.5
ACH	300	0.57	0.49	0	1
TDTA	300	0.79	0.09	0.03	1.23
AGE	300	15.56	9.24	0	34

From the above table it is possible to conclude that average number of board size is 14 as mean value is 0.68 of 20 (highest value of board member according Corporate Governance Act 2012). Its minimum size is 5 and maximum size 26 (based on 0.25 and 1.3 of the above table). It is clearly stated that some banks violate the rules here. Average number of independent directors is 2 in banks. Average of audit committee chairman is 0.57 that denotes more than 50% banks of the sample, have independent directors as audit committee chairman.

4.2 Correlation Analysis

For getting idea about the association among the taken variables, correlation analysis will help in a good direction. Correlation analysis also gives information about the direction of relationship among the variables.

	LnNPL	BSIZE	NID	ACH	TDTA	AGE
LnNPL	1.0000					
BSIZE	-0.0011	1.0000				
NID	0.4853	-0.2521	1.0000			
ACH	0.5802	-0.0068	0.6376	1.0000		

TDTA	-0.1437	0.0600	-0.0133	0.0449	1.0000	
AGE	0.5726	-0.0180	0.0905	0.2519	-0.2019	1.0000

From the above table, it is possible to conclude that board size has negative correlation with NPL. But number of independent directors and independence of audit committee chairman have positive correlation with NPL. According to literature for sound management, there should be negative correlation among them.

4.3 Regression Analysis

To test the hypothesis that were developed earlier, random-effects GLS regression is used as the data set is panel in nature (data of 30 banks for 10 years). Result is as follows.

	LnNPL	Coef.	Std.Err	P- value
BFSIZE		0.65	0.22	0.003
NID		2.40	0.47	0.000
ACH		0.42	0.08	0.000
TDTA		-0.60	0.35	0.087
AGE		0.08	0.00	0.000
Cons		20.33	0.36	0.000
Number of Observations		300		
F-Statistics (Prob > chi2)		0.0000		
R-sq		within = 0.7123		
		between = 0.4209		
		overall = 0.5326		

The regression result shows how corporate governance impact on the non-performing loan of listed commercial banking sector in Bangladesh. In our model the value of F- statistic is less than 0.05 ($p < 0.05$) with overall R-sq 53.26%. It means that our model is statistically significant and with the help of our taken variables 53.26% of dependent variables will be explained.

First independent variable BSIZE has a positive and significant relationship with the *LnNPL*. This result is fully consistent with Ahmed et al. (2016); Belkhir (2006). There should be negative relationship between BSIZE and *LnNPL* because management quality depends on BSIZE (Francis et al. 2012). Less efficient management means that board members are not independent in their work area. However, it is expected that board members will work for the overall stakeholders of an institution and if not, it means they are handicapped in other measure (Louzis et al. 2010). It denotes board members work for profit maximization rather wealth maximization. Profit maximization is only for short-time gain and its benefit do not reach to the stakeholders of any organization as they are affiliated with the organization for long-term basis. So, from this result it can be stated that board members are not efficient in reducing the level of NPL in Bangladesh. Consequently, banks with larger board size generate more NPL.

NID has a positive and significant influence on *LnNPL* and it means a greater number of independent directors is liable for more amount of NPL. This result is partially consistent with Ahmed et al. (2016) as they found a negative and significant relationship. Independent directors play a vital role for internal governance by reducing information asymmetry among the stakeholders of an institution (Brower et al. 2000). In Bangladesh, there is a question about the independency of independent director of a bank. Subsequently, it is found that most of the independent directors are the depositor or may be the general shareholder of a bank. But as per the Code of Corporate Governance (2012), independent directors should not have any financial relationship with that institution. Moreover, it may be concluded that inactivity of independent director may cause less quality of board management and that is consistent in this result as BSIZE size has a positive and significant relationship with the level of *LnNPL* (Francis et al. 2012).

Audit committee independence has a positive and significant association with *LnNPL* likewise Naylor and Mejabi (2013) and Angahar and Mejabi (2014). Governance quality also depends upon the independence of audit committee of an institution and this positive association denotes the inactivity and lack of independency of the chairman of audit committee in banking sector of Bangladesh. For banking industry quality of audit committee, board size and independency of those are the determining factors of corporate governance (Francis et al. 2012).

Two control variables total deposits to total assets (TDTA) and AGE both are significantly related with the level of NPL of banking sector in Bangladesh. AGE has positive impact and it means bank with more diversified operations may experience increasing level of NPL (Cotugno et al.; 2013). When any organization acquires more experience then it expands its activities and sometimes these huge promises create more complexity for operating the organization with accuracy in all parts. So, banks with a greater number of activities create more affiliation with others and those many affiliations may cause to fluctuate the management quality.

5. Conclusion

This paper empirically investigates the impact of corporate governance practices on the Non-Performing Loans of listed commercial banks of Bangladesh. To do so, data of thirty (30) listed commercial banks have been taken as sample for ten (10) years (2008-2017). For testing the hypothesis that was developed earlier, random-effects GLS regression has been used as data are panel in nature. Sound corporate governance ensures the quality of the top management and this effective management takes decision with proper logical tactics. The result of this study shows board size, number of independent directors, independence of audit committee chairman has significant positive impact on NPL. In general, this impact should be negative, and relationship should be vice-versa. It denotes the board members and others are not able to work independently (Francis et al. 2012). For ensuring the effectiveness of any kind of board or committee in an organization this mentioned independency is required, otherwise credit risk will increase and it is expected NPL is directly related to this kind of credit risk (Saada 2017). The impact of less efficient governance or inactiveness of board member may cause increase of NPL because cost efficiency and NPL are negatively associated (Karim et al. 2010).

In Bangladesh, the effectiveness of regulations is lower than that of developed country (Akhteruddin 2005). After the issuance of 'Code of Corporate Governance 2012', BSEC had made it compulsory for every bank to maintain all these regulations and report the disclosures to the stakeholders. Regretfully, BSEC and Bangladesh Bank have not set any kind of retribution measure for the defiance of those rules. As a matter of fact, the results of this study show that Listed Commercial Banks are reluctant to comply with the regulations imposed by BSEC and Bangladesh Bank which leads to the unexpected growth of Non-Performing Loans in Bangladesh. The inactiveness of the board member and their deterioration in terms quality is the result of the loopholes of the existing regulatory system of Bangladesh. NPL is a crucial factor for the overall financial stability of Bangladesh. Moreover, banking sector has huge impact on the overall money flow of a country. The increasing trend of NPL denotes the possibility of collapse of listed commercial banks as less eminent management decreases the quality of total loan-able assets of a bank (Lestari 2018). Lower quality assets increase the possibility of taking more risk and excessive risk preference may cause loan to default. When loan defaults, banks will give more loans to overcome the previous loss and started to allow more loss provision for this extra loan. It is expected that effective and efficient governance body and management do not want to make this cyclical distress loan (Bostani, Salim, & Aisjah, 2017).

For ensuring the integrity, sincerity and trustworthiness of the board members, independent directors and other structural reformations, it is required to have an effective regulatory system which will ensure proper implementation of the policies. Because regulatory pressure and increased level of accountability can help to bring down the level of NPL in Bangladesh (Amin, Imam and Malik 2019). Moreover, the regulations should be instigated as a check and trial basis.

This study has some limitations as well. Here, only listed commercial banks have been taken and it may also be possible to take private, specialized, Islamic and state-owned banks data and make a comparison among them to show a differential view and also possible to take the value of financial leverage to identify its mediating effect between this relationship. The number of variables of interest may increase as 46.74 % (R-sq of the Study is 53.26%) of the dependent variable remained unexplained in this paper. Furthermore, level of NPL can also be measured based on Ownership structure and asset quality in disaggregate level (Manz 2019).

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