

Prediction of financial distress in foreign exchange banking firms using risk analysis, good corporate governance, earnings, and capital

Ali Machsum Harahap¹

¹ STIE Perbanas Surabaya, Nginden Semolo Street 34-36, Surabaya, 60118, East Java, Indonesia

ARTICLE INFO

Article history:

Received 15 September 2014

Revised 20 December 2015

Accepted 12 January 2015

JEL Classification:

M48

Key words:

Foreign Exchange Bank,

Financial Ratios,

Financial Distress,

Logistic Regression.

DOI:

10.14414/tiar.15.050104

ABSTRACT

The main role of a bank is to collect funds from those who have surplus funds and distribute them to those who have a shortage of funds with the purpose to make benefit from such activity. However, this activity would bring problem when the bank is underfunded or experiencing financial distress due to the customers' inability to repay the funds. This study aims to test whether the ratio of non-performing loans (NPL), Loan to Deposit Ratio (LDR), Good Corporate Governance (GCG), and Return on Assets (ROA), Net Interest Margin (NIM) and the Capital Adequacy Ratio (CAR) can be used to predict financial distress in Foreign Exchange Banking Firms in the period 2009-2012. The initial samples in this study are 35 Foreign Exchange Banks, but there are only 16 Foreign Exchange Banks that meet the criteria. The sampling technique used is purposive sampling method and the data used in this study is a secondary data by looking at the financial statements and the related statements of GCG of the Banks. The test equipment used to test the hypothesis is logistic regression. These results indicate that the ratio of ROA and NIM can be used to predict financial distress in Foreign Exchange Banks because ROA and NIM have significance value below 0.05 (5%). While the ratio of NPL, LDR, GCG and CAR cannot be used to predict financial distress in Foreign Exchange Banks because NPL, LDR, GCG, and CAR have significance value above 0.05 (5%).

ABSTRAK

Peran utama bank adalah mengumpulkan dana dari pihak yang memiliki kelebihan dana dan mendistribusikannya ke pihak yang kekurangan dana dengan tujuan untuk memperoleh keuntungan. Namun, kegiatan ini akan menimbulkan masalah ketika bank kekurangan dana atau mengalami kesulitan keuangan yang disebabkan oleh ketidakmampuan pelanggan untuk mengembalikan dana. Penelitian ini bertujuan untuk menguji apakah rasio kredit bermasalah (NPL), Loan to Deposit Ratio (LDR), Good Corporate Governance (GCG), dan Return on Asset (ROA), Net Interest Margin (NIM) dan Rasio Kecukupan Modal (CAR) dapat digunakan untuk memprediksi kondisi kesulitan keuangan Bank Devisa pada periode 2009-2012. Sampel awal dalam penelitian ini adalah 35 Bank Devisa, tetapi hanya ada 16 Efek Bank Devisa yang memenuhi kriteria. Teknik sampling yang digunakan adalah metode purposive sampling dan data yang digunakan dalam penelitian ini adalah data sekunder dengan melihat laporan keuangan serta laporan GCG dari Bank. Alat uji yang digunakan untuk menguji hipotesis adalah regresi logistik. Hasilnya menunjukkan bahwa rasio ROA dan NIM dapat digunakan untuk memprediksi kondisi kesulitan keuangan Bank Devisa karena ROA dan NIM memiliki nilai signifikansi di bawah 0,05 (5%). Sedangkan rasio NPL, LDR, GCG dan CAR tidak dapat digunakan untuk memprediksi kesulitan keuangan Bank Devisa karena NPL, LDR, GCG, dan CAR memiliki nilai signifikansi di atas 0,05 (5%).

1. INTRODUCTION

The sector of economy is one of the most important sectors in building a country to be a better and even developed country. This is true because the sector

of economy is closely linked to financial sector. In this case, there are a lot of established financial institutions, one of them is banking financial institution, or the so-called bank. Banking financial insti-

* Corresponding author, email address: ¹ alimachsum@yahoo.com.

tutions have an important role in the economic growth of a country, including Indonesia.

Banking firms have various service products provided to customers. The services offered can be used by both small and large companies, government agencies, private organizations, and even individuals, where all of them deposit their funds in the banks. Banking even has a function as an intermediary between those who have surplus funds and those with a shortage of funds. Therefore, banks must have confidence in the community as a major factor in doing the business.

The public confidence in the banking firms shall be maintained well, otherwise, they may lose customers that could adversely affect the company's financial balance. The skepticism of customers to the banks is quite reasonable, because they are worried about losing their money due to the bankruptcy in that may suddenly occur in the future. For the anticipation of the adverse events, it is required an analysis model that can predict the possibility of bankruptcy in the company in the future. Luciana Spica Almilial and Emanuel Kristijadi (2003) stated that financial distress occurs before the bankruptcy. Therefore, financial distress models need to be developed as an early warning for the occurrence of financial distress condition in a company, so that several measures could be taken to anticipate the conditions that may lead to bankruptcy.

The latest regulation of Bank Indonesia has explained the new phenomenon in assessing the health of the banking firms in Indonesia. Circular number 6/23/DPNP dated May 31, 2004 explains that the level of health of Banking Firms is measured through the factors of capital, assets quality, management, earnings, liquidity, and sensitivity to market risk, commonly known as CAMELS. In 2012, Bank Indonesia issued a new regulation, Bank Indonesia Regulation No. 13/1/PBI/2011 dated October 25, 2011, which states that Bank is required to assess the level of health condition of the Bank individually by using Risk-based Bank Rating. This Risk-based Bank Rating includes an assessment of the factors of risk profile, good corporate governance (GCG), earnings, and capital. Where these factors may assess or generate the composite rating of the Bank's health.

This study uses analysis of the factors of Risk Profile, Good Corporate Governance, Earnings and Capital. In Risk Profile, the factors that can be measured using financial ratios are loans risk and liquidity risk, in which Non-Performing Loan (NPL) represents credit risk while liquidity risk is represented by Loan to Deposit Ratio (LDR). Good corporate governance factor can be measured by

looking at the value of good corporate governance in the form of a composite value that has been published by the banking firm concerned. Earnings factor can be measured by using financial ratios of Return on Asset (ROA) and Net Interest Margin (NIM). Capital factor can be measured by using financial ratios of Capital Adequacy Ratio (CAR).

Referring to the background and descriptions above, this research attempts to predict financial distress in foreign exchange banking firms using risk analysis, GCG, earnings, and capital.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

Signaling Theory

Signaling theory is a theory about the information provided by the company with its performance in the future that can be trusted by the market. Good company will give good information (signal) to the market, so that the market will be able to assess the quality of the company (Bestari and Rohman 2013). According to Bestari and Rohman (2013), signaling theory is an explanation of the information asymmetry. Information asymmetry occurs because the management party has more information about the company's prospects. To avoid asymmetry of information, the company must provide information as a signal to investors. This is because the investors always need symmetric information as a monitoring in the investment of the funds in a company, so it is very important for the company to provide information of each account on the financial statements, in which the information will become a signal to be communicated to investors and prospective investors.

Types of Financial Statements

Financial statements have various types of information. According to Ruth and Armas (2012), bank's financial statements consist of:

1. Balance
2. Report of commitment and contingencies
3. Profit and loss calculation
4. Statement of changes in financial position
5. Notes to the financial statements

Assessment of Bank Health

According to the Circular Letter of Bank Indonesia No. 13/24/DPNP/2011, the levels of Bank's health can be measured by the following methods: Risk Profile, Good Corporate Governance (GCG), earnings, and Capital. These methods can produce a composite rating for the level of the Bank's health. The component of risk profile, Good Corporate Governance (GCG), earnings, and Capital includes

the followings:

1. Risk profile consists of:
 2. Loan Risk
 3. Market Risk
 4. Liquidity Risk
 5. Operational Risk
 6. Legal Risk
 7. Strategic Risk
 8. Compliance Risk
 9. Reputation Risk
- Good Corporate Governance (GCG) consists of:
1. The implementation of duties and responsibilities of the Board of Commissioners
 2. The implementation of duties and responsibilities of the Board of Directors
 3. The completion and implementation of the Committee's duties
 4. The handling of conflicts of interest
 5. The implementation of compliance function
 6. The implementation of internal audit function
 7. The implementation of external audit function
 8. The implementation of risk management including the internal control system
 9. The provision of funds to the related parties and the provision of large exposures
 10. The transparency of financial and non-financial condition of the Bank, GCG implementation report, and internal reporting
 11. Bank's strategic plan.
- Profitability (Earnings) consists of:
1. Return On Asset (ROA)
 2. Net Interest Margin (NIM)
- Capital consists of:
1. Capital Adequacy Ratio (CAR)

Definition of Financial Distress

Financial distress is early symptoms before the occurrence of a bankruptcy of the company. Yuanita (2012) stated that financial distress occurs before the bankruptcy, and financial distress is a situation where the respective company is facing financial problems. Financial distress is a general term used to describe a situation where there is a failure, the inability to pay off debt, the negative financial performance, liquidity problems, and default. Research conducted by Almilia (2004) defined financial distress as a condition where the company is experiencing delisted due to the negative net income and book value of equity in a row and the company has been in the merger.

The Effect of Risk on Banking Financial Distress

Risk variable in this study is using loan risk and liquidity risk. Loan risk is represented by Non-

Performing Loan (NPL) and Liquidity Risk is represented by Loan to Deposit Ratio (LDR).

Non-Performing Loan (NPL)

Non-Performing Loan (NPL) is a condition in which there is a problem in the loan such as bad loan, substandard loan, and doubtful loan. The high level of Non-Performing Loan (NPL) will make the quality of the bank loan to be bad and thus resulting in the high level of the number of bad loan, substandard loan and doubtful loan. The higher ratio of non-performing loan (NPL) will cause financial disruption in the banking company, so if non-performing loan (NPL) is getting greater, it will have positive effect on the financial distress.

This conclusion is supported by the research conducted by Almilia and Herdiningtyas (2006) which states that Non-Performing Loan (NPL) ratio has a positive effect on financial distress. The researcher found that the more funds issued by the Bank to the debtor in the provision of credit, the more debtors who cannot repay the funds they have borrowed in accordance with the predetermined time. Thus these circumstances could adversely affect the financial balance of the banking company. This conclusion is also supported by research conducted by Nugroho (2012) which states that the ratio of non-performing loan (NPL) has positive effect on financial distress. This is based on the premise that the banking companies experiencing NPL will make the Bank incur huge costs, either provisioning costs of productive assets or other costs resulting in potential bank losses.

Based on these descriptions, the hypothesis can be formulated as follows:

Hypothesis 1: NPL can be used to predict financial distress.

Loan to Deposit Ratio (LDR)

According to Dendawijaya (2005: 118), Loan to Deposit Ratio (LDR) states the extent of the bank's ability to repay the withdrawal of funds by depositors by relying on loans as the source of its liquidity. In other words, the extent to which the provision of credit to credit customers can offset the obligations of the bank to immediately meet the demands of depositors who want to withdraw their money which has been used by the bank. So, if the Loan to Deposit Ratio (LDR) is getting greater, it will have positive effect on the financial distress. This conclusion is supported by the research conducted by Bestari and Rohman (2013) which states that the Loan to Deposit Ratio has positive effect on financial distress.

This is based on the premise that the LDR will affect the profitability of banks in an effort to earn interest on loans, so that the greater the outstanding loans will increase banks' income. However, in reality, the loans given are too high and eventually disrupt bank's liquidity. This conclusion is also supported by the research conducted by Nugroho (2012) which states that Loan to Deposit Ratio has positive effect on financial distress. This is because the amount of loans provided by the bank is relatively low, while the amount of funds raised by bank is relatively high. This condition makes the interest costs incurred are relatively higher than the interest income so that the probability of bank's bankruptcy is high.

Based on the above description, the hypothesis can be formulated as follows:
Hypothesis 2: LDR can be used to predict financial distress.

The effect of Good Corporate Governance on Banking Financial Distress

Corporate Governance has no standardized definition or meaning because corporate governance is basically a form of structure, system, and a set of rules existing in the company. Good Corporate Governance was made with the aim to regulate the relationship among the shareholders, the board of commissioners, and board of directors for the achievement of company objectives. Good Corporate Governance (GCG) was made to prevent the occurrence of major errors in the company's strategy and to ensure that if an error occurs, it can be corrected immediately. If the Good Corporate Governance (GCG) is getting better, it will have negative effect on the financial distress. This conclusion is supported by the research conducted by Hanifa and Purwanto (2013) which shows that good corporate governance (GCG), in the form of members of the board of directors, managerial ownership, and institutional ownership, has negative effect on the financial distress. This is based on the premise that the increasing number of the members of the board of directors, managerial ownership and institutional ownership will be able to handle problems such as agency cost, Asymmetric Information and cause the interest alignment. This conclusion is not supported by the research conducted by Wardani (2006) which shows that good corporate Governance, in the form of members of the board of directors, has positive effect on the financial distress. This is based on the premise that the greater the number of members of the board of directors will even exacerbate the problems of coordination and

communication so that the company cannot take the right decisions to save the company quickly.

Based on the above description, the hypothesis can be formulated as follows:
Hypothesis 3: GCG can be used to predict financial distress.

The Effect of Earnings on Banking Financial Distress

The variables of earnings in this study are using financial ratios such as Return on Assets (ROA) and Net Interest Margin (NIM).

Return on Assets (ROA)

Dendawijaya (2005: 118) states that Return on Assets (ROA) is a ratio used to measure the ability of bank management in obtaining profit (profit before tax) as a whole. The greater the Return on Assets (ROA) of a bank is, the greater the level of the bank's profits achieved and the better the bank's position in terms of the use of the asset. So if the Return on Assets (ROA) is getting greater, it has negative effect on the financial distress.

This conclusion is supported by the research conducted by Almilia and Herdiningtyas (2006) which states that the ratio of Return on Assets (ROA) has a negative effect on the financial distress. The researcher assumes that the high profits (earnings before tax) can be used to overcome the problems of the Banking Firm, such as temporarily closing loss caused by the non-performing loans.

This conclusion is also supported by research conducted by Nugroho (2012) which states that the ratio of Return on Assets (ROA) has a negative effect on the financial distress. This is based on the premise that the Bank's assets which are usually too high to be allocated on a loan can be well controlled by the Bank and the capital owned by the Bank can be improved, thus the possibility of failure experienced by the banking company to be small.

Based on the above description, the hypothesis can be formulated as follows:
Hypothesis 4: ROA can be used to predict financial distress.

Net Interest Margin (NIM)

Net Interest Margin (NIM) is a ratio used to measure the ability of the banks to generate net interest income from earning assets. The greater the ratio of Net Interest Margin (NIM), the higher the interest income from earning assets managed by the bank. Therefore, if the Net Interest Margin (NIM) is getting greater, it has negative effect on the financial distress. This conclusion is supported by research

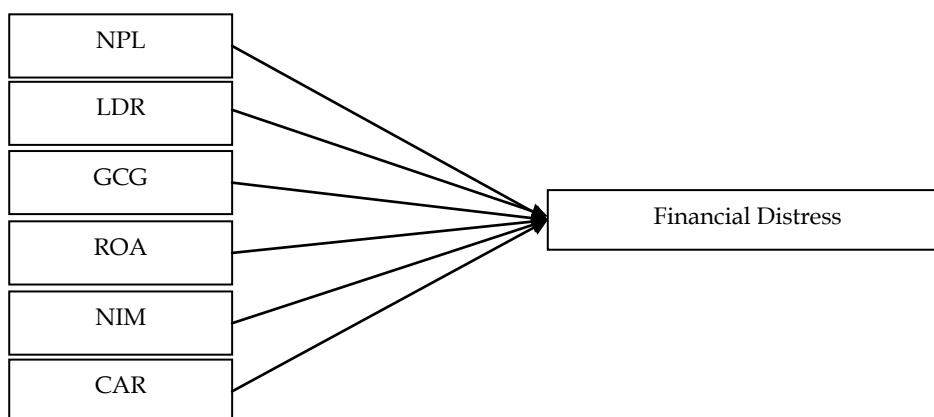


Figure 1
Research Framework

Almilia and Herdiningtyas (2006) which states ratio Net Interest Margin (NIM) have a negative effect on financial distress.

The researcher argued that the increase of earning assets in the form of current credit would also increase the net interest income received by the Bank. With the increase of funds, in the form of net interest income, the bank will be free of financial disruption. This conclusion is also supported by the research conducted by Nugroho (2012) which states that the ratio of Net Interest Margin (NIM) has negative effect on the financial distress. The researcher assumed that the net interest income from earning assets is being increased because this net interest income is not only received from loans but also from other activities such as securities, government bonds and investments.

Based on the above description, the hypothesis can be formulated as follows:

Hypothesis 5: NIM can be used to predict financial distress.

The Effect of Capital on Banking Financial Distress

The variable of capital is the financial ratio in the form of Capital Adequacy Ratio (CAR). According to Dendawijaya (2005: 121), Capital Adequacy Ratio (CAR) is a ratio that shows how much of the total assets of the bank, containing the risks of loans, investments, securities and bills on other banks, that are also financed from its own capital, such as public funds, loans (debt) and others. So if the Capital Adequacy Ratio (CAR) is getting greater, it has negative effect on the financial distress. This conclusion is supported by the research conducted by Bestari and Rohman (2013) which states that Capital Adequacy Ratio (CAR) has a negative effect on financial distress.

This happens because the banks, which are hav-

ing problems, are recommended by Bank Indonesia to conduct mergers or acquisitions so that the additional capital will be greater. This conclusion is also supported by the research conducted by Nugroho (2012) which states that the ratio of Capital Adequacy Ratio (CAR) has negative effect on the financial distress. This is based on the premise that the all Banks have met the conditions set by Bank Indonesia, which is every bank must have a minimum CAR of 8%. This rule is based on the conditions set by Bank for International Settlements (BIS).

Based on these descriptions, the hypothesis can be formulated as follows:

Hypothesis 6: CAR can be used to predict financial distress

Based on the descriptions that have been explained between independent variables and dependent variable, the framework of this study is shown in Figure 1.

3. RESEARCH METHOD

Research Design

This study is using secondary data type, in which the secondary data is the data of annual financial statements that have been issued and published by Foreign Exchange Banking Company in the period 2009-2012. The source of data is obtained from the official website of Bank Indonesia, namely www.bi.go.id and the official website of the Indonesia Stock Exchange, namely www.idx.co.id. According to Jonathan Sarwono (2006: 123), secondary data is the data that is already available, so we just find and collect.

According to Noor (2011: 38), quantitative research is a method to test specific theories by examining the relationship between variables. These variables can be measured using research instruments so that the data, consisting of numbers, can be analyzed based on statistical procedures. This study

is a quantitative study using the financial statements of Foreign Exchange Banking Firms in Indonesia.

Variable Identification

The variables used in this study are dependent variable and independent variables.

The dependent variable of this study is:

$Y = \text{Financial Distress}$

The independent variables of this study are:

$X1 = NPL$

$X2 = LDR$

$X3 = GCG$

$X4 = ROA$

$X5 = NIM$

$X6 = CAR$

Operational Definition and Variables Measurement

Dependent Variable (Y)

Dependent variable is the variable, which is affected by the independent variables. The dependent variable in this study is financial distress. The conditions of banking companies that are experiencing financial distress will be grouped with code 1 (one) and the condition of banking companies that are not experiencing financial distress will be grouped with code 0 (zero). To determine the criteria for banking companies that are experiencing financial distress, this study refers to the research conducted by Zaki et al. (2011). According to Zaki et al. (2011), the criteria of banking companies that are experiencing financial distress are:

If the changes in the values of equity, ROA, and NIM in the banking firm are below or equal to the median value of all observations, this means that the banking firm is experiencing financial distress and is given a code 1.

If the changes in the values of equity, ROA, and NIM in the banking firms above the median value of all observations, this means that the banking firm is not experiencing financial distress and is given a code 0.

Independent Variable (X)

The independent variable in this study is in the form of financial ratio. This financial ratio is used to measure risk analysis, GCG, Earning, and Capital. The financial ratio consists of:

Risk Profile

Non-Performing Loan (NPL)

This ratio shows the ability of bank management in managing non-performing loans granted by banks. The higher this ratio, the worse the quality of bank

loans that leads to the greater number of non-performing loans, so that the possibility of the bank to experience problematic condition is getting greater. This ratio is formulated, based on the Circular Letter of Bank Indonesia No. 3/30DPNP dated December 14, 2001 in Almilialia research and Herdaningtyas (2006) as follows:

$$NPL = \frac{\text{NonPerforming Credit}}{\text{Total Credit}} \times 100\% \quad (1)$$

Loan to Deposito Rasio (LDR)

This ratio is used to assess the liquidity of a bank by dividing the amount of loans granted by the bank to the funds of the third party. The higher this ratio, the lower the ability of the bank's liquidity, so that the possibility of the bank to experience problematic condition is greater. This ratio is formulated, based on the Circular Letter of Bank Indonesia No. 3/30DPNP dated December 14, 2001 in Almilialia and Herdaningtyas (2006) as follows:

$$LDR = \frac{\text{Total Credit}}{\text{Total Fund of the third party}} \times 100\% \quad (2)$$

Good Corporate Governance (GCG)

The Circular Letter of Bank Indonesia No. 13/24/DPNP/2011 states that the assessment of GCG factor is an assessment of the quality of the Bank's management in the implementation of good corporate governance principles. GCG principles and the assessment focus of the implementation of good corporate governance principles are based on the Regulations of Bank Indonesia regarding the implementation of GCG for Commercial Banks by observing the business characteristics and complexity of the Bank. In this study the ratio of Good Corporate Governance (GCG) can be seen through a composite value that has been attached by the company concerned in the its Annual Report or GCG report that has been published.

Earnings

Return on Assets (ROA)

This ratio is used to measure the ability of the bank's management to make a profit (profit before tax) resulting from the average total assets of the bank concerned. This ratio is formulated, based on the Circular Letter of Bank Indonesia No. 3/30DPNP dated December 14, 2001 in Almilialia and Herdaningtyas (2006) as follows:

$$ROA = \frac{\text{Profit before Tax}}{\text{Average Total Assets}} \times 100\% \quad (3)$$

Net Interest Margin (NIM)

This ratio is used to measure the ability of bank

management in managing its productive assets to generate net interest income. This ratio is formulated, based on the Circular Letter of Bank Indonesia No. 3/30DPNP dated December 14, 2001 in Almilialia and Herdaningtyas (2006) as follows:

$$NIM = \frac{\text{Net Interest Income}}{\text{Productive Assets}} \times 100\% \quad (4)$$

Capital

Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) is a ratio that shows how much of the total assets of the bank, containing loans risk, investments, securities and bills on other banks, that are also financed from its own capital in addition to obtaining funds from sources outside the bank. This ratio is formulated, based on the Circular Letter of Bank Indonesia No. 3/30DPNP dated December 14, 2001 in Almilialia and Herdaningtyas (2006):

$$CAR = \frac{\text{Capital}}{\text{ATMR}} \times 100\% \quad (5)$$

Population, Sample, and Sampling Technique

The population of this study is the entire company's financial statements of Foreign Exchange Banking Firms. The sample in this study is a list of the names of Foreign Exchange Banking Firms in Indonesia in the period 2009-2012. The sample collection technique in this study is using purposive sampling technique. According to Noor (2011: 155), purposive sampling is a sampling technique with special considerations to obtain decent sample. The special considerations for the sampling are:

1. The Banks that have received an appointment letter from Bank Indonesia to be able to conduct banking business in foreign currencies.
2. The Banks that continue to exist and still exist from 2009 to 2012.
3. The Banks that have financial statements with the financial year ending on December 31, and have been through the audit process.
4. The Banks that report the composite value as the assessment of good corporate governance.
5. The Banks that do not switch the status of being the other bank groups.

Data and Data Collection Method

This study uses secondary data obtained from the annual financial statements of Foreign Exchange Banking Firms in Indonesia period 2009-2012.

The method of collecting data uses the method of documentation, because the data required and collected are the secondary data published by the Foreign Exchange Banking Firms in the form of

financial statements.

Data Analysis Technique

This study is using hypothesis testing of logistic regression because, according to Ghazali (2011: 333), its dependent variable is in the form of dummy variable (non-metric) while its independent variable is in the form of a combination of continuous (metric) and categorical (non-metric). According to Ghazali (2011: 333), the logistic regression equation can be expressed as follows:

$$Y = \text{Ln} \frac{p}{1-p} = b_0 + b_1NPL + b_2LDR + b_3GCG + b_4ROA + b_5NIM + b_6CAR + e \quad (6)$$

$$Y = \text{Ln} \frac{p(\text{Not Problematic})}{1-p(\text{Problematic})} = \text{Financial Distress}$$

b_0 = Constanta

$b_1..b_6$ = Regression Coefficient

NPL = Non-Performing Loan

LDR = Loan to Deposit Ratio

GCG = Good Corporate Governance

ROA = Return On Assets

NIM = Net Interest Margin

CAR = Capital Adequacy Ratio.

According to Ghazali (2011: 340), in the logistic regression some steps must be carried out as follows:

1. Assessing Fit Model

The assessment of Fit Model is used to assess whether the model being hypothesized fit to the data. The assessment of fit model consists of:

a. Function of Likelihood

Likelihood L of the model is the probability that the hypothesized model depicts the input data. To test the null and alternative hypothesis, L is transformed into -2LogL . Statistics -2LogL can be used to determine if the independent variable is added to the model whether it significantly improves the fit model.

b. Cox and Snell's R Square and Nagelkerke's R Square

Cox dan Snell's R Square is a measure that seeks to imitate the size of R^2 on the multiple regression, which is based on Likelihood estimation technique, with a maximum value of less than 1 (one), so it is difficult to interpret. Nagelkerke's R square is a modification of the Cox and Snell coefficient to ensure that its value varies from 0 (zero) until 1 (one). This is done by dividing the value of Cox and Snell's R^2 with its maximum value. This model is used to find out how much the variability of dependent variable that can be explained by the variability of the independent variable.

Table 1
Descriptive Analysis Results

Financial Condition	Average					
	NPL	LDR	GCG	ROA	NIM	CAR
Financial Distress (score = 1)	2.3727	82.2200	1.9113	0.9280	4.1520	20.9000
Non Financial Distress (score = 0)	3.1780	77.2753	1.6831	1.9361	5.4341	16.2369

Source: Processed Data.

c. *Hormes and Lemeshow's Goodness of Fit test*
Hormes and Lemeshow's Goodness of Fit test is to test the null hypothesis that the empirical data fits the models. If the statistical value of Hosmer and Lemeshow's Goodness of Fit test is equal to or less than 0.05, the null hypothesis is rejected, which means that there are significant differences between the models and its observation value, so goodness fit model is not good because the model cannot predict its observation value. If the statistical value of Hosmer and Lemeshow's Goodness of Fit test is greater than 0.05, the null hypothesis is accepted, which means that the model is able to predict its observation value or it can be said that the model is accepted as a model fits the observation data.

2. Classification Table

Classification table 2×2 calculates the correct and incorrect estimation value. In the column, it shows two prediction values of the dependent variable; successful (1) and unsuccessful (0). While in the line, it shows the actual observation values of the dependent variable; successful (1) and unsuccessful (0). In a perfect model, all the cases will be on the diagonal with the forecasting accuracy rate of 100%. If the logistic model has homoscedastisity, the correct percentage will be the same for both rows.

3. Hypothesis Testing

This hypothesis analysis testing is conducted to determine the effect of independent variables on the dependent variable. The hypothesis testing is done by comparing the probability value (sig). If the significance number is smaller than 0.05, the regression coefficient is significant at the level of 5%, meaning that H0 is rejected and H1 is accepted. This indicates that the independent variables significantly affect the dependent variable. Vice versa, if the significance number is greater than 0.05 or 5%, this means that H0 is accepted and H1 is rejected. This indicates that the independent variable does not significantly affect the dependent variable.

4. DATA ANALYSIS AND DISCUSSION

Descriptive Analysis

Non-Performing Loan (NPL)

In Table 1, it shows that the mean value of the NPL at the Foreign Exchange Banking Firms experienc-

ing the condition of financial distress is 2.3727, and the mean value of NPL in the Foreign Exchange Banking Firms experiencing the condition of non financial distress is 3.1780.

Based on the theory, the value of NPL for the condition of financial distress should be higher than the value of NPL for the condition of non-financial distress. But based on the result of descriptive test for the mean value, it shows that the value of NPL for the condition of non-financial distress is higher than the value of NPL for the condition of financial distress.

Loan to Deposit Ratio (LDR)

In Table 1, it shows that the mean value of LDR in Foreign Exchange Banking Firms experiencing the condition of financial distress is 82.2200, and the mean value of LDR in Foreign Exchange Banking Firms experiencing the condition of non financial distress is 77.2753.

Based on the theory, the value of LDR for the condition of financial distress is higher than the value of LDR for the condition of non-financial distress. The result of descriptive test for the mean value is in accordance with the theory, indicating that the value of LDR for the condition of financial distress is higher than the value of LDR for the condition of non-financial distress.

Good Corporate Governance (GCG)

In Table 1, it shows that the mean value of GCG in Foreign Exchange Banking Firms experiencing the condition financial distress is 1.9113, and the mean value of GCG in Foreign Exchange Banking Firms experiencing the condition of non financial distress is 1.6831.

Based on the theory, the value of GCG for the condition of financial distress is higher than the value of GCG for the condition of non-financial distress. The result of descriptive test for the mean value is in accordance with the theory indicating that the value of GCG for the condition of financial distress is higher than the value of GCG for the condition of non-financial distress.

Return on Asset (ROA)

In Table 1, it shows that the mean value of ROA in

Foreign Exchange Banking Firms experiencing the condition of financial distress is 0.9280, and the mean value of ROA in Foreign Exchange Banking Firms experiencing the condition of non-financial distress is 1.9361.

Based on the theoretic, the value of ROA for the condition of non-financial distress is higher than the value of ROA for the condition of financial distress. The result of descriptive test for the mean value is in accordance with the theory, indicating that the value of ROA for the condition of non-financial distress is higher than the value of ROA for the condition of financial distress.

Net Interest Margin (NIM)

In Table 1, it shows that the mean value of NIM in Foreign Exchange Banking Firms experiencing the condition of financial distress is 4.1520, and the mean value of NIM in Foreign Exchange Banking Firms experiencing the condition of non-financial distress is 5.4341.

Based on the theory, the value of NIM for the condition of non-financial distress is higher than the value of NIM for the condition of financial distress. The result of descriptive test for the mean value is in accordance with the theory, indicating that the value of NIM for the condition of non-financial distress is higher than the value of NIM for the condition of financial distress

Capital Adequacy Ratio (CAR)

In Table 1, it shows that the mean value of CAR in Foreign Exchange Banking Firms experiencing the condition of financial distress is 20.9000, and the mean value of CAR in Foreign Exchange Banking Firms experiencing the condition of non-financial distress is 16.2369.

Based on the theory, the value of CAR for the condition of non-financial distress should be higher than the value of CAR for the condition of financial distress. However, based on the result of descriptive test for the mean value, it shows that the value of CAR for the condition of financial distress is higher than the value of CAR for the condition of non-financial distress. This indicates that the proportion of assets of the firms experiencing condition of non-financial distress contains a higher risk than those experiencing condition of financial distress.

Analysis Testing of Hypothesis

Testing Model Overall Fit

In Table 2, it shows that the initial value of -2 Log Likelihood, without independent variables put into the model, is 69.697, and the value after the inde-

Table 2
Results of Model Fit Test

Test of Model Fit	Result
-2 LogLikelihood	
Block 0	69.697
Block 1	35.773
Snell R Square and Nagelkerke R Square	
Cox and Snell R Square	0.411
Nagelkerke R Square	0.620
Hosmer and Lemeshow's Goodness of Fit Test	
Chi-Square	3.568
Significance	0.894
Table of Classification	
Total Percentage	89.100

Source: Processed Data.

pendent variables are put into the model is 35.773. These results have proved that the value of -2Log Likelihood experienced a reduction from the initial model to the final model. Therefore, it can be concluded that the logistic regression model in this study fits or in accordance with the data.

Coefficient of Determination (Cox and Snell R Square and Nagelkerke R Square)

In Table 2, it shows that the value of *Cox and Snell R Square* is 0.411 and the value of *Nagelkerke R Square* is 0.620. This explains that the variability of the condition of financial distress at Foreign Exchange Banking Firms during the period 2009-2012 that can be described by the variability of Non Performing Loan (NPL), Loan to Deposit Ratio (LDR), Good Corporate Governance (GCG), Return on Assets (ROA), Net Interest Margin (NIM) and Capital Adequacy Ratio (CAR) is 0.620 or 62%, for the remaining 38% can be described by other factors which not examined.

Testing the Feasibility of the Regression Model (Hosmer and Lemeshow's Goodness of Fit Test)

In Table 2, it shows that the value of Hosmer and Lemeshow's Goodness of Fit Test is generating Chi-Square value of 3.568 with a significance value of 0.894. Where this value is greater than 0.05 (5%) From these results, it can be concluded that the logistic regression model used is feasible to be analyzed further because this model can predict its observation value.

Table of Classification

In Table 2, it has been known, overall, that the classification accuracy of the logistic regression model in this study is 89.1%. This shows that the logistic

Table 3
Results of Model Fit Test

Variable	Coefficient (B)	Wald	Sig.	Exp (B)
Constant	10.300	6.480	0.112	29732.728
NPL	-0.265	1.736	0.188	0.768
LDR	0.014	0.125	0.724	1.014
GCG	-0.289	0.103	0.748	0.749
ROA	-2.247	6.124	0.013*	0.106
NIM	-2.089	7.452	0.006*	0.124
CAR	0.068	1.491	0.222	1.070

Source: Processed Data.

regression model in this study has good accuracy for predicting financial distress in Foreign Exchange Banking Firms period 2009-2012.

Results of Logistic Regression

The result of logistic regression is shown in Table 3. From Table 3, it shows the result as follow:

Non-Performing Loan (NPL)

Variable of Non-Performing Loan (NPL) has a coefficient value of -0.265 and a significance value of 0.188. So it can be said NPL variable does not significantly affect the condition of financial distress in Foreign Exchange Banking Firms due to the significance value of $0.188 > 0.05$. Thus, it can be concluded that the first research hypothesis (H1), which assumes that NPL variable can be used to predict financial distress, cannot be accepted (rejected).

Non Performing Loan (NPL) is a condition in which there have been credit problems such as bad loans, substandard loans, and doubtful loans. Descriptive data show that the average NPL of Banks that are not experiencing financial distress is 3.1780, higher than the average NPL of Banks that are experiencing financial distress, which is 2.3727. This indicates that credit problems would even occur in firms that are not predicted to experience financial distress. This implies that the NPL ratio is not an appropriate predictor for the banks experiencing financial distress.

Loan to Deposit Ratio (LDR)

Variable of Loan to Deposit Ratio (LDR) has a coefficient value of 0.014 and a significance value of 0.724. So it can be said that LDR variable does not significantly affect the condition of financial distress at Foreign Exchange Banking Firms, due to the significance value of $0.724 > 0.05$. Thus, it can be concluded that the second research hypothesis (H2) which assumes that LDR variable can be used to predict financial distress, cannot be accepted (rejected).

Loan to Deposit Ratio (LDR) is to measure the extent to which the bank's ability to repay the

withdrawal of funds by depositors by relying on loans as its source of liquidity. Descriptive data show that the average LDR of banks that are not experiencing financial distress is 77.27, lower than the average NPL of banks that are experiencing financial distress, 82.22. This indicates that the ability of banks, which are not experiencing the condition of financial distress, to repay the withdrawal of funds by depositors is higher than of those, which are experiencing the condition of financial distress. Although the LDR of the banks, which are not experiencing the condition of financial distress, is higher than of those, which are experiencing the condition of financial distress, statistically, the LDR affects not significantly the banks, which are experiencing the condition of financial distress. This implies that the ratio of LDR is not an appropriate predictor for the banks experiencing the condition of financial distress.

Good Corporate Governance (GCG)

Variable of Good Corporate Governance (GCG) has a coefficient value of -0.289 and a significance value of 0.748. So it can be said that GCG variable does not significantly affect the condition of financial distress in Foreign Exchange Banking Firms, due to the significance value of $0.748 > 0.05$. Thus, it can be concluded that the third research hypothesis (H3), which assumes that GCG variables can be used to predict financial distress, cannot be accepted (rejected).

Good Corporate Governance (GCG) was made to prevent the occurrence of major errors in the company's strategy and to ensure that if an error occurs, it can be corrected immediately. The descriptive data show that the average index of GCG of the banks, which are not experiencing financial distress, is 1.6831, lower than the average index of GCG of the banks, which are experiencing financial distress, 1.9113. This indicates that the GCG of the banks, which are experiencing financial distress, is higher than those, which are not experiencing financial distress. This also indicates that the GCG of the banks, which are experiencing financial distress, is higher

than those, which are not experiencing financial distress. This implies that the ratio of GCG index is an appropriate predictor for the banks experiencing the condition of financial distress.

Return on Asset (ROA)

Variable of Return on Assets (ROA) has a coefficient value of -2.247 and a significance value of 0.013. So it can be said that ROA variable significantly affects the condition of financial distress in Foreign Exchange Banking Firms, due to the significance value of $0.013 < 0.05$. Thus, it can be concluded that the fourth research hypothesis (H4) which assumes that ROA variable can be used to predict financial distress is accepted.

Return on Assets (ROA) is a ratio used to measure the ability of the bank's management to make a profit (profit before tax) as a whole. The greater the Return on Assets (ROA) of a bank, the greater the level of the bank's profits achieved, and the better the bank's position in terms of the use of the assets. The descriptive data show that the average ROA of the banks which are not experiencing financial distress is 1.9361, higher than the average ROA of the banks which are experiencing financial distress, 0.9280. This indicates that the bank's ability to generate profits in the banks, which are not experiencing the condition of financial distress, is higher than those which are experiencing the condition of financial distress. This implies that the ratio of ROA is an appropriate predictor for the banks, which are experiencing the condition of financial distress.

Net Interest Margin (NIM)

Variable of Net Interest Margin (NIM) has a coefficient value of -2.089 and a significance value of 0.006. So it can be said that NIM variable significantly affects the condition of financial distress in Foreign Exchange Banking Firms, due to the significance value of $0.006 < 0.05$. And thus it can be concluded that the fifth research hypothesis (H5) which assumes that NIM variable can be used to predict financial distress is accepted.

Net Interest Margin (NIM) is a ratio used to measure the bank's ability to generate net interest income from productive assets. The greater the ratio of Net Interest Margin (NIM), the more increased the interest income on productive assets managed by the bank. The descriptive data show that the average NIM of the banks, which are not experiencing financial distress, is 5.4341, higher than the average NIM of the banks, which are experiencing financial distress, 4.1520. This indicates that the bank's ability to generate net interest income on productive assets in

the banks, which are not experiencing the condition of financial distress, is higher than those, which are experiencing the condition of financial distress. This implies that the ratio of NIM is an appropriate predictor for the banks, which are experiencing the condition of financial distress.

Capital Adequacy Ratio (CAR)

Variable of Capital Adequacy Ratio (CAR) has a coefficient value of 0.068 and a significance value of 0.222. So it can be said that CAR variable does not significantly affect the financial distress in the Foreign Exchange Banking Firms, due to the significance value of $0.222 > 0.05$. Thus, it can be concluded that the sixth research hypothesis (H6) which assumes that the CAR variable can be used to predict financial distress cannot be accepted (rejected).

Capital Adequacy Ratio (CAR) is a ratio that shows the extent to which the entire assets of the bank that contain risks (credit, investments, securities, bills on other banks) are also financed from its own capital, such as public funds, loans, and others. The descriptive data show that the average CAR of the banks, which are not experiencing financial distress, is 16.2369, lower than the average CAR of banks, which are experiencing financial distress, 20.9000. This indicates that the risky assets in the banks, which are not experiencing financial distress, are lower than those, which are experiencing financial distress. Although the CAR of the banks, which are not experiencing financial distress, is lower than that of the banks, which are experiencing financial distress, statistically, CAR affects not significantly the determination of financial distress condition in banking sector. This implies that the ratio of CAR is not an appropriate predictor for banks, which are experiencing financial distress.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Based on the results of data analysis, it can be concluded that 1) NPL cannot be used to predict financial distress in Foreign Exchange Banking Firms because NPL does not significantly affect the condition of financial distress; 2) LDR cannot be used to predict financial distress in Foreign Exchange Banking Firms because LDR does not significantly affect the condition of financial distress; 3) GCG cannot be used to predict financial distress in Foreign Exchange Banking Firms because GCG does not significantly affect the condition of financial distress; 4) ROA can be used to predict financial distress in Foreign Exchange Banking Firms because ROE significantly affects the condition of financial distress;

5) NIM can be used to predict financial distress in Foreign Exchange Banking Firms because NIM significantly affects the condition of financial distress; 6) CAR cannot be used to predict financial distress in Foreign Exchange Banking Firms because CAR does not significantly affect the condition of financial distress.

This study has several limitations, among others are 1) In conducting data tabulation for the financial ratios of NPL, LDR, ROA, NIM, and CAR, the researcher chose to calculate the financial ratios by himself, so for the final results of these financial ratios will be different from the final results of the annual report published by the banking firms concerned; 2) Risk Analysis, Good Corporate Governance, Earnings, and Capital were not all used in this study, especially for Risk. Where actually there are 8 risks, but only 2 risks which are used in this study, i.e. Credit Risk and Liquidity Risk, because both of them can be measured quantitatively.

Suggestions for researchers who wish to continue this study are the researchers could further expand the samples and add more independent variables to predict financial distress, especially risk variable.

REFERENCES

- Almilia, Luciana S 2004, 'Analisis Faktor-Faktor yang Mempengaruhi Kondisi Financial Distress suatu Perusahaan yang Terdaftar di Bursa Efek Jakarta', *Jurnal Riset Akuntansi Indonesia (JRAI)*, Vol. 7 No. 1, 1 - 22.
- Almilia, Luciana S 2006, 'Prediksi Kondisi Financial Distress Perusahaan Go Public Dengan Menggunakan Analisis Multinomial Logit', *Jurnal Ekonomi Dan Bisnis*, 12 (1), 1-20.
- Almilia, Luciana S and Emanuel Kristijadi, 2003, 'Analisis Rasio Keuangan Untuk Memprediksi Kondisi Financial Distress Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Jakarta', *Jurnal Akuntansi Dan Auditing Indonesia (Jaai)*, 7 (2), 1-27.
- Almilia, Luciana S. & Winny Herdiningtyas, 2006, 'Analisis Rasio CAMEL Terhadap Prediksi Kondisi Bermasalah Pada Lembaga Perbankan Periode 2000-2002', *Jurnal Akuntansi Dan Keuangan*, 7 (2), Pp-131.
- Bank Indonesia, 2004, *Surat Edaran Bank Indonesia Nomor 6/23/DPNP Tanggal 31 Mei 2004 Perihal Sistem Penilaian Tingkat Kesehatan Bank Umum*.
- Bank Indonesia, 2011, *Surat Edaran Bank Indonesia Nomor 13/24/DPNP Tanggal 25 Oktober 2011 Perihal Penerapan Tingkat Kesehatan Bank Umum*.
- Bank Indonesia, 2011, *Peraturan Bank Indonesia Nomor: 13/1/PBI/2011 Tentang Penilaian Tingkat Kesehatan Bank Umum*.
- Bank Indonesia, 2013, *Surat Edaran Bank Indonesia Nomor 15/15/DPNP Tanggal 29 April 2013 Perihal Pelaksanaan Good Corporate Governance Bagi Bank Umum*.
- Bestari, Adhistya Rizky and Abdul Rohman, 2013, 'Pengaruh Rasio CAMEL Dan Ukuran Bank Terhadap Prediksi Kondisi Bermasalah Pada Sektor Perbankan (Studi Pada Perusahaan Perbankan yang Terdaftar Di Bursa Efek Indonesia Tahun 2007-2011)', *Diponegoro Journal of Accounting*, 35-43.
- Dendawijaya, Lukman, 2005, *Managemen Perbankan*, Bogor : Ghalia Indonesia.
- Ghozali, Imam, 2011, *Aplikasi Analisis Multivariate dengan Program IBM SPSS 19*, Semarang: Universitas Diponegoro.
- Hanifah, Oktita Earning and Agus Purwanto, 2013, 'Pengaruh Struktur Corporate Governance Dan Financial Indicators Terhadap Kondisi Financial Distress', *Diponegoro Journal of Accounting*, 648-662.
- Ikatan Akuntan Indonesia, 2012, PSAK No. 15 (Revisi 2009), *Penyajian Inoestesi Pada Entitas Asosiasi*.
- Kasmir, 2012, *Managemen Perbankan*, Jakarta: PT Rajagrafindo Persada.
- Munawir, S 2002, *Analisis Informasi Keuangan*, Yogyakarta: Liberty Yogyakarta.
- Noor, Juliansyah, 2011, *Metode Penelitian*, Yogyakarta : Graha Ilmu.
- Nugroho, Vidyarto, 2012, 'Pengaruh CAMEL Dalam Memprediksi Kebangkrutan Bank', *Jurnal Akuntansi*, Volume XVI, No. 01, 145-161.
- Ruth, Maulina and Riadi Armas, 2012, 'Analisis Rasio Camel Bank-Bank Umum Swasta Nasional Periode 2005-2009', *Pekbis (Jurnal Pendidikan Ekonomi Dan Bisnis)*, 3 (03).
- Sarwono, Jonathan, 2006, *Metode Penelitian Kuantitatif Dan Kualitatif*, Yogyakarta : Graha Ilmu.
- Wardhani, Ratna, 2006, 'Mekanisme Corporate Governance Dalam Perusahaan Yang Mengalami Permasalahan Keuangan (Financially Distressed Firms)', *Simposium Nasional Akuntansi 9 Padang*, 1-26.
- Yuanita, Ika, 2012, 'Prediksi Finacial Distress Dalam Industri Textile Dam Garment (Bukti Empiris Di Bursa Efek Indonesia)', *Jurnal Akuntansi & Manajemen*, 6 (2), 101-120.
- Zaki, Ehab, Rahim Bah and Ananth Rao, 2011, 'Assessing Probabilities of Financial Distress of Banks in UAE', *International Journal of Managerial Finance*, Vol. 7 No. 3, pp. 304-320.