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Financial distress for bankruptcy early warning by the risk analysis on go-public banks in Indonesia

Laely Aghe Africa[1]

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

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A B S T R A C T

Early warning is essential for overseeing the firm's financial system stability, and is developed by financial distress model. Financial Distress is financial declining phase that happens before bankruptcy or liquidation. This Research aimed to analyze whether the following factors such as CKPN (Allowance For Impairment Losses Of Credits), NPL (Non Performing Loan), IRR (Interest rate Ratio), PDN (Net Open Position), LDR (Loan To Deposit Ratio), IPR (Investing Policy Ratio), OE-OI (Operating Expenses To Operating Revenues) and FBIR (Fee Based Income Ratio) can determine financial distress as early warning in Indonesia's go public banks. It is a quantitative study, with the sample of 100 go-public banks listed in Indonesia Stock Ex-change (www.idx.go.id) ranging from 2010 to 2014, collected using purposive sampling. They were analyzed using SPSS 23 IBM version. The result shows that LDR (Loan To Deposit Ratio) is the most significant factor to determine financial distress as early warning of bankruptcy of Indonesia's go public banks. Besides that, it has several implications for regulators and bank management to determine the firm financial system stabilization.

A B S T R A K

Deteksi dini sangat penting untuk menjaga stabilitas sistem keuangan peru-sahaan, dan dikembangkan melalui model Financial distress. Financial dis-tress merupakan tahap penurunan kondisi keuangan yang terjadi sebelum terjadinya kebangkrutan atau likuidasi. Penelitian ini bertujuan untuk men-ganalisa apakah CKPN (Cadangan Kerugian Penurunan Nilai Atas Kredit), NPL (Non Performing Loan), IRR (Interest rate Ratio), PDN (Posisi Devisa Netto), LDR (Loan To Deposit Ratio), IPR (Investing Policy Ratio), BOPO (Beban Operasional Pendapatan Operasional) dan FBIR (Fee Based Income Ratio) mampu menentukan Financial Distress sebagai deteksi dini ke-bangkrutan pada Bank Go Public di Indonesia. Penelitian ini merupakan penelitian kuantitatif, sampel dalam penelitian ini sebanyak 100 data Bank Go Public antara tahun 2010 sampai 2014, data diperoleh dengan cara pur-posive sampling dari bank yang masih terdaftar di Indonesia Stock Exchange (www.idx.go.id). Regresi Logistik digunakan dalam menganalisa data dan menggunakan SPSS versi IBM 23. Hasil dari penelitian menunjukkan bahwa LDR (Loan To Deposit Ratio) yang paling tepat digunakan untuk menentukan financial distress sebagai deteksi dini kebangkrutan pada Bank Umum Go Public Di Indonesia. Hasil penelitian tersebut dapat menambah beberapa implikasi untuk para regulator dan manajemen bank untuk mene-tapkan sistem stabililitas keuangan perusahaan.

1. INTRODUCTION

The economic stability in Indonesia has been assessed continuously and it therefore has been growing rapidly. This is of course also due to the effect of banking industries as the pioneer stabilizers in the economy. The banking industry provides the country with substantial contribution to the economy even in social various aspects of community life in general. Banking is everything concerning the banks, which include institutional, business activities, as well as the manner and process in which we operate. Meanwhile, Com-

* Corresponding author, email address: [1] laely.aghe@perbanas.ac.id.

mercial banks ate the banks conducting conventional business and or based on Sharia principles in their activities by providing services in payment traffic (Banking Act 1998, 1998). Briefly, the bank is a financial institution whose financial assets and the profit motive and social motive (Hasibuan 2004).

One of the bank's liabilities is controlling their risks in order to prevent fraud within them and do not even rule out the possibility of their inability to control these risks. They will suffer losses even bankruptcy. Bank bankruptcy is always marked by an initial condition, giving a sign that the banks will be bankrupt. Such condition makes us familiar with the term Financial Distress. There are several contributions of researchers who provide input and direction that, ultimately, the emergence of a wide range of predictions can be used as a reference in the assessment of the company. The development of research on financial distress initiated by Beaver (1966), followed by Altman et al. (1977), Altman (1986). The crisis in America in 2008 with the United States experienced subprime mortgage default or failure to pay on housing loans. The crisis has affected other countries, and arguably it was as the initiation of the global crisis in 2008. After that, the crisis turned out to have an impact on companies' ownership in various countries. The increasing number of banks is insolvent and certainly, in Indonesia mostly they have experienced its impact of the global crisis.

The economic conditions in Indonesia at this time are a phenomenon necessary to note because some companies were declared as bankrupt banks such as Bank Century in 2008. Then, some banks would, otherwise, go bankrupt and were still saved. However, in this condition, they should be merged or liquidated, among others, Bank Kesawan that would otherwise bankrupt and were liquidated by QNB (2011), ICB Bumiputera (2014) was liquidated by MNC Bank and Bank BPD Pundi liquidated by Bantam (2015). Some banking conditions above are included in Financial Distress condition where the financial condition has begun unstable and even decreased and it cannot be separated from the Risk Profile in their banking firms.

The risk profile of banks is the potential loss that will occur as a result of the failure of the bank's business operations. Based on the (13/24/DPNP 2011) following four risks that could partly be used such as first, credit risk and measurement of credit risk can be calculated by some that CKPN and NPL ratio. Second, market risk and measuring the market risk can be calculated with some ratios that IRR and PDN. Third, liquidity risk and the liquidity risk measurement can be calculated with some ratios that LDR and IPR. Fourth, operational risk and measurement of operational risk can be calculated with some ratios that OE-OI and FBIR.

Financial Distress according to Plate and Plate (2002) in (Rahmania & Herman 2014) is a stage of decline in financial condition that occurs prior to the bankruptcy or liquidation. In a study conducted by Adi (2014), found that the ratio of NIM, OE-OI and OE-OI have a significant influence on the condition of Financial Distress, while the ratio of CAR, NPL, LDR and IRR does not significantly affect it. The study used data Exchange Bank 2006 - 2011. Another study was also conducted on a commercial bank listed on the Stock Exchange the period 2010-2012 by Rahmania & Herman (2014), found that the ratio of NPL, NIM, ROE, and LDR significant effect on the Financial Distress, however, for CAR, OE-OI and OE-OI had no significant effect.

Based on some previous studies, inconsistencies were found between the results of research on the influence of financial ratios of the condition of Financial Distress. Therefore, needs to be reexamined using different or additional samples as well as different periods of time. The re-testing is expected to provide more evidence that the financial ratios affect the condition of Financial Distress, and is expected to make a prediction model Financial Distress more complex and selection of more variables. The model is expected also to contribute to the banking firms for avoiding bankruptcy, and management to quickly and accurately perform anticipatory action before actually declared bankrupt. However, the differences in the present study and previous ones lies in the number of ratios with more types of ratios used and four components of the risk profile of banks to be investigated, namely liquidity risk, credit risk, market risk and operational risk, which in previous studies has not been evaluated as a whole. It also differs in terms of the sample selection, which focuses more on the go-public banks in Indonesia and a longer study period. This research is expected to contribute to the regulator and the bank management to establish a system of financial stability to avoid Financial Distress.

This study aimed to identify and analyze whether CKPN ratio, NPL, IRR, PDN, LDR, IPR, OE-OI and Financial Distress FBIR able to determine an early warning of bankruptcy in go-public banks in Indonesia.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Financial Distress

Plate and Plate (2002) in Meilita F.R and Suwardi (2014 described that Financial Distress is a phase-reduction in the financial condition that occurs prior to the bankruptcy or liquidation. Plate and Plate (2002) suggest there be benefit of information concerning the company experiencing Financial Distress such as: 1) it can speed management measures to prevent problems before bankruptcy; 2) the management can take action for mergers or takeovers that companies are better able to pay their debts and manage companies, 3) provide early warning sign of the future bankruptcy. In accordance with plates and plate, the companies, especially in the banking sector are expected to see the condition of Financial Distress from the beginning so as to implement measures to anticipate future financial conditions could lead to bankruptcy.

A study by Hussein & Pambekti (2014) found that in determining the Financial Distress, companies can use Zmijewski models where this model use several ratios, among others After tax earnings on total assets, total debt on total assets and current assets on current liabilities. In contrast to the study by González-Bravo & Mecaj (2011) it was found that there are some ratios that can be used in determining the condition of Financial Distress among others ratios of a company's profitability, solvency ratios, management efficiency and assessment of market reaction.

Risk Profile

The risk profile is the potential loss that can occur as a result of the failure of the bank's business operations. Based on 13/24/DPNP 2011, in which the Risk Profile includes such as credit risk, market risk, liquidity risk, operational risk, legal risk, strategic risk, compliance risk and reputation. However, some business risks that banks can be calculated with data from the financial statements of banks, among others, credit risk, market risk, liquidity risk and operational risk.

Credit Risk

Credit risk occurs when there is a failure of customers who have obtained credit facilities from banks in resolving the payment or could be regarded as breach of contract from the customer. Some ratios to measure credit risk, namely: CKPN (Allowance for Impairment Losses of Credits) and NPL (Non performing Loan)

Market Risk

Market risk occurs when there is a change of market conditions, including changes in interest rates, stock price movements). Some ratios to measure market risk i.e. Interest Rate Ratio (IRR) and the net open position (NOP).

Liquidity Risk

Liquidity risk occurs if the bank is unable to provide a source of liquid funds to meet all its obligations and the inability of banks to meet the credit demand put forward. Some ratios to measure liquidity risk are e.g., Loan to Deposit Ratio (LDR) and IPR (Investing Policy Ratio).

Operational Risk

Operational risk occurs when a malfunction of the internal processes in the bank, the existence of human error, system failure, and external events affecting the operations of the Bank. Some ratios to measure operational risk are Operating Expenses Operating Income (OE-OI) and Fee Based Income Ratio (FBIR).

CKPN Influence on Financial Distress

CKPN (Allowance for Impairment Losses of Credits) is a ratio that measures CKPN portion of total loans. CKPN a combined value of some credit reserves classified collectability 3 or substandard, doubtful collectability and collectability 4 or 5 or jammed. The formula used to calculate AILC is as follows:

$$CKPN = \frac{\text{AllowanceforImpairmentLossesofCredits}}{\text{Total Credit}} \times 100\% \quad .(1)$$

CKPN is related to the level of problem loans in the company and it will automatically increase in value. In that, CKPN means credit risk increases and will have an impact on the health of banks, which in turn; these have an impact on financial distress. Thus, the higher the value CKPN the higher banking companies will experience financial distress. Based on the above theory, the first hypothesis is designed in this study is as follows.

H1: CKPN can be used to determine the Financial Distress as early warning of bankruptcy in go-public banks in Indonesia.

The Effect of Non Performing Loan (NPL) on the Financial Distress

NPL (Non performing Loan) is a ratio that measures the non-performing loans compared to total loans. Nonperforming loans are a combined value of some loans classified as collectability of 3 or less liquid or doubtful collectability and collectability 5 or bad=debt. The formula used to calculate the NPL

Effect of Non Performing Loan (NPL) of the Financial Distress.

NPL (Non performing Loan) is a ratio that measures the non-performing loans compared to total loans. Nonperforming loans are a combined value of some loans is classified as collectability of 3 or less lancer, 4 or doubtful collectability and collectability 5 or bad debt. The formula used to calculate the NPL is as follows:

$$NPL = \frac{\text{ProblemLoad}}{\text{TotalC redit}} \times 100\%. \quad (2)$$

The higher non performing loan (NPL) will make the quality of bank credit worse as it causes the credit amount less liquid and thus, more loans also getting bigger, so the higher NPL banking companies will experience financial distress.

A study conducted by Rahmania & Herman, (2014), found that the ratio of NPL significantly affects the Financial Distress. Based on theory and previous research, then the second hypothesis, which is designed in this study, is as follows:

H2: NPL can be used as determining Financial Distress as early warning for bankruptcy in go-public banks in Indonesia.

The Effect of Interest Rate Ratio (IRR) on Financial Distress

IRR (Interest Rate Ratio) is the ratio that measures the sensitivity of banks to changes in market interest rates. The formula used to calculate the IRR is as the following:

$$IRR = \frac{\text{IRSA (Interest Rate Sensivity Aset)}}{\text{IRSL (Interest Rate Sensitvity Liabilities)}} \times 100\%. \quad (3)$$

IRR (Interest Rate Ratio) affects positively or negatively the interest rate risk. Thus, , if the IRR increase when interest rates tend to rise, interest income earns higher interest costs incurred so that the risk of interest rate decreases. Then, the IRR affects interest rate risk when interest rates tend to rise negatively, and vice versa. If the IRR is getting too much of a value of 100%, either smaller or larger then, it tends to make the interest rate risk either higher, so the higher the IRR, the higher the banking company will experience financial distress.

Based on the above theory, the third hypothesis is designed in this study is as follows.

H3: IRR can be used for determining Financial Distress as an early warning of the bankruptcy for go-public banks in Indonesia.

The Effect of Net Open Position (NOP) on Financial Distress

NOP (Net Open Position) is a ratio that measures the level of bank sensitivity to changes in exchange rates in the market. PDN is the difference between assets and liabilities in the balance sheet for each foreign currency plus the difference between liabilities and charges in foreign currencies that are all stated in rupiah. The formula used to calculate the NOP is as follows:

$$PDN = \frac{\text{NetOpenPosition}}{\text{TotalEquity}} \times 100\%. \quad (4)$$

NOP can affect positively or negatively the interest rate value. When the NOP decreases the interest rate tends to reduce, meaning the foreign exchange earnings is lower than foreign currency liabilities so that the risk of the exchange rate increases. On the other hand, with the increased exchange rate risk will increase the soundness of banks and affects the condition of the company to be worse, so the higher the value, the higher the NOP of the banks to experience financial distress. For this reason, the next hypothesis is stated as follows:

H4: NOP can be used for determining Financial Distress as an early warning of bankruptcy for go-public banks in Indonesia.

The Effect of Loan to Deposit Ratio (LDR) on Financial Distress

LDR (Loan to Deposit Ratio) is used to assess the extent to which banks can meet obligations maturing of outstanding loans, deposits or deposits, which include demand deposits, savings deposits, time deposits and certificates of deposit. The formula used to calculate the LDR is as follows:

$$LDR = \frac{\text{TotalCredit}}{\text{TotalofThirdParty}} \times 100\%. \quad (5)$$

A study conducted by Meilita F.R and Suwardi, B.H (2014), found that the LDR has significant effect on the Financial Distress. Basically, the larger loans can increase the income of the bank. But, in reality the loan that is too high could eventually disrupt the level of bank liquidity.

Based on the above theory, the fifth hypothesis is as follows:

H5: LDR can be used to determine the Financial Distress as early warning of bankruptcy for Bank Go Public banks in Indonesia.

The Effect of Investing Policy Ratio (IPR) on Financial Distress

IPR (Investing Policy Ratio) is used to assess the extent to which the bank is able to meet its maturing obligations of securities owned. Marketable securities include Bank Indonesia Certificates (SBI), Securities purchased under resale agreements (Re-

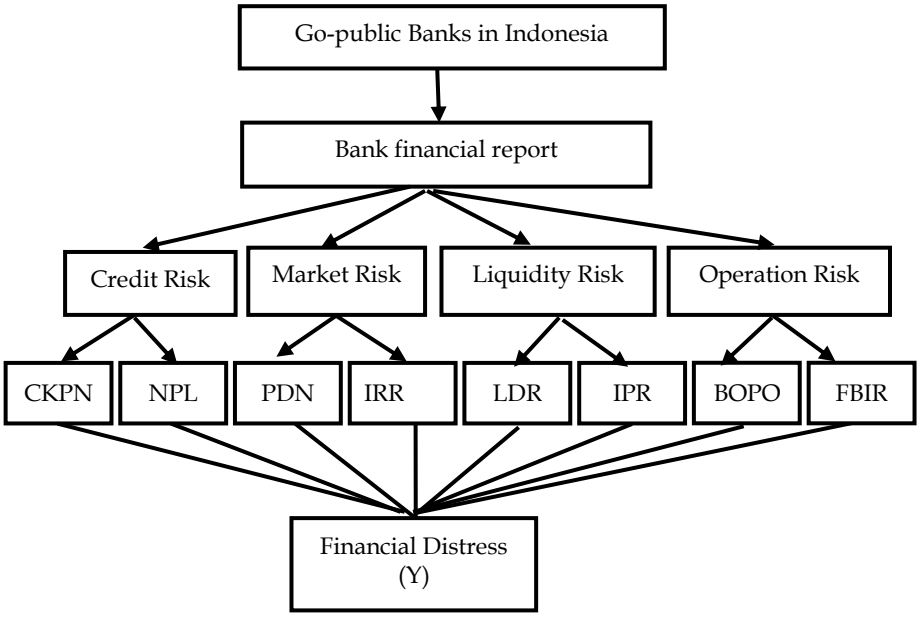

Figure 1
Research Framework

serve Repo), and government bonds. The formula used to calculate the IPR is that the IPR (Investing Policy Ratio) is used to assess the extent to which the bank can meet its maturing obligations of securities owned. Marketable securities include Bank Indonesia Certificates (SBI), Securities purchased under resale agreements (Reserve Repo), and government bonds. The formula used to calculate the IPR is as follows.

$$LDR = \frac{\text{TotalCredit}}{\text{TotalofThirdParty}} \times 100\%. \quad (6)$$

IPR = Marketable Securities x 100%
Total of Third Party

If the IPR increases, it means it has been an increase in securities held by the percentage increase that is greater than the percentage increase in third party funds. In other words, an increase in the bank's ability to meet obligations immediately and to a third party it will also automatically increases the health of banks. Thus, the bank will not experience financial distress. The higher the IPR, the lower the banking company will experience financial distress. In other words, IPR negatively affects financial distress. Based on this argument, the sixth hypothesis is stated as follows.
H6: IPR can be used to determine the Financial Distress as early warning of bankruptcy in Go Public banks in Indonesia

The Effect of Operational Cost Operational Revenue (BOPO) on Financial Distress

OCOR (Operational Cost Operational Revenue) is used for measuring the bank efficiency in minimizing the operational cost in order to get operational income. The Formula used for calculating the OCOR is as follows:

$$LDR = \frac{\text{OperationalCost}}{\text{OperationalRevenue}} \times 100\%. \quad (7)$$

Increased value signifies OCOR management that cannot minimize costs. Thus, it indirectly cannot increase profits, and of course, management will be monitored and also it requires other costs. So, if the ROA ratio is high then the cost incurred is also high. For that reason, the possibility of a bank in financial distress is increasing.

Based on the above theory, the seventh hypothesis is stated as follows:
H7: OCOR can be used for determining Financial Distress as an early warning of bankruptcy for the go-public banks in Indonesia.

The Effect of Fee-Based Income Ratio (FBIR) on Financial Distress

FBIR (Fee Based Income Ratio) is used to measure the efficiency of the bank in maximizing non-interest operating income to generate operating income. The formula used to calculate the FBIR is by measuring the efficiency of the bank in maximizing non-interest operating income to generate operating income. The formula used to calculate the FBIR is as follows.

$$LDR = \frac{\text{OperatingRevenuesNonInterest}}{\text{OperatingRevenues}} \times 100\%. \quad (8)$$

The increasing value of FBIR means the level of efficiency of banks is quite high and the impact on the health of banks is better too. Thus, it eventually

makes the company not experience financial distress. The higher the value of FBIR is, the lower the banking company will experience financial distress. In other words, FBIR negatively affects financial distress. Based on the above theory, the eighth hypothesis eighth is stated as follows.
H8: FBIR can be used to determine the Financial Distress as early warning of bankruptcy for go public banks in Indonesia.

Based on the effect of the ratio CKPN, NPL, IRR, PDN LDR, IPR, BOPO and FBIR on Financial Distress as a determinant of bankruptcy in the early warning of Go Public banks in Indonesia, this study has its framework as drawn in Figure 1.

3. RESEARCH METHOD

Classification of Samples

The population is the go-public banks in Indonesia, excluding Bank of Local Government, Rural Banks and Bank Syariah. The sample consists of the banks that must meet the following requirements such as Commercial Bank published its Financial Statements in full period from 2009 until 2014 in the Indonesia Stock Exchange. The period of reporting was in 2010 to 2015, so with the full financial statements, they can be used in the calculation of the ratio of CKPN, NPL, IRR, PDN, LDR, IPR, ROA, FBIR, in accordance with the decision of Bank Indonesia Regulation. As regulated, it is the transparency and publication of the Financial Statements, the Bank will facilitate assessment by the public and market participants (PBI NO. 14/14 2012). The 2009 financial year is used to determine the condition of Financial Distress (as comparison data to determine the condition of Financial Distress in 2010) and commercial Bank as not a merger, acquisition nor they did not experience or restructure during the study period. Based on these criteria, the existing 100 financial report data of the Banks were selected as samples in this study.

Research Data

The data were quantitative and secondary in the form of annual financial statements of commercial go-public banks in 2009 to 2014, as audited and they meet the criteria. The Commercial Bank is a commercial Bank listed on the Indonesia Stock Exchange taken from www.idx.go.id and recorded in the report of Bank Indonesia. Data collection methods used is as follows: documentation, collecting data (Indriartoro & Supomo 1999) (Nur Indriantoro), from the annual financial reports of the go-public commercial banks in Indonesia. All these were used in this study, and processed, prepared as well as analyzed for research.

Research Variables

Independent variables (X) used consists of CKPN (X1), NPL (X2), IRR (X3), PDN (X4), LDR (X5), IPR (X6), OCOR (X7) dan FBIR (X8), while the dependent variables are the Financial Distress (Y).

Analysis Instruments

The method used to analyze the data provided is descriptive analysis and logistic regression analysis. Descriptive analysis is used to provide an overview of the variables studied, covering variables of Financial Distress, CKPN, NPL, IRR, PDN, LDR, IPR, OCOR, FBIR. The logistic regression analysis is used for determining the expected results, the regression equation as drawn below:

$$Y = \ln \frac{P(Not\ in\ Problem\ )}{1-P(in\ a\ Problem\ )} = FinancialDistress\ . \quad (9)$$

$$Y = \ln \frac{P}{1-P} = b0 + b1CKPN + b2NPL + b3IRR + b4PDN + b5LDR + b6IPR + b7BOPO + b8FBIR + e. \quad (10)$$

Description:
b0 = Constanta
b1, b9= regression coefficient
e = extraneous factor

4. DATA ANALYSIS AND DISCUSSION

Based on Table 1, it can be noted that the average value of the variable CKPN experience financial distress totaled 1,149 (1.2%) and for the average value of non CKPN experience financial distress condition that is equal to 1.7779 (1.8%). Descriptive Test Results for the average value indicates that the condition of Financial Distress has CKPN value lower than the value CKPN for Non-Financial Distress condition.

The average value of the variable NPL does not exceed the provisions of BI that is equal to a maximum of 5% to 8%, so that the performance of two groups of banks surveyed are financial distress and non-financial distress. From the NPL, they are able to control their credit risk through ratios NPL, results of Table2 shows that it has experienced financial distress totaled to 1,782 (1.8%) and for the average value of non NPL experienced financial distress conditions totaled by 2,078 (2.1%).

The average value of the variable IRR experiencing financial distress is totaled to 157 152 (157%) and for the average value of IRR with the condition of non financial distress by 153 877 (154%).

The average value of the variable PDN experiencing financial distress is totaled to 2,368 (2.4%) and for the average value of non-PDN experiencing financial distress condition is totaled to 2,264 (2.3%).

Table 1
Result of Descriptive Analysis Independent Variables

Financial Condition	Mean							
	CKPN	NPL	IRR	PDN	LDR	IPR	OCORPO	FBIR
Financial Distress (score = 1)	1.149	1.782	157.1522	2.368	10.999	10.41	84.97	10.97
Non Financial Distress(score = 0)	1.7779	2.078	153.87	2.264	81.59	10.378	78.01	17.24

Source: Data Processed.

Table 2
Test results of Model Fit

Model Fit Test	Result
-2 log Likehood	
Block 0	77.277
Block 1	65.626
Snell R Square and Negelkerke R Square	
Cox and Snell R Square	0.110
Negelkerke R Square	0.204
Hosmer and Lemeshow's Goodness Of Fit Test	
Significance	14.262
Classification Table	0.075
Total Percentage	288.0

Source: Data Processed .

The average value of the variable does not exceed LDR of BI regulation, which is equal to a maximum of 70% to 100%, so that the performance of two groups of banks are still able for them to control liquidity risk through LDR ratios by increasing the efficiency of the use of third party. The analysis shows experiencing distress condition at 71% and for the average value of non LDR experiencing financial distress condition equal to 82%.

The average value of the variable IPR experiencing financial distress is up to 10 417 (10.4%) and for the average value of IPR with the condition of non-financial distress is 10 378 (10.3%). The average value of the OCOR exceed the terms of BI that is equal to a maximum of 92% so that the performance of two groups of banks surveyed in terms of ROA are similar and they are still able to control Operational risk through ROA ratios. The average value of the variable of OCOR experiencing financial distress amounted to 84 970 (85%) and for the average value of non-OCOR experiencing financial distress condition amounted to 78 013 (78%).

The average value of the variable FBIR experiencing financial distress amounted to 10,978 (11%) and for the average value of non FBIR experiencing financial distress condition amounted to 17 243 (17%).

Analysis of Hypotheses
Assessing Overall Model (Model Overall Fit)
The results are shown in Table 2, that the initial value of -2 log likelihood (Block 0) without entering the independent variables into the model valued to 77 277, and after the independent variables as included in the model, the value of -2 log likelihood end (Block 1) valued to 65 626. This shows that the value of -2 log likelihood has decreased the value of the initial model to the final model. For that reason, it can be concluded that the Logistic Regression models in this study has its Fit or in accordance with existing data.

The Coefficient of Determination (Cox and Snell R Square and Nagelkerke R Square)
The results are shown in Table 2, that the value of Cox and Snell R Square of 0.110 and Nagelkerke R Square value of 0.204. This value is explained that the variability of the condition of Financial Distress in go public banks go in Indonesia in 2010-2014, can be described by the variability CKPN (Allowance for Impairment Losses On Credit), NPL (Non Performing Loan), IRR (Interest Rate Ratio), PDN (net open position), LDR (loan to deposit ratio), IPR (Investing Policy Ratio), OEOI (Operating Expenses Operating Income) and FBIR (Fee Based Income Ratio) of 0204, or by 20.4% for the remainder can be described by other factors not investigated.

Eligibility Test of Regression Model
The results are shown in Table 2 showing that the formula of Hosmer and Lemeshow's Goodness of Fit.

Table 3
Results of Regression Analysis

Variables	Coefficient (B)	Wald	Sign	Exp (B)
Constant[a]	0.236	0.008	0.929	1.266
CKPN	-0.567	1.420	0.233	-0,567
NPL	0.190	0.174	0.676	1.209
IRR	0.006	0.976	0.323	1.006
PDNN	0.036	0.048	0.827	1.037
LDR	0.048	4.364	0.037	0.953
IPR	-0.079	2.257	0.133	0.924
BOPO	0.027	1.471	0.225	1.028
FBIR	-0.024	0.593	0.441	0.976

Source: Data Processed .

Test has resulted in the value of Chi-Square with the significance value of 0.075 (7.5%). Significance value greater than 0.05 (5%), so it can be concluded that the logistic regression models were used has been eligible for further analysis because this model is able to predict the value of observations

Classification Table
The results in Table 2 show that in overall, it can be seen that the accuracy of the classification of logistic regression models in this study is 88%. This indicates that logistic regression models in this study had a quite good accuracy to predict Financial Distress in Go Public commercial banks in Indonesia.

Testing Hypothesis 1
Based on Table 3, it shows that the CKPN has a coefficient value of -0567 and with the significance value of 0.233 and 0.233> 0.05, thus it can be concluded that the CKPN does not have significant effect on the variable Financial Distress for early warning of bankruptcy in the go public Commercial Banks in Indonesia. Thus, the first hypothesis (H1), which assumes that the variable can be used to determine CKPN Financial Distress as early warning bankruptcy in Bank Go Public in Indonesia is not accepted.

Based on the theory, CKPN has an effect on Financial Distress is not accepted in this study. As it is argued that the higher the CKPN is the higher the banks experience financial distress. Negative coefficient indicates that the higher the lower CKPN experienced Financial Distress, this is not in accordance with this theory and shows that in the current state of the banking company could not be used as a benchmark CKPN ratio whether the company will experience financial distress or not.

The change of PPAP (Formation of Allowance for Earning Assets) into CKPN by the revised IAS 55 and the provisions of the PAPI (Indonesian Banking Accounting Guidelines) leads to the change of the model of the formation or reserved fund calculated from the results of the evaluation of the debtor where if it is known one of the debtors has decreased financial condition, then when the bank also must establish a provision for such credits. With these changes, the results of each bank is different although some banks range between nearly equal in terms of total loans and the value entered in the calculation of loss reserves on loans and the elimination of the value depends on the policy of each management. And the result of a calculated CKPN described on the web Indonesia Stock Exchange will be biased because it makes the decision to change some of the banks to be more on determining how the reserve fund is needed regarding the customers. Therefore, this CKPN ratio cannot be a reference in determining the condition of Financial Distress.

Testing Hypothesis 2
Based on Table 3, it is known that NPL has a coefficient of 0.190 with the significance value of 0.676 and 0.676> 0.05. Thus, it can be concluded that NPL does not significantly affect Financial Distress for early warning of bankruptcy in the go-public Commercial Banks in Indonesia. This second hypothesis (H2) is not accepted, stating that the NPL can be used to determine Financial Distress as early warning bankruptcy of go-public banks in Indonesia.

Based on the theory that the higher the value of the NPL is, the worse the quality of bank credit for the as due to increasing credit quality categorized as Substandard, Doubtful and Loss. The decline in credit quality could degrade the quality of

banks' balance so that the impact on the condition of Financial Distress. In the table of descriptive analysis are also presented that the average value for the variable NPL, the banks are still able to control their credit risk, the value of NPL experiencing financial distress amounted to 1,782 (1.8%) and for the average value of NPL with the condition of non financial distress amounted to 2,078 (2.1%), the average value is still below the provisions of BI at 5%.

The phenomenon of credit growth in the last 5 years has continuously increased and accompanied by increased levels of non-performing loans, increasing the level of non-performing loans of banks due to banking regulations are increasingly complex and the changes to the rules of banking companies such as increasing lending rates compared to the previous, causing the creditors cannot make payments entirely to the bank, it could lead to higher levels of nonperforming loans. Yet, it is followed by the growth of bank credit so that companies are still able to suppress the high level of NPLs in order not to reach a value of 5%. In this study, the NPL does not affect the Financial Distress as early warning bankruptcy in go public commercial banks in Indonesia. This study supports research conducted by Adi (2014) analyzing the financial ratios to predict Financial Distress and found that the NPL has no significant effect in determining the Financial Distress.

Testing Hypothesis 3

Based on Table 3, it indicates that the variable IRR has a coefficient value of 0006 with the significance value of 0323 and 0323> 0.05. Thus, it can be concluded that the variable IRR does not significantly affect the variable Financial Distress for early warning of bankruptcy in go-public commercial banks in Indonesia, It is thus the third hypothesis (H3 is rejected, stating that the variable IRR can be used to determine Financial Distress as early warning bankruptcy in Bank Go Public in Indonesia declined.

The average value of the variable IRR experiencing financial distress is totaled to 157 152 (157%) and for the average value of IRR with the condition of non-financial distress amounting to 153 877 (154%), where the value of IRR for banking in conditions of both the financial distress and non-financial distress reaches above 90%. From the average, it was found that there is no difference IRR for financial distress and non-financial distress, therefore the ratio IRR cannot be used as a determinant of financial distress in go-public commercial banks in Indonesia. These results support previous research that by (Adi 2014), which analyzed the financial ratios to predict Financial Distress finding that the IRR does not significantly affect financial distress.

Testing Hypothesis 4

Based on Table 3, it shows that PDN has a coefficient value of 0036 with the significance value of 0827 and 0827> 0.05. Thus, it can be concluded that the variable PDN does not significantly affect the variable Financial Distress for early warning of bankruptcy in go-public commercial banks in Indonesia. In this result, the fourth hypothesis (H4) is rejected, stating that the variable PDN can be used to determine Financial Distress as early warning bankruptcy in go-public commercial banks in Indonesia.

Basically, the higher the PDN can make the company's condition more Financial Distress. The, PDN increases when the exchange rate tends to decrease that means income currency is lower than the liabilities in foreign currency so that the risk of the exchange rate increased, with increased exchange rate risk it will increase financial conditions distress. From the results of descriptive analysis, it shows the average value of the variable PDN experiencing financial distress amounted to 2,368 (2.4%) and for the average value of PDN with the condition of non financial distress totaled to 2,264 (2.3%). There is no difference significantly between the PDN in financial distress and non-financial distress. So in this study NOP ratio cannot be used to determine the financial distress as early warning of bankruptcy in go-public commercial banks in Indonesia.

Hypothesis Testing 5

Based on Table 3, it shows that LDR has a variable coefficient value of 0048 with the significance value of 0.037 and 0.0.037 of <0.05. Thus, it can be concluded that LDR variables significantly influence Financial Distress for early warning of bankruptcy in go-public commercial banks in Indonesia. It is thus the fifth hypothesis (H5) is accepted stating that the variable LDR can be used to determine Financial Distress as early warning of bankruptcy in go-public commercial banks in Indonesia received.

Based on the theory, LDR has significant effect on Financial Distress. This result, in logistic regression analysis, shows it has also a significant regression coefficient 0048 and 0037 with the significant value of <0.05. These results suggest that LDR has a

positive effect on the Financial Distress. This study is consistent with the theory. The positive coefficient indicates that the higher the LDR, the higher the company experienced Financial Distress. Basically, the higher the loans is, the higher the income of the bank. But, in reality the loans are too high which could eventually disrupt the level of bank liquidity. This study supports a study conducted by Adi (2014) that analyzed the financial ratios to predict Financial Distress and Meilita & Suwardi (2014) also analyzed the financial ratios affect the company's financial distress banks. They found that the ratio Loan to Deposit ratio (LDR) influence financial distress.

Hypothesis Testing 6

Based on Table 3, it can be seen that the variable coefficient value of IPR is -0079 with the significance of 0133 and 0133> 0.05. Thus, it can be concluded that IPR does not significantly affect Financial Distress for early warning of bankruptcy in go-public commercial banks in Indonesia. It is thus the sixth hypothesis (H6), is rejected. The IPR can be used to determine Financial Distress as early warning bankruptcy in go-public commercial banks in Indonesia cannot be accepted.

Based on the theory, the higher the IPR is, the lower the Financial Distress. If the IPR increases, it means that securities increases too as held by the percentage increase that is greater than the percentage increase in third party funds. In other words, the higher in the bank's ability to meet obligations is, the more immediately the banks toward the third party. This will automatically increases the health of banks, so the company will not experience financial distress.

Based on the results of descriptive analysis, the average value of the variable IPR experiencing financial distress is 10 417 (10.4%) and for the average value of IPR with the condition of non-financial distress is to 10 378 (10.3%). The average value shows there is no significant difference between financial distress and non-financial distress. Thus, the ratio of IPR in this study cannot be used to predict financial distress as early warning of bankruptcy in go-public commercial banks in Indonesia.

Hypothesis Testing 7

Based on Table 3, it shows that *Operating* Expenses of Operational Income (OE-OI) has a coefficient value of 0027 with the significance value of 0.225 and 0.225> 0.0. Thus, it can be concluded that QE-OI does not significantly affect Financial Distress for early warning of bankruptcy in the go-public commercial banks in Indonesia. It is thus the seventh hypothesis (H7) is rejected stating that the variable can be used to determine OE-OI Financial Distress as early warning of bankruptcy in go-public commercial banks in Indonesia.

OE-OI with high level indicates the lower the operational efficiency is. The increased value signifies OE-OI management cannot minimize costs, thus indirectly cannot increase profits, and of course management will be monitored. In turn, it requires other costs. So, if the OE-OI is high then the costs incurred is also high. The, the possibility of a bank in financial distress occurs. The average value of OE-OI based on the descriptive analysis shows that the average value that do not exceed the terms of BI that is equal to a maximum of 92%. Thus, the performance of two groups of banks surveyed is still quite good.

The average value of OE-OI experiencing financial distress is to 84 970 (85%) and for the average value of non OE-OI experiencing financial distress condition is to 78 013 (78%), on average. It can be said that the mean average of OE-OI ratio are not different between financial distress and non-financial distress. As a result, OE-OI ratio cannot be used for determining the early warning of financial distress for bankruptcy on go-public commercial banks in Indonesia. This evidence supports the research conducted by Rahmania & Herman (2014) the same on analysis on financial ratios affecting the company's financial distress banks that OE-OI has no significant effect on financial distress.

Hypothesis Testing 8

Table 3 shows that FBIR has a coefficient value of -0.024 with the significance of 0.441 and 0441 FBIR> 0.05. This means that FBIR not significantly affect Financial Distress for early warning of bankruptcy on go-public commercial banks in Indonesia. It is thus the eighth hypothesis (H8) is declined, stating that the variable can be used to determine FBIR Financial Distress as early warning bankruptcy in go-public commercial banks in Indonesia declined.

Based on the theory that the higher the banks' FBIR is, the lower the banks experience Financial Distress. It is due to the increasing value of FBIR leading to the higher level of efficiency. In turn, it affects the health of banks to be higher too. Therefore, this can make the banks not experience financial distress.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Now that this study has shown the evidence and this is related whether CKPN ratio, NPL, IRR, PDN, LDR, IPR, OE-OI and FBIR can be used for determining Financial Distress as early warning of bankruptcy in go-public commercial banks in Indonesia in 2010-2014. It shows that from 2010 to 2014 about 13 Banks t shortly experienced Financial Distress, or about 13%, and approximately 87 Banks experienced Non Financial Distress, or about 87%.

During the last 5 years, the overall go-public commercial bank in Indonesia proved to be very healthy and far from bankruptcy indication. In general, the go-public commercial banks that experienced Financial Distress were in 2012 that is 4 banks or 30.76%. Other banks such as in West Java and Banten Tbk, PT. Bank Bukopin Tbk, PT. Bank Ekonomi Raharja Tbk and PT. Bank of India Indonesia Tbk classified as Financial Distress. This signaled that the economy as a whole was under control and better. The effects of the crisis in 2008 even as the impact of the subprime mortgage crisis did not affect the financial condition of banks as seen from the data in 2010 where the condition of Financial Distress was only 3 go-public banks such as PT. Bank Bumi Artha Tbk, PT. Bank Capital Indonesia Tbk and Economic PT. Bank Raharja Tbk.

It can be implied that theoretically this study provides information for further studies. In the overall risk profile, it cannot be used to determine the Financial Distress as early warning of bankruptcy by the go-public commercial banks but the researchers may also add other ratios. It also implies that this research can be as a discussion for the bank managements to make a statement that the intensity of the LDR greatly affect financial distress, the higher the LDR, the higher the company experiencing Financial Distress. In addition, the absence of provisions of Bank Indonesia that is with the maximum LDR value by 78% till 100%. Therefore, banks must pay attention to the composition of total loans and total third party funds in the statement of financial position in order to be spared from a bankruptcy. This can be done by improving the banks' performance by improving their position. Third Party Funds should be increased by using third party funds, so that the LDR of banks can be smaller. This is due to the rate of credit growth that is higher for making it balanced with the level of third party funds. Thus, the level of bank liquidity remains stable and, therefore, does not exceed the limits of the provisions of Bank Indonesia in relation to the maximum value of the Bank to the value of LDR.

Limitations of this study include: (1) The total study population of only 100 financial data of go-public banks, (2) The study period was only for five years starting from 2010 to 2014, (3) The number of independent variables is also limited, covering only measuring four risks such as credit risk, as measured by the ratio of CKPN and NPL, market risk as measured by the ratio of IRR and PDN, liquidity risk as measured by the ratio of LDR and IPR, and operational risk, as measured by the ratio of OE-OI and FBIR, (4) the results shows that only LDR that have influence among the hypotheses, yet the seven other ratios such as CKPN, NPL, IRR, PDN, IPR, OE-OI and FBIR is not consistent with the hypothesis.

Suggestions to be done are as follows: (1) extend the period of the study, (2) expand the study sample, (3) adding other independent variables and (4) compare between two or more types of banks with different characteristics.

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