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Macroeconomic indicators and corporate financial ratios in predicting financial distress

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A B S T R A C T

In 2015, the performance of the textile and garment industry declined by 4.79% due to the global economic crisis which caused the textile and garment industry to experience a continuous deficit. This is a sign that the company is experiencing financial distress. Such a condition could have been recognized early if the financial statements and macroeconomic conditions had been carefully analyzed. The purpose of this study is to determine the macroeconomic indicators and financial ratios of companies in predicting financial distress. Data sampling in this research was taken from textile and garment industry sector companies listed on the Indonesian Stock Exchange (IDX). Macroeconomic indicators used are lending rate, consumer price index, IDX Composite, inflation, and IDR/USD exchange rate. The financial ratios used are debt equity ratio, total asset turnover ratio, current ratio, quick ratio, working capital ratio, net income to total assets ratio, and cash ratio. This research uses logistic regression analysis. The results indicate that current ratio and quick ratio can be used to predict financial distress. The next research can use other sector companies or all sector companies listed on the Indonesia Stock Exchange (IDX).

A B S T R A K

Tahun 2015, kinerja industri tekstil dan garmen menurun hingga 4,79% akibat krisis ekonomi global yang menyebabkan industri tekstil dan garmen mengalami defisit secara terus-menerus yang merupakan suatu tanda bahwa perusahaan mengalami financial distress. Kondisi ini dapat dikenali lebih awal jika laporan keuangan dan kondisi makroekonomi dianalisis secara cermat. Tujuan penelitian ini adalah untuk mengetahui indikator makroekonomi dan rasio keuangan perusahaan dalam memprediksi financial distress. Sampel penelitian ini adalah perusahaan sektor industri tekstil dan garmen yang terdaftar di BEI dengan rentang tahun 2010-2015. Indikator makroekonomi yang digunakan adalah lending rate, consumer price index, IHSG, inflasi, dan kurs IDR/USD. Rasio keuangan yang digunakan adalah debt equity ratio, total assets turnover ratio, current ratio, quick ratio, working capital ratio, dan net income to total assets ratio, dan cash ratio. Alat yang digunakan adalah analisis regresi logistik. Hasil yang diperoleh menunjukkan bahwa current ratio dan quick ratio saja yang dapat digunakan untuk memprediksi financial distress. Peneliti yang selanjutnya dapat menggunakan perusahaan dari sektor yang lain atau menggunakan semua sektor yang terdaftar di Bursa Efek Indonesia.

1. INTRODUCTION

Textile and garment industry, as one of the priority industrial sectors in Indonesia, is the mainstay of the future. At present the textile and garment industry is ranked third in national exports and absorbs up to 2.79 million workers with production that is able to meet 70% of domestic clothing needs. Throughout 2015, the textile and garment sector contributed 1.22% to the national GDP and an export surplus of USD 4.31 billion. The export value of the textile and garment industry reached USD 12.28 billions or contributed to 8.17% of the total national exports. The textile and garment industry has a large role in contributing to the

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country's foreign exchange. The total investment in the sector reached IDR 573 trillion in 2015, or experienced an increase of 16.9% from 2014. It was noted that the textile and garment sector contributed 5.0% of foreign investment and 3.07% of domestic investment (Kementrian Perindustrian Republik Indonesia 2017).

In 2015, the performance of the textile and garment industry declined by 4.79% due to the global economic crisis. This was caused the slowing growth of exports of textiles and garments as the implications of production inefficiencies and the high price of raw materials. In addition, there was an increase in competition in foreign markets, especially in the textile and garment industry from China and an increase in labor wages that the textile and garment industries cannot keep up with. Consequently, the textile and garment industry experienced a prolonged deficit. The financial condition of a company that experiences a prolonged and continuous decline is a sign that the company is experiencing financial distress.

Financial distress is a situation where a company experiences financial difficulties and if is not followed up by company management, the condition of the company will deteriorate which will lead to bankruptcy. Such a condition usually does not happen so suddenly, but there are early indications that can be identified early if the financial statements and macroeconomic conditions are carefully analyzed. A healthy company can be identified through a number of indications, such as having ability to generate high profits, having adequate liquidity, and having non-burdensome debt.

Based on research conducted by Mohd Norfian Alifiah (2014), the macroeconomic and financial ratio variables that can be used to predict financial distress in trading companies and service sectors are debt equity ratio, total assets turnover ratio, working capital ratio, net income to total assets ratio and base lending ratio. In contrast to research conducted by Imam Mas'ud and Reva Maymi Srengga (2011), financial liquidity ratios and financial leverage do not affect financial distress. Profitability ratios and cash flows from operating activities affect financial distress in manufacturing companies listed on the IDX.

Based on the phenomena that occur and previous research as well as the inconsistency of the results of previous studies, it is necessary to conduct further research with the title: "Macroeconomic Indicators and Corporate Financial Ratios in Predicting Financial Distress".

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

Signaling Theory

Signaling theory is related to how to overcome problems arising from information asymmetry in social settings. This shows that information asymmetry can be reduced if the party who has the information can send a signal to the related party. The signal can be an observable action, or an observed structure, which is used to indicate the hidden characteristics or quality of the signaler. Signal delivery is usually based on the assumption that it must be beneficial for the signaler (An et al. 2011). Based on signaling theory, a company needs an important signal from any of the factors, both internal and external companies, related to company performance so that the company can minimize and even prevent financial distress in the company.

Stakeholder Theory

Stakeholder theory states that all stakeholders have the right to be provided with information about how organizational activities affect stakeholders, even when the stakeholders choose not to use the information and when the stakeholders cannot directly play a constructive role in organizational survival (Deegan 2004). The main objective of stakeholder theory is to help corporate managers understand the environment of stakeholders and manage the relationships within the company more effectively. A broader goal of stakeholder theory is to help corporate managers increase the value of the impacts of stakeholder activities and minimize losses to stakeholders.

Based on this theory, corporate managers are fully responsible for improving the company's performance so as to make the company's value high in the eyes of stakeholders to prevent the company from going bankrupt. Therefore, corporate managers must also know what factors that can minimize and even prevent financial distress.

Financial Distress

Financial distress is a condition in which a company experiences financial difficulties which indicates that the company is not safe, in the sense that the company will experience bankruptcy. Crissy Norris Sianturi (2007) states that violations of debt payment commitments and elimination of dividend payments to investors are the easiest to see from companies that experience financial distress.

The Effect of Lending Rate on Financial Distress

The lending rate is the interest rate that has been set,

the maximum and minimum limits, by the government, in this case the central bank, in providing interest rates on loans from banks by debtors. Increased loan interest rates make companies or communities avoid borrowing funds from banks. This causes companies that experience financial difficulty to become increasingly difficult in their financial conditions, thus increasing the likelihood of experiencing financial distress. Conversely, if the loan interest rate is low, companies will easily make loans to banks because they are not worried about the difficulty in paying the installments as well as the loan interest set by the banks. This, of course, can help companies that experience financial difficulties continue to operate so that the company is less likely to experience financial distress. Based on the research conducted by Mohd Norfian Alifiah (2014), the stock price index can predict financial distress in trading and service sector companies in Malaysia. Based on this explanation, the hypothesis that can be built is
H1: Lending rate affects financial distress.

The Effect of Consumer Price Index on Financial Distress

The consumer price index (CPI) is a consumer price index which is measured by the average price change paid by consumers for a particular group of goods and services. If a country has a high CPI, it can be said that the level of community welfare is also high, in the sense that many people in the country are already well-off or even more prosperous so that they have high purchasing power for goods and services. Thus it can be said that if the CPI is high, it is unlikely that the company will experience financial distress because people have high purchasing power so that the company's income will also be maintained so that the possibility of financial distress is also small. Based on the research conducted by Mohd Norfian Alifiah (2014) the stock price index can predict financial distress in trading and service sector companies in Malaysia. Based on this explanation, the hypothesis that can be built is:
H2: Consumer price index affects financial distress.

Effect of JCI on Financial Distress

The Effect of IDX Composite on Financial Distress

IDX composite is a combination of a number of sectors, namely agriculture, mining, basic chemical industry, various industries, consumer goods industry, property and real estate, transportation and infrastructure, finance, trade, services and investment. This composite index includes all movements in the price of ordinary shares and preferred shares listed on the Indonesia Stock Exchange (IDX). Thus, the IDX composite reflects the high or low quality of the company in relation to stock prices that show the value of the company. If the company's performance is good, the company's stock price will rise, thus increasing the value of the company which is reflected in the IDX composite, then the possibility of being affected by financial distress is very small. Based on research conducted by Mohd Norfian Alifiah (2014), the stock price index can predict financial distress in trading and service sector companies in Malaysia. Based on this explanation, the hypothesis that can be built is:
H3: IDX composite affects financial distress.

The Effect of Inflation on Financial Distress

The inflation rate of a country can affect the economic condition of the country. This shows that that the higher the inflation rate of a country, the more difficult the financial condition of the country because the prices of goods are increasingly high due to inflation. This condition makes many companies experience financial distress. Based on the research conducted by Rr. Iramani (2008), the change or sensitivity of macroeconomic conditions, or in this case is inflation, can influence or predict the occurrence of financial distress in public manufacturing sector companies in Indonesia. Based on this explanation, the hypothesis that can be built is:
H4: Inflation affects financial distress.

The Effect of IDR/USD Exchange Rate on Financial Distress

Research conducted by Rr. Iramani (2008) shows that the sensitivity of macroeconomic indicators, or in this case is the IDR/USD exchange rate, affects financial distress. This indicates that the weaker the Rupiah exchange rate against the US Dollar, the higher the likelihood that the company will experience financial distress. This condition can occur because when the Rupiah weakens against the US Dollar, the price of goods gets higher so that the company needs more funds to conduct its operations, especially the amount of funds paid will be higher if the company carries out foreign cooperation or purchases raw materials from overseas. Based on this explanation, the hypothesis that can be built is:
H5: IDR/USD Exchange Rate affects financial distress.

The Effect of Liquidity Ratios on Financial Distress

Liquidity ratios are ratios which are intended to

measure company liquidity. The company's liquidity shows the ability of the company to fund the company's operations in meeting its short-term (debt) obligations. In this study, the company's liquidity is assumed as a tool to predict a company's financial distress condition and is measured by current ratio, quick ratio, cash ratio, working capital ratio. The greater the liquidity ratio, the less likely the company will experience financial distress. Luciana and Kristijadi (2003) analyzed financial ratios to predict financial distress. The study shows that liquidity has a positive influence on the company's financial distress. The greater this ratio, the less likely the company will experience financial distress. Based on this explanation, the hypothesis that can be built is:

H6: Current ratio affects financial distress.
H7: Quick ratio affects financial distress.
H8: Cash ratio affects financial distress.
H9: Working capital ratio affects financial distress.

The effect of Sensitivity Ratios on Financial Distress

The sensitivity ratio shows the proportion of the use of debt to finance investment. Analysis of this ratio is needed to measure the company's ability to pay short and long-term debt if the company is liquidated or dissolved. The researh conducted by Luciana & Kristijadi (2003) shows that the sensitivity ratio has a negative influence on financial distress. Based on this explanation, the hypothesis that can be built is:

H10: Debt equity ratio affects financial distress.

The Effect of Productivity Ratio on Financial Distress

Productivity measures how effectively a company uses resources as outlined by company policy. This ratio involves the comparison between sales and supporting assets of sales, which means that this ratio assumes that a reasonable comparison must exist between sales and various assets. One of the productivity ratios is total assets turnover ratio. Based on the research conducted by Mohd Norfian Alifiah (2014), productivity ratios can predict financial distress in trading and service sector companies in Malaysia. Based on this explanation, the hypothesis that can be built is:

H11: Total asset turnover ratio affects financial distress.

The Effect of Profitability Ratio on Financial Distress

Profitability is the net final result of various policies and decisions. This ratio is used as a measuring tool for the company's ability to make a profit from every rupiah of sale produced. Profitability is the level of success or failure of a company for a certain period of time (Atmini 2005). Companies that have high profitability mean that they have large profits. This means that the company is less likely to experience financial distress. According to the research conducted by Arini (2010), profitability has a negative and significant effect on corporate financial distress, which means that the greater the profitability of a company, the less the financial distress of the company, and the most dominant ratio in predicting financial distress is the profitability ratio. Based on this explanation, the hypothesis that can be built is:

H12: Net income to total assets ratio affects financial distress.

3. RESEARCH METHOD

This research uses a comparative causal research design which investigates the possibility of a causal relationship due to macroeconomic indicators and the company's financial ratios on financial distress. This study uses secondary data obtained indirectly through several websites including IDX, Yahoo Finance, and others. The data used by researcher to conduct research are limited from 2010 to 2015, by using the textile and garment industry companies listed on the Indonesia Stock Exchange (IDX).

The population used in this study is all the data of the textile and garment industry sector companies listed on the Indonesia Stock Exchange (IDX), consisting of financial distress data, lending rate, consumer price index, IDX Composite, inflation, IDR/USD exchange rate, debt equity ratio, total assets turnover ratio, current ratio, quick ratio, working capital ratio, net income to total assets ratio, and cash ratio which are limited to closing data at the end of the year during the period between 2010-2015. The sampling technique used in this study is purposive sampling with the following sample criteria:

- Textile and garment industry sector companies listed on the Indonesia Stock Exchange (IDX) and present the company's financial statements continuously from 2010 to 2015.
- Textile and garment industry sector companies that present complete data needed by researcher.

Based on the category of the company's financial condition, a healthy company is marked with 0, and a company that experiences financial distress is marked with 1. The company is said to experience

financial distress if (Luciana & Kristijadi 2003):

- For two years or more experience negative net income.
- For more than one year no dividend payment has been made.

The macroeconomic indicators used in this study are the lending rate, consumer price index, IDX Composite, inflation and the IDR/USD exchange rate, where all of these macroeconomic indicators are measured using corporate sensitivity to these macroeconomic indicators which refer to the research conducted by Rr. Iramani (2008), in which the regression coefficient price (β) obtained from the regression equation is as follows:

$$CRi = \beta_0 + \beta_1 LR + \beta_2 CPI + \beta_3 IIDX\ Composite + \beta_4 INFLATION + \beta_5 Exchange\ Rate. \quad (1)$$

Explanation:

Cri : cumulative return of each company for one month

β_0 : intercept

β_0. B_5 : corporate sensitivity to lending rate, consumer price index, IDX Composite, inflation and IDR/USD exchange rate

LR : Monthly Lending Rate

CPI : Monthly Consumer Price Index

IDX Composite: Montly IDX Composite Index

Inflation : Monthly inflation

Exchange rate : IDR/USD Middle exchange rate

The company's financial ratios used in this study are measured using the following formulas:

Current ratio is the ability of the company's current assets to meet its short-term financial obligations.

Current ratio = Current Assets/Current Debt

Quick ratio is the ability of the company's current assets without inventory in meeting its short-term financial obligations

Quick ratio = (Current Assets - Inventory)/Current Debt

Cash ratio is the ability of the company's cash to meet its short-term financial obligations.

Cash ratio = Cash/Current debt

Working capital ratio is the ability of the company's working capital to cover the company's total assets.

Working capital ratio = (Current Assets - Current Debt)/Total Assets

The debt equity ratio shows the proportion of debt usage to finance investment.

Debt Equity Ratio = Total Debt/Total Equity

Total assets turnover ratio measures the extent to which a company effectively uses its existing resources.

Total assets turnover ratio = Sales/Total Assets

Net income to total assets ratio measures how effective the management of the company is to generate profits.

Net income to total assets ratio = Net Income/Total Assets

This study uses logistic regression testing which is used to model the relationship between the variable of financial distress and the variables of macroeconomic indicator, and corporate financial ratios, where the variable od financial distress is a binary/dichotomous data. Here are the analysis models used:

$$Ln\ (p/(1-p)) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12.} \quad (2)$$

$$p=1/(1+(e^{-(\beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \beta 7X7 + \beta 8X8 + \beta 9X9 + \beta 10X10 + \beta 11X11 + \beta 12X12)}). \quad (3)$$

Where:

p = probability of financial distress

β0 = regression constant

β_1 = lending rate regression coefficient

X_1 = lending rate

β_2 = consumer price index regression coefficient

X2 = consumer price index

β_3 = IDX Composite regression coefficient

X_3 = IDX Composite

β_4 = inflation regression coefficient

X_4 = inflation

β_5 = regression coefficient of IDR/USD exchange rate

X_5 = IDR/USD exchange rate

β_6 = regression coefficient of current ratio

X_6 = current ratio

β_3 = IDX Composite regression coefficient

X_3 = IDX Composite

β_4 = inflation regression coefficient

X_4 = inflation

β_5 = regression coefficient of IDR/USD exchange rate

X_5 = IDR/USD exchange rate

β_6 = regression coefficient of current ratio

X_6 = current ratio

β_7 = regression coefficient of quick ratio

X_7 = quick ratio

β_8 = regression coefficient of cash ratio

X_8 = cash ratio

β_9 = regression coefficient of working capital ratio

X_9 = working capital ratio

β_{10} = regression coefficient of debt equity ratio

X_{10} = debt equity ratio

β_{11} = regression coefficient of total assets turnover ratio

X_{11} = total assets turnover ratio

β_{12} = regression coefficient of net income to total asset ratio

X_{12} = net income to total assets ratio.

Test analysis of logistic regression models (Ghozali 2015):

Assessing Fit Model

In assessing the fit model, the first thing to do is to assess the overall models. The fit model can be assessed using the following hypothesis:

H0: The hypothesized model is fit.

H1: The hypothesized model is not fit.

In assessing whether the model is fit or not, this can be seen from the likelihood value. To test the null and alternative hypothesis, L is transformed to -2LogL. The -2LogL statistic can be called likelihood ratio x 2 statistics, where x2 distribution with degree of freedom n - q, q is the number of parameters in the model. The -2LogL statistics can also be used to determine whether when an independent variable is added to the model, it can significantly improve the fit model. After L is transformed to -2logL, then it is compared between the -2logL values at the beginning (block number = 0), where the model only enters a constant with -2logL after the model enters the independent variable (block number = 1). If the value of -2logL block number = 0 > the value of -2logL block number = 1, it shows that the regression model id good. Large values of log-likelihood statistics show a poor statistical model.

Cox and Snell's R Square

Cox and Snell's R Square is a measure that tries to imitate the size of R_2 in multiple regression based on the likelihood estimation technique with a maximum value of less than 1 (one) so that it is difficult to interpret. Nagelkerke's R squere is a modification of the Cox and Snell's coefficients to ensure that the value varies from 0 (zero) to 1 (one). This is done by dividing the value of Cox and Snell's R_2 with the maximum value. The value of Negelkerke's R_2 can be interpreted as R_2 value in multiple regression.

Hosmer and Lemeshow's Goodness of Fit Test

Hosmer and Lemeshow's Goodness of Fit Test is a difference between the model and the data, so that the model can be said to be fit. If the statistic value of Hosmer and Lemeshow's Goodness-of-fit test is less than or equal to 0.05, the null hypothesis is rejected, which means that there is a significant difference between the model and the value of is observations. If the statistic 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 the value of its observations.

Regression Coefficient Test

Regression coefficient test is conducted to test whether the independent variables included in the model have an influence on the dependent variable. Acceptance or rejection of Ho can be determined using *wald statistics* and probability values (sig) by comparing the wald statistics value with the chi square table, while the probability value (sig) is compared with the significance level of 5% with the criteria:

- Ho is accepted if wald statistics ≤ chi square table and probability value (sig) ≥ significance level (α). This means that Ha is rejected or the hypothesis, that states that the independent variable influences the dependent variable, is rejected.
- Ho is rejected if Wald statistics > chi square table and probability value (sig) < significance level (α). This means that Ha is accepted or the hypothesis that states that the independent variable influences the dependent variable is accepted.

Classification Table

The 2×2 classification table is used to calculate the correct and incorrect estimation values (incorrect). The two columns are two prediction values of the financial distress variable, that is, experienced financial distress (1) and not experienced financial distress (0), while the two lines indicate the actual observation value of the variable that experienced financial distress (1) and not experienced financial distress (0). In the perfect model, all cases will be in diagonal with a forecasting accuracy level of 100%. If the logistic regression model has homoskedasticity, the correct percentage will be the same for both lines.

4. DATA ANALYSIS AND DISCUSSION

Based on the sample criteria that have been made, of the 14 companies listed on the IDX, there are 10 companies that meet the criteria as samples for testing with a range of 2010-2015. So, the total sample in this study is 60 samples. Table 1 shows the selection of research samples.

The following are the results of data analysis conducted by researcher starting from descriptive analysis for each independent variable and dependent variable to the research hypothesis testing and discussion.

Descriptive Analysis

Descriptive analysis in this study is conducted in two ways, descriptive statistics analysis through

Table 1
Research Sample Selection

Sample Criteria	Number of Companies	Research Period	Number of Samples
All textile and garment companies listed on the IDX	14	6	84
Companies whose share returns are the same throughout the period and do not have data related to the calculation of financial ratios	(4)	6	(24)
Total samples that can be used as research samples	10	6	60

Source: Data processed

Table 2
Descriptive Statistics

Code	Company Condition	Frequency	Percentage
0	No Financial Distress	24	40
1	Financial Distress	36	60
Total		60	100

Source: Data processed

SPSS 23 software and frequency statistics analysis SPSS 23 software. Descriptive statistics analysis through SPSS 23 software is for the variables of lending rate, consumer price index, IDX composite, inflation, IDR/USD exchange rate, current ratio, quick ratio, cash ratio, working capital ratio, debt equity ratio, asset turnover ratio, net income to total assets ratio. While frequency statistics analysis SPSS 23 software is for the variable of financial distress. Table 2 is the result of the frequency statistics analysis for the variable of financial distress.

Table 2 shows that of the 60 data used, there are 24 (40%) data that do not experience financial distress, where the 24 data represent 4 companies that do not experience financial distress, namely Eratex Djaya, Tbk; Pan Brothers, Tbk; Ricky Putro Globalindo, Tbk; and Nusantara Inti Corpora, Tbk. Table 2 also shows that there are 36 (60%) data that experience financial distress, where the 36 data represent 6 companies that experienced financial distress, namely Polychem Indonesia, Tbk; Ever Shine Textile Industry, Tbk; Panasia Indo Resources, Tbk; APAC Citra Centertex, Tbk .; Asia Pacific Fibers, Tbk; and Sunson Textile Manufacturer, Tbk.

Table 3 shows that the first macroeconomic indicator, lending rate has the minimum value of 433.139 owned by the Eratex Djaja, Tbk, while the maximum value of 498.553 is owned by Panasia Indo Resources, Tbk. The mean value of the variable of lending rate is 6.122 with a standard deviation value of 134.690. The second macroeconomic indicator, Consumer Price Index, has a minimum value of (0.710) owned by Polychem Indonesia, Tbk, while the maximum value of 0.613 is owned by Eratex Djaja, Tbk. The mean value of the variable of Consumer Price Index is 0.030 with a standard deviation value of 0.222. The next macroeconomic indicator, IDX Composite, has a minimum value of 0.004 owned by Nusantara Inti Corpora, Tbk, while the maximum value of 0.006 is owned by Panasia Indo Resources, Tbk. The mean value of the variable of IDX Composite is 0.000 with a standard deviation value of 0.001. The macroeconomic indicator, inflation, has a minimum value of 232.186 owned by Panasia Indo Resources, Tbk., while the maximum value of 78.249 is owned by Ever Shine Textile Industry, Tbk. The mean value of the variable of inflation is 9.471 with a standard deviation value of 41.043. The last macroeconomic indicator, IDR/USD exchange rate, has a minimum value of 0.005 owned by the Nusantara Inti Corpora, Tbk., while the maximum value of 0.006 is owned by Panasia Indo Resources, Tbk. The mean value of the variable of IDR/USD exchange rate is 0.000 with a standard deviation value of 0.002.

Similar to the variables of macroeconomic indicators, the financial ratios of each variable also have maximum values, minimum values, mean values and standard deviation values. The first financial ratio is the current ratio which has a minimum value of 0.130 owned by Asia Pacific Fibers, Tbk and a maximum value of 3.821 owned by Pan Brothers, Tbk. Current ratio has a mean value of 1.185 with a standard deviation value of 0.845. The second financial ratio, quick ratio, has a minimum value of 0.075 owned by Asia Pacific Fibers, Tbk. and a maximum value of 2.915 owned by the Pan Brothers, Tbk. Quick ratio also has a mean value of 0.595 with a standard deviation value of 0.591. The third financial ratio, cash ratio, has a mini-

Table 3
Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
X1	(433.139)	498.553	(6,122)	134.690
X2	(0.710)	0.613	(0,030)	0.222
X3	(0.004)	0.006	0,000	0.001
X4	(232.186)	78.249	(9.471)	41.043
X5	(0.005)	0.006	0.000	0.002
X6	0.130	3.821	1.185	0.845
X7	0.075	2.915	0.595	0.591
X8	0.002	1.719	0.120	0.268
X9	(4.122)	4,890	(0.173)	1.144
X10	(30.599)	27.978	0.217	7.152
X11	0.000	9.280	1.025	1.169
X12	(0.555)	0.254	(0.027)	0.116

Source: Data processed.

mum value of 0.002 owned by Asia Pacific Fibers, Tbk. and a maximum value of 1.719 owned by Pan Brothers, Tbk. Cash ratio has a mean value of 0.120 with a standard deviation value of 0.268. The fourth financial ratio, working capital ratio, has a minimum value of 4.122 owned by Asia Pacific Fibers, Tbk. and a maximum value of 4.890 owned by Sunson Textile Manufacturer, Tbk. Working capital ratio has a mean value of 0.173 with a standard deviation value of 1.144. The fifth financial ratio, debt equity ratio, has a minimum value of 30.599 owned by APAC Citra Centertex, Tbk. and a maximum value of 27.978 owned by APAC Citra Centertex, Tbk. Debt equity ratio has a mean value of 0.217 with a standard deviation of 7.152. Assets turnover ratio has a minimum value of 0.000 owned by APAC Citra Centertex, Tbk and a maximum value of 9.280 owned by Sunson Textile Manufacturer, Tbk. Assets turnover ratio has a mean value of 1.025 and a standard deviation value of 1.169. The last financial ratio, net income to total assets ratio, has a minimum value of 0.555 owned by Sunson Textile Manufacturer, Tbk. and a maximum value of 0.254 owned by Eratex Djaja, Tbk. Net income to total assets ratio has a mean value of 0.027 and a standard deviation value of 0.116.

Logistic Regression Analysis

Table 4 and 5 are the results of logistic regression test performed using SPSS 23 software. The following is an explanation of the logistic regression test results:

Fit Model

Table 4 shows that when the independent variable is included in the model with 60 data, it is obtained that the value of -2 Log Likelihood is 54.472. This value is smaller than the value of chi-square table (X2) in DF 47 obtained from the calculation of the amount of data minus the number of independent variables minus one, with a probability of 0.05, that is, 64.00. So, H0 is accepted, which means that the model by entering the independent variable is fit with data.

Cox and Snell R Square

Nagelkerke R Square value is 0.480 and Cox and Snell R Square value is 0.355,This means that the ability of the independent variable is 0.480 or 48% and there are 100% - 48% = 52% other factors outside the model that explain the dependent variable.

Hosmer and Lemeshow's Goodness of Fit Test

In Table 4, based on the Hosmer and Lemeshow's Goodness of Fit Test results, the value of Chi-Square is 5.416 with a significance value of 0.712. The significance value is greater than 0.05, which means that the logistic regression model deserves to be further analyzed because this model is able to predict the value of its observations.

Classification Table

Overall, the classification accuracy of the logistic regression model in this study is 75%, which means that this study has a fairly good accuracy to determine what factors that influence financial distress so that it can be used to predict.

Regression Coefficient Test

Based on Table 5, the logistic regression model can be formed as follows:

Table 4
Fit Model Test Resuts

Fit Model Test	Result
-2 Log Likelihood	
Block0	80.762
Block1	54.472
Snell R Square danNagelkerke R Square	
Cox and Snell R Square	0.355
Nagelkerke R Square	0.480
Hosmer and Lemeshow's Goodness of Fit Test	
Chi Square	5.416
Significance	0.712
Classification Table	
Overall Percentage	75%

Source: Data processed.

Ln (p/(1 - p)) = - 0.385 + 0.007X1 + 0.033X2 - 1.114X3 – 0.033X4 + 698.375X5 + 4.439X6 – 8.324X7 + 4.437X8 – 1.349X9 – 0.054X10 + 0.091X11 + 3.874X12.

The logistic regression equation shows that from the macroeconomic indicator variables, the variables of IDX composite and inflation have an influence on financial distress in a negative direction, while the variables of lending rate, consumer price index, and IDR/USD exchange rate have an influence on financial distress in a positive direction. In the variables of financial ratios, the variables of quick ratio, working capital ratios, and debt equity ratios have an influence on financial distress in a negative direction, while other variables, such as current ratio, cash ratio, assets turnover ratio and net income to total assets ratio have an influence on financial distress in a positive direction.

Discussion

The first hypothesis proposed in this study is that lending rate has an effect on financial distress. Based on the calculation result, it is obtained that the first hypothesis is not proven, that lending rate has no effect on financial distress. The result of this study is not in line with previous research because this study uses the textile and garment industry sector companies listed on the Indonesia Stock Exchange, while the previous research used the service sector companies in Malaysia. The textile and garment industry in Indonesia is fully supported by the government by providing financial incentives to convince textile and clothing entrepreneurs to invest in new machines. This is what makes the textile and garment industries feel that they are adequately funded by the government. In this case, the government does not provide an opportunity for industry players to borrow capital from banks and other lending institutions, so that the lending rate does not affect financial distress in textile and garment industry in Indonesia.

The second hypothesis proposed in this study is that Consumer Price Index has an effect on financial distress. Based on the result of the calculation, it is found that the second hypothesis is not proven, that the Consumer Price Index has no effect on financial distress. The result of this study is in line with the research conducted by Mohd Norfian Alifiah (2014). This shows that the consumer price index (CPI) has nothing to do with the purchasing power of consumers towards goods and services, so that it is not related to the increase or decrease in corporate profits which serve as an indicator for the level of corporate health or financial distress.

The third hypothesis proposed in this study is that IDX composite has an effect on financial distress. Based on the calculation result, it is found that the third hypothesis is not proven, IDX composite has no effect on financial distress. The result of this study is in line with the research conducted by Mohd Norfian Alifiah (2014). This can happen because good company shares do not mean good shares, and vice versa, bad company shares do not mean bad shares. Good company shares may be too high in price or overvalued and bad company shares may be too low in price or undervalued, so the company cannot set sales revenue or investor income depending on the share price. Thus, there is no connection between the IDX Composite and the company's financial distress.

The fourth hypothesis proposed in this study is that inflation has an effect on financial distress. Based on the result of the calculation, it is found

Table 5
Logistic Regression Analysis Results

Variable	Coefficient (B)	Wald	Sig.	Exp (B)
Constant	-0.385	0.126	0.723	0,680
X1	0.007	2.694	0.101	1,007
X2	0.033	0.000	0.987	1,033
X3	-1.114	1.889	0.169	0,000
X4	-0.033	0.079	0.778	0,997
X5	698.375	1.497	0.221	199.803
X6	4.439	4.602	0.032	84.707
X7	-8.324	4.781	0.029	0.000
X8	4.437	1.879	0.170	84.508
X9	-1.349	2.596	0.107	0.259
X10	-0.054	1.035	0.309	0.947
X11	0.091	0.026	0.871	1.096
X12	3.874	0.349	0.555	0.021

Source: Data processed.

that the fourth hypothesis is not proven, that inflation has no effect on financial distress. The result of this study is in line with the research conducted by Mohd Norfian Alifiah (2014). This means that the higher inflation in a country, the more difficult the financial condition in the country because the prices of goods are increasingly high due to inflation. But the opposite condition cannot occur, with the sense, when the inflation decreases, it does not mean that the prices of goods will go down. So, the rise or fall of inflation does not affect the purchasing power of people for goods and services which will have an impact on the company's gain or loss which will later also affect financial distress or not.

The fifth hypothesis proposed in this study is that the IDR/USD exchange rate has an effect on financial distress. Based on the calculation result, it is found that the fifth hypothesis is not proven, that the IDR/USD exchange rate has no effect on financial distress. The result of this study is in line with the research conducted by Mohd Norfian Alifiah (2014). This condition can occur as in inflation. When the Rupiah exchange rate weakens against the US dollar, the prices of goods and services tend to increase, but the opposite cannot occur when the Rupiah exchange rate strengthens against the US dollar, the prices of goods and services do not always decrease. This shows that the strengthening or weakening of the Rupiah exchange rate against the US Dollar has nothing to do with the purchasing power of people towards goods and services which will affect the company's income related to the company's gain and loss which then will also affect the occurrence of financial distress or not.

The sixth, seventh, eighth, and ninth hypotheses proposed in this study are liquidity ratios which include current ratio, quick ratio, cash ratio, and working capital ratio. Liquidity ratios have an effect on financial distress. Based on the results of the calculation, it is found that the sixth and seventh hypotheses are proven, that liquidity ratios, which included current ratio and quick ratio, have an effect on financial distress. In addition, the calculation results also show that current ratio shows the positive direction toward financial distress, which means that the greater the current ratio, the more likely the company will experience financial distress. This can happen because this ratio does not issue inventory values that are included in the company's assets, so that the likelihood of this ratio is derived from the high value of the company's inventory that can be seen that its inventory turnover is lacking which indicates that it can reduce the company's revenue from the sale of textile and garment products.

Unlike the current ratio, quick ratio shows the negative direction toward financial distress, which means that the greater the quick ratio, the less likely the company will experience financial distress. The results of this study are in line with the research conducted by Wahyu Widarjo and Doddy Setiawan (2009). This happens because this ratio has issued inventory components in the calculation so that what is reflected is the pure value of the company's assets other than inventories that can be used to cover the company's liabilities. Thus, the company will not experience financial difficulties in paying its obligations, especially its short-term obligations, in which if it is not paid, it can cause the

company to experience financial distress.

Cash ratio and working capital ratio have no effect on financial distress. The cash ratio and working capital ratio calculate the company's liquidity through the calculation of current assets, current debt and total assets owned by the company. But in these two ratios do not show the financial components of other companies such as fixed assets and long-term liabilities. So, this ratio cannot immediately show the level of financial health of a company, or it can be said that it has nothing to do with financial distress. The results of this study are in line with the research conducted by Mohd Norfian Alifiah (2014), Imam Mas'ud and Reva Maymi Srengga (2011), and Wahyu Widarjo and Doddy Setiawan (2009).

The tenth hypothesis proposed in this study is that debt equity ratio has an effect on financial distress. Based on the calculation result, it is found that the tenth hypothesis is not proven, that debt equity ratio has no effect financial distress. The result of this study is not in line with previous research because this ratio only looks at the company's obligations, whereas it is not always the case that the companies that have a large obligation cannot pay and have the possibility of financial distress. So, this ratio has no relationship with the presence or absence of financial distress in company.

The eleventh hypothesis proposed in this study is that total asset turnover ratio has an effect on financial distress. Based on the calculation result, it is found that the eleventh hypothesis is not proven, that total assets turnover ratio has no effect on financial distress. The result of this study is not in line with previous research because this ratio only shows sales and total assets owned by the company, even though the company with the highest sales and the highest total assets does not guarantee that the company will not experience financial difficulties. This is possible because the recorded sales value includes all sales, both cash and credit. This is what makes the sale of the company cannot guarantee because not all sales have been paid in full by consumers. Therefore, this ratio has no relationship with the presence or absence of financial distress in the company.

The twelfth hypothesis proposed in this study is that net income to total assets ratio has an effect on financial distress. Based on the calculation result, it is found that the twelfth hypothesis is not proven, that net income to total assets ratio has no effect on financial distress. The result of this study is not in line with previous research because this ratio shows how effective the management of the company is to generate profits. The effectiveness of a company in managing finances cannot be assessed only from high net income and large total assets, but other financial components such as liabilities must also be taken into account. This shows that this ratio has nothing to do with financial distress.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Based on the results of the analysis and discussion that have been stated, it shows that only two variables of the company's financial ratios that affect financial distress: current ratio and quick ratio. Current ratio has positive direction of influence on financial distress. The greater the current ratio, the more likely the company will experience financial distress. This can happen because this ratio does not issue inventory values so that there is a big possibility that this ratio is derived from the high value of inventory, or income from the sale of small inventory. So, the resulting profit decreases, whereas profit is one indicator that the company does not experience financial distress.

Unlike the current ratio, quick ratio shows the negative direction of influence on financial distress, which means that the greater the quick ratio, the less likely the company will experience financial distress. This happens because this ratio has issued inventory components in its calculation so that what is reflected is the value of the company's current assets other than inventory that can be used to cover the company's current liabilities. This means that the company will not experience financial distress.

The limitations of this study includes: there are several companies, including the textile and garment industry, that have the same closing share price every month during the period 2010-2015 resulting in the same stock return which causes the data cannot be processed in SPSS. In addition, some companies also do not have complete financial report data needed by researchers so that they must be excluded from the research sample.

Based on the research that has been done and the limitations of existing research, the researcher suggests that the next researchers use companies from other sectors or all sectors listed on the Indonesia Stock Exchange so that if there are companies that have the same stock returns throughout the period and must be excluded from sample criteria, this does not reduce the number of samples used in the study.

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