THE INFLUENCES OF MICRO AND MACRO VARIABLES TOWARD FINANCIAL DISTRESS CONDITION ON MANUFACTURE COMPANIES LISTED IN INDONESIA STOCK EXCHANGE in 2009

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Abstract

Aim of this study is to determine whether there is any influence between micro variables and macro variables to financial distress condition in manufacturing companies that is listed in Indonesia Stock Exchange (IDX). In this study, micro variables are from financial ratios and macro variables are from sensitivity of corporate toward macro economics factors are identified as independent variables. While financial distress condition is identified as dependent variable. The populations in this study are 38 companies and the sample that used is 78 financial reports of manufacturing companies. The results of this study show that micro variables and macro variables simultaneously influence toward financial distress condition. Then partially variable liquidity ratio, leverage ratio, and profit margin ratio are significantly influence toward financial distress condition. While variable inventory turnover ratio and variables macro that come from sensitivity company towards BI rate, inflation, CSPI are not significantly influence toward financial distress condition.

Keywords: financial distress, financial ratios, sensitivity of the company, cash flow, net income, earning per share

Background

In recent 2008, almost all of countries in the world were being shocked by financial crisis. The crisis, that is also known as global financial crisis, was started from the collapsing of the United States economy which later on affects much of the world’s stock markets being plummeted. It also makes a lot of companies got bankruptcy and the other threatened with bankruptcy.
The decreasing in the economics of US is certainly impact on the economy of other countries that cooperate with the US. Due to the decreasing in purchasing power of the US, it makes the level of demand for goods would be reduced too, so the exporter countries to US run into declining in their export. It also makes the company’s became poor performance due to decrease in sales levels so the company had deficit in their operating cash flow.

Indonesia in this context as a country cooperating with US both in the import-export trade, investment, and in other area, of course directly and indirectly experience the impact of this global financial crisis. These examples are relevant: in monetary side where Rupiah weakened drastically until IDR 12,151/USD, inflation that reached until 12.14%, and the interest of Bank Indonesia which touched 9.50% on November 6, 2010. Even the Indonesia Stock Exchange (IDX) reported the Composite Stock Price Index (CSPI) down into 10.30% (168,052 points).

Those conditions, of course, can affect the financial statements of companies in the manufacturing industry. Even making the finance of the manufacturing companies experienced an unstable condition (financial distress) which can lead to bankruptcy, such as what happened in crisis 1997.

Financial distress can be interpreted as a circumstances / conditions of companies that faced difficulties in the financial sector to fulfill their duty that can cause bankruptcy of the company. The indicators can be seen from the occurrences of delays in delivery order, reduction in product quality, loss of customer confidence, stacking the bills from bank or lender, inability of firms to fulfill operating costs, didn’t get profit, and etc. So to find out the condition of the company, it required an analysis of financial performance in the financial report. It is commonly used financial ratios from income statements, balance sheet, cash flow statement, or from disclosure of financial statements. The use of financial ratios is intended to provide an indication such as whether the company has sufficient cash to fulfill their financial duty, activities and effectiveness of the company, the financial position of the company in paying obligations, and etc.

This research aims to determine whether there is any influence between micro variables and macro variables to financial distress condition in manufacturing companies that is listed in Indonesia Stock Exchange (IDX). By doing analysis of macro and micro sector, which identified as financial performance, the result of analysis can be used as a tool to predict bankruptcy. Moreover, it can also being a base for making decision to optimize the value of the company.
Research Question

Based on the above description, the research problem can be expressed as follows:

1. Are there any influences between the current ratio with financial distress condition at manufacturing companies which listed in IDX (H1)?
2. Are there any influences between the debt ratio with financial distress at manufacturing companies which listed in IDX (H2)?
3. Are there any influences between the receivable turnover ratio and corporate financial distress condition at the manufacturing companies which listed in IDX (H3)?
4. Are there any influences between the profit margin on sales and financial distress condition at manufacturing companies which listed in IDX (H4)?
5. Are there any influences between the sensitivity companies in inflation with financial distress condition at manufacturing companies which listed in IDX (H5)?
6. Are there any influences between the sensitivity companies in interest rate of BI with financial distress condition at manufacturing companies which listed in IDX (H6)?
7. Are there any influences between the sensitivity companies in CSPI with financial distress condition at manufacturing companies which listed in IDX (H7)?
8. Is there any simultaneous influence between micro and macro variables to financial distress condition at manufacturing companies which listed in IDX (H8)?

Technical Terms

Financial distress is defined as financial difficulties; the events that beginning and including bankruptcy, such as violation of loan contracts (Ahmad Antony, 149:2003). Bringharm and Ehrard (2005) also said that the financial distress is a state where company’s operating cash flow is unable to meet short term obligations, such as trading liabilities and interest expense.

Financial distress is a stage of decrease in the company’s financial condition, which occurs prior to the liquidation or bankruptcy (Platt and Platt, 2002). They also suggested the use of information if a company is experiencing financial distress:

1. Can accelerate the management action to prevent problems before they occur bankruptcy
2. The management can take action merger or takeover so the company able to pay the debt and manage the company better.
3. Providing early warning sign/initial a bankruptcy in the future.
Framework of Study

Today, the issues of impact in global financial crisis become a trending topic especially for companies in the manufacturing industry. The global financial crisis has led some companies into financial distress or bankruptcy. It becomes a main attention of every company to be able to conduct operations effectively and efficiently. Therefore it is important to do some analyze of financial report by using financial ratios or economic factors.

Financial analysis includes analysis of financial ratios, analysis of weaknesses and strengths in the financial field, would be very helpful in assessing the performance of a management in the past and its prospects in the future. Ratio analysis can be used to assess liquidity, profitability, activity, the effectiveness of the use of funds and expenditure effectiveness.

Then besides financial ratios, the firm’s economic growth were also influenced by macro economics conditions that happen. Like the rate of inflation, BI rate, or CSPI that estimated affect the stability of financial performance. Therefore, by using economic variables, companies are able to compare the level of company’s growth rate and the corporate vulnerability in the future.

This financial distress condition describes the collapsing steps of the company’s financial condition, which is happened before the liquidation or bankruptcy. This condition can be caused by the economic and financial factors, so it causing a condition which company covered with the business failure. The using of financial distress prediction models could help and being an early warning for the company in order to avoid a bankruptcy. Previous research have been done regarding financial distress for example Altman (1993b), Altman (2000), Bullow and Shoven (1978), Chen, Weston and Altman (1995), Hadad and Sarwendi (2004), Luciana (2004), Opler and Titman (1994), Prihatni and Zakaria (2010), Rahmat (2002), Supardi and Mastuti (2003).

Research Methodology

The method used in this research is survey method by using the correlation approach or can be called as ex post facto. It is a researching back to an event and then trace backwards to identify the factors that may cause the incident. In this case the use of last year’s financial statements data to analyze the factors that affect financial distress.

In this research, secondary data were collected. The data for micro variables was taken from the company’s financial ratios that is exists in the Indonesian Capital Market
Directory (ICMD) 2009 and the macro variables was taken from the sensitivity company to macro indicator which obtained from the result of regression equation, are indentify as X variable. And the other hand, the Y variable was taken by companies that have an experience in financial distress condition.

Financial distress is determines by doing a dummy variable in the financial statements of companies with value of ‘1’ to the financial statements affected by financial distress and ‘0’ for non-financial distress. The giving those value is based on 3 indicators of financial distress as follow: Cash Flow (Wruck, 1990 in Aiyabei, 2002); (Whitaker, 1999), Net Operating Income (Aiyabei, 2002); (Hofer, 1980); (Whitaker, 1999), and Earnings per Share (Elloumi and Guyie, 2001).

Furthermore like what Iramani (2008) has done, the three indicators were given value as follows:

- Cash Flow = 3 (Very Important).
- Net Operating Income = 2 (Important).
- Earnings per Share = 1 (Fairly important).

Then, in scoring step, if the indicator is negative the score is ‘1’, but if the indicator is positive the score is ‘0’. Multiplication between the value of the indicators and the score is the total score that will determine whether company goes to financial distress group or non-financial distress based on the total value as follow:

- Total Score ≥ 3, the company grouped in financial distress.
- Total Score < 3, the company grouped in non-financial distress.

**Conclusion**

- Hosmer and Lemeshow’s Goodness of Fit Test

Hosmer and Lemeshow's Goodness of Fit Test is a tool to test the null hypothesis (H0) which stating if the hypothesized model fit with the data. The results of model fit analysis shows the value of Hosmer and Lemeshow's Goodness of Fit Test is 2.565 with a significance level 0.959. It means significance values are 0.05 and it above the limits of standard error (0.959> 0.05) so that H0 which stating the model fit with the data can be accepted. Therefore, the model can predict the value of observations and can be performed for further analysis.

- Chi Square Test
From the table above can be seen that the block beginning loglikelihood value is 104.515 and 58.193 block model loglikelihood value. This indicates that the block model is smaller than beginning block, so the hypothesis H0 that states the model fit with the data accepted. Whereas the chi square value is 46.322, it means there is a significant change in model.

- Classification Matrix

Classification matrix shows the predictive power of regression models to predict the likelihood of financial distress and non-financial distress in the company. In this study, predictive power of regression models to predict the occurrence of non-financial distress condition of the company is 76.5% and the predictive power of regression models to predict the occurrence of financial distress condition of the company is 83.3%.

- Hypothesis Testing

In table Omnibus Tests of Model coefficients obtained value of Model Chi Square at 44.753 with significant value 0.000. Because of significant value < standard error (0.000 <0.05) then H0 which stating there was no simultaneous effect of independent variables to the dependent variable was rejected and accept H8 which is means there are simultaneous influence between micro and macro variables to financial distress condition at manufacturing companies which listed in IDX.

Then the result of a partial hypothesis test can be seen from Table 2 as follows:

<table>
<thead>
<tr>
<th>Step</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp(B)</th>
<th>Ket</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>Current_ratio(X1)</td>
<td>.701</td>
<td>.237</td>
<td>8.718</td>
<td>1</td>
<td>.003</td>
<td>2.016</td>
</tr>
<tr>
<td></td>
<td>Debt_to_asset_ratio(X2)</td>
<td>6.271</td>
<td>2.149</td>
<td>8.513</td>
<td>1</td>
<td>.004</td>
<td>528.760</td>
</tr>
<tr>
<td></td>
<td>Inventory_turnover (X3)</td>
<td>-.104</td>
<td>.090</td>
<td>1.340</td>
<td>1</td>
<td>.247</td>
<td>.901</td>
</tr>
<tr>
<td></td>
<td>Profit_margin_on_sales (X4)</td>
<td>-18.259</td>
<td>8.063</td>
<td>5.128</td>
<td>1</td>
<td>.024</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>S_Inflasi (X5)</td>
<td>.358</td>
<td>.266</td>
<td>1.805</td>
<td>1</td>
<td>.179</td>
<td>1.430</td>
</tr>
<tr>
<td></td>
<td>S_Suku_bunga_BI (X6)</td>
<td>-.446</td>
<td>.284</td>
<td>2.465</td>
<td>1</td>
<td>.116</td>
<td>.640</td>
</tr>
<tr>
<td></td>
<td>S_IHSG (X7)</td>
<td>.114</td>
<td>.115</td>
<td>.985</td>
<td>1</td>
<td>.321</td>
<td>1.121</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-3.977</td>
<td>2.434</td>
<td>2.670</td>
<td>1</td>
<td>.102</td>
<td>.019</td>
</tr>
</tbody>
</table>

Source of data processed by author using SPSS18
Based on Table 1 above, the obtain Logit equation model as follows:

\[ Y (1-p) = FD\_Condition = -3.977 + 0.701X_1 + 6.271X_2 - 0.104X_3 - 18.259X_4 + 0.358X_5 - 0.446X_6 + 0.114X_7 \]

From the above data also indicates that the variables X1, X2, X4 are influences toward company's financial distress condition. So it is accepted hypothesis H1, H2, H4, and refused hypothesis H3, H5, H6, and H7.

- Nagelkerke R Square Analysis

In this study, Nagelkerke R Square value is obtained at 0.611. So that the dependent variable that can be explained by the independent variable is equal to 61.1% from the model while the remaining 38.9% is explained by other variables outside the model.

**Discussion**

Financial distress occurs because companies are not able to manage and maintain the stability of the company's financial performance. Effectiveness, efficiency, and economical that company do in managing the operations are considered to have failed because they could not cover operating expenses and didn't provide profits for the company. It can makes total liabilities will greater than total assets that owned by the company, so the company was not able to get out from financial distress and the company will be bankrupt.

From overview of financial statements in manufacturing industry company that listed on the Indonesia Stock Exchange (IDX), there are 42 financial reports in financial distress condition during the years 2007-2008 with an average score of 55.33% of the overall financial report. It is majority occurred in the garment and textiles company, and automotive company. As generally, these results indicate the manufacturing company in 2007 and 2008 which affected the financial distress is greater than the company that is not affected by financial distress. Then based on years of observation there was an increasing the number of companies that experiencing financial distress from 2007 to 2008, that is equal to 75%.

Based on the above hypothesis test results, the discussion of the results of the study are as follows:

1. Variable liquidity ratio which identified with Current Ratio has significantly influence toward the financial distress; this result is consistent with Beaver (1966), Grice (2000), and Almilia (2003). The liquidity variables are describing the company's ability to perform short-term liabilities. The higher ratio that obtained means the greater company's ability to pay its obligations. Whereas if the ratio is less than 1.0 it indicates a company is
unable to pay its short term obligations. So these indicate the company's health is not
good condition. From the research results we can view mostly of companies that
experience financial distress experienced current ratio below 1.0 and the company non-
fiscal distress above 1.0.

2. Variable leverage which identified with Debt to Asset Ratio has significantly influence
toward the financial distress; this is consistent with Beaver (1966), Altman (1968), Grice
(2000), and Almilia (2003). Leverage ratio or solvency ratio is a ratio used to measure the
extent to which company assets financed with debt. If the Debt to Asset Ratio smaller
than 1.0, it means the company financial largely funded by corporate capital. Whereas if
larger than 1.0, it means the company financial mostly financed by debt, so if the ratio
greater it makes the level of corporate risk-even greater too. In this study found that
commonly firm which affected financial distress has debt to asset ratio greater than 0.7
and the company is non-financial distress below 0.7. This means that companies affected
by financial distress do its operational with debt financing. This condition is increase
endanger of company, because by doing debt the company must pay interest expense so
directly reduce corporate earnings.

3. Variable activity ratio which identified with inventory turnover has not significantly
influence toward the financial distress condition. Inventory turnover ratio describes as
inventory turnover that occurred in the company. The greater ratio obtained will make the
level of turnover greater too, so it can describe the company's production and sales
operations. The inability to predict in this research is because the value of inventory
turnover ratio is not evenly spread either to the company’s affected financial distress or
non-financial distress, so the data being bias and can’t accurately predict. This is because
the differences in types of companies in the manufacturing sector, because every type of
company has the level of inventory turnover ratios based on its company characteristics.

4. Variable profitability ratio which identified with profit margins on sales has significant
impacts on financial distress condition; this is consistent with Beaver (1966), and Almilia
(2003). This ratio describes the company ability to achieve profit or gain in its sales. The
greater the margin ratio means the greater the benefits that will flow to the enterprise. In
research, companies that affected the financial distress is a company that has a profit
margin on sales is close to zero or negative.

5. Macro variables which identified by the company's sensitivity in inflation has not any
significant influence toward financial distress condition, this is consistent with the
Jumahir (2006) and Iramani (2008). Because the sensitivity of the company in inflation
are different for companies which experiencing financial distress or the non-financial distrees. So it is unable to describe specifically the company's criteria which are affected by inflation.

6. Macro variables which identified by the company's sensitivity in BI interest rate has not any significant influence toward financial distress condition. This is consistent with research Jumahir (2006), and Iramani (2008). The interest rate level is a variable which indirectly has no influence to financial distress condition, and interest rates would influence the debt as a result from the loans with fixed interest rate which at the end would reduce the profits. But, the company’s sensitivity in BI rate is between one to the other. So it can’t make a characteristic of a company which affected financial distress or non-financial distress from company’s sensitivity in BI interest rate.

7. Macro variables which identified by the company's sensitivity in CSPI has not any significant influence toward financial distress condition. This is consistent with research Iramani (2008). Because the company sensitivity level to stock market conditions both for stable or unstable are different. It caused financial distress prediction from the sensitivity company in CSPI is not significantly affected. Because the differences in sensitivity makes data became bias and unpredictable.

8. Micro and macro variables simultaneously influence toward financial distress condition. The research results are consistent with earlier research conducted by Jumahir (2007) and Almilia (2004) which states that the micro and macro variables are influencing the company's financial distress condition. However, this research is contrast with what Iramani (2008) done which letting out the macro variables in structuring the predictions model due to the macro sensitivity variables in his study cannot predict simultaneously corporate financial distress with other variables.

**Recommendation**

Based on the result of this research, the author suggests:

1. Companies should conduct its operations effectively and efficiently, by taking into account the company’s internal or external condition so the principles of going concern in the company keep running.

2. Government should do the policies more effective, especially in trade, fiscal, and monetary. So, companies can conduct their operations much better.
3. On the next research, the author suggests to extend the observation time and expend the research object. Because with extend the observation time, it can predict the financial distress more accurate, and with expend the research object, prediction model can be more common used.

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