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10th INSYMA
international annual symposium on management

Department of Management Faculty Of Business and Economics Universitas Surabaya

CHALLENGES AND OPPORTUNITIES OF THE LEADING EDGE IN WORLD CLASS SUPPLY CHAIN MANAGEMENT

Member of: AACSB

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Kampus

PROCEEDING

THE 10th INTERNATIONAL ANNUAL SYMPOSIUM
ON MANAGEMENT

CHALLENGES AND OPPORTUNITIES OF THE LEADING EDGE IN WORLD CLASS SUPPLY CHAIN MANAGEMENT

Bali, March 16th, 2013

Department Of Management
Faculty of Business and Economics
Universitas Surbaya

Proceeding

The 10th UBAYA International Annual Symposium on Management

CHALLENGES AND OPPORTUNITIES OF THE LEADING EDGE IN WORLD CLASS SUPPLY CHAIN MANAGEMENT

Editors:
Werner R. Murhadi, Dr
Prita Ayu, MM

Reviewers:
Candra S. Chayadi, Ph.D. (School of Business, Eastern Illinois University)
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Ning Gao, Ph.D. (Manchester Business School)
Wahyu Soedarmono, Ph.D. (Research Analyst, The World Bank, Jakarta)
Yuanto Kusnadi, Ph.D. (City of Hongkong University)

Published by:
Department of Management, faculty of Business & Economics
Universitas Surabaya
Jl. Raya Kalirungkut
Surabaya, Indonesia 60293
Phone : +62-31-2981139
Fax : +62-31-2981239

ISBN: 978-979-99365-7-8

FOREWORD

This proceeding is a compilation of papers submitted for **The 10th International Annual Symposium on Management** (Insyma) conducted by the Department of Management, Faculty of Business and Economics, Universitas Surabaya. This year's theme of the symposium is **Challenges and Opportunities of the Leading Edge in World Class Supply Chain Management**.

In this opportunity, we would like to share our grateful to the institutions (National and abroad) who send their lecturer or researcher to our symposium. This symposium is to provide a sharing forum for researcher, academics, and practitioners engaged in basic and applied research in Supply Chain Management. This theme represents an emerging and highly challenging and opportunities area of research and practice. One of the most significant paradigm shifts of modern business management is that individual business no longer compete as solely autonomous entities, but rather as supply chains. Business management has entered the era of internetwork competition. In this emerging competitive environment, the ultimate success of the single business will depend on management's ability to integrate the company's intricate network of business relationships. The supply chain is not a chain of businesses with one-to-one, business-to-business relationships, but a network of multiple business and relationships. SCM deals with total business process excellence and represents a new way of managing the business and relationships with other members of the supply chain. Successful supply chain Management requires cross-functional integration must play a critical role. The challenge is to determine how to successfully accomplish this integration.

This symposium aims to bring together different points of view from academics, business practitioners, government agencies, and international institutions with the ultimate goal to share and disseminate various ideas and practices in Supply Chain Management.

Finally, we hope that this compilation of papers, ranging from a conceptual work to an empirical research, can enrich our perspective in supply chain management and its application in creating higher level of competitiveness.

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ISBN: 978-979-99365-7-8

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Department of Management
Faculty of Business and Economics
Universitas Surabaya

Jl. Raya Kalirungkut, Surabaya, 60293
Ph: +62 31 298 1139 | Fax: +62 31 298 1131
email: ubayainsyma@gmail.com | managementsymposium@ubaya.ac.id

ISBN 978-979-99365-7-8

ANALYSIS OF THE MACRO ECONOMIC Influence Factors FINANCIAL AND PERFORMANCE COMPANY TO BUILD A MODEL PREDICTION Bankruptcy (STUDY AT LISTED COMPANIES IN IDX FOR YEAR 1999-2010)

Veronica M.Sienly

Maranatha Christian University

Email: lee_pingping@yahoo.com

ABSTRACT

The purpose of this study was to analyze the effect of macroeconomic factors as measured by the rate of inflation, interest rates, gross domestic product and the value of the currency and financial performance factors measured by financial ratios and cash flow ratios either simultaneously or partially in the formation of corporate bankruptcy prediction models, to analyze the effect of the variable cash flow in the formation of corporate bankruptcy prediction models simultaneously and to analyze the accuracy of the company's bankruptcy prediction models based on the models of 3 years, 2 years and 1 year before bankruptcy prediction. The purpose of this research is based on the monetary crisis events that occurred in 1997 when many companies went bankruptcy, many companies in Indonesia roomates has a debt to equity ratio (DER) is greater than one (1) show that the company has a chance more Likely to go bankruptcy and disagree from some of previous research that cash flow should variables included in the formation of bankruptcy prediction models. To Achieve the goals of research, researcher make a macroeconomic hypothesis testing using the data obtained from Bank Indonesia and the value of financial ratios and cash flow ratios obtained from IDX and ICMD. By using purposive sampling method in this research, the research sample was contained of 63 companies 34 companies that are not a bankrupt company and 29 companies are a bankrupt company. The companies are listed in BEI for all sectors except the financial sector with the observation period 1999-2010. In this research the hypothesis testing using logistic regression and the accuracy of bankruptcy prediction models using neural network testing. The results of these tests are simultaneously macroeconomic factors measured by the rate of inflation, interest rates, gross domestic product and the value of the currency and financial performance factors measured by financial ratios and cash flow ratios give effect to the establishment of a prediction of corporate bankruptcy prediction models with the accuracy of prediction models for high bankruptcy 3 years, 2 years and 1 year before the bankruptcy and in cash flow variables simultaneously provide a strong enough influence in the formation of corporate bankruptcy prediction models. Factors only partially financial performance measured by financial ratios and cash flow ratios that give effect to the establishment of corporate bankruptcy prediction models with the accuracy of a company's bankruptcy prediction model of high for model 3 years, 2 years and 1 year before the bankruptcy. Thus, companies need to pay attention to macroeconomic factors, financial ratios, and in particular the cash flow ratios to avoid company from bankruptcy.

Keywords: bankruptcy models, macroeconomic factors, financial ratios, cash flow ratios.

INTRODUCTION

In 1997 there has been a financial crisis that led to fall in the currency is very sharp, it is because Bank Indonesia changed its floating exchange rate system into a system of freely floating exchange rates. With a free floating exchange rate system then creates uncertainty value of the Rupiah against the U.S. dollar, causing a public panic both employers and not (Tarmidi, 1999; Boediono, 2009).

As a result of the stampede is the weakening of the rupiah, rupiah exchange rate in order not to weaken the government's tightening monetary policy by interest rate increases greater than the rate of inflation, it can be seen that in 1998 the SBI interest rate period of one month can reach 70% per annum and the interest rate on bank deposits is higher than the rate SBI (Boediono, 2009).

With the increase in the interest rate raises hike lending rates for business loans and consumer loans. The effect of an increase in mortgage interest rates are felt in the real sector due to rising interest rate, it can increase the cost of capital is interest loans to companies engaged in the real sector (Yudanto & Santoso, 1998).

The currency also leads to inflation because the cost of capital and the cost of production increases, the firm tends to increase the selling price of the product. The increase in selling price which is not supported by the community's ability to absorb these products because of the low purchasing power led to the number of products sold does not become more and more so that the company suffered losses. Loss suffered by the company, if not offset by additional capital injections from the owner will cause negative equity condition (Yudanto & Santoso, 1998). The condition of negative equity can lead to bankruptcy of business (Suroso, 2006).

In addition to monetary crisis in 1997, the policy of the use of debt to fund the company being taken by the company may also impact the survival of the company. Policy on the use of debt a company can be seen from the value of DER (Debt to Equity Ratio). DER is a ratio that shows the comparison between the debt held by the company with the capital (equity) company. DER values greater than 1 (one) indicates that the use of the funds used for operating activities of the company to use more debt than equity capital that the company must bear the cost of capital that is great interest and default risks that arise will also be greater if the company can not generate the revenue to cover the capital costs to be incurred (time interest earned ratio is small) and even the company can bankrupt a business, but when the time interest earned ratio is large in which the value opinion is greater than the cost of capital in this interest on the loan even though the value of DER> 1 the company can avoid bankruptcy business problem (Gitman, 2009).

By looking at the economic conditions that have occurred in Indonesia unexpected economic crisis making companies in the Indonesia Stock Exchange and other corporate experience instability in running the business and some even went bankrupt due to the crisis, many companies that have a value of DER (Debt to Equity Ratio) greater than 1 (one) to the value of the ratio of the small-time interest earned (EBIT <Cost of Flowers) which can lead to the bankruptcy of the business in such companies and the globalization that can lead to tight competition in all good company on the Stock Exchange listed companies as well as companies that are not listed on the Stock Exchange, it is vital to avoid bankruptcy business formation necessary corporate bankruptcy prediction models based on macroeconomic factors and financial performance factors consisting of ratios of cash flow and the ratio of financial companies listed on the Stock Exchange within a year from 1999 to 2010.

To obtain a bankruptcy prediction model that can be applied by companies listed on the Stock Exchange Indonesi (IDX) then there are some issues that need to be investigated include: (1a) Do macroeconomic factors measured by the level of inflation, interest rates, GDP, and the exchange rate as well as the company's financial performance factors measured by financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios, activity ratios, the ratio of the market, and the ratios of the company's cash flow statement together to give effect to establishment of corporate bankruptcy prediction models? (1b) Is the variable cash flow ratios provide a strong enough influence in the formation of corporate bankruptcy prediction models together with macroeconomic factors are

measured by the level of inflation, interest rates, GDP, exchange rate and financial performance factors measured of financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios, activity ratios and the ratio of the market? (2) Do macroeconomic factors measured by the level of inflation, interest rates, GDP, exchange rate and financial performance factors measured by financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios, activity ratios, market ratios, and the ratios of the company's cash flow statement is partially to give effect to the establishment of corporate bankruptcy prediction models? (3) Is the company's bankruptcy prediction model established by the macroeconomic factors and corporate financial performance factors that exist in Indonesia has a high level of prediction accuracy in predicting corporate bankruptcy?

The study aims to (1a) to analyze the effect of macroeconomic factors measured by the level of inflation, interest rates, GDP, and the exchange rate as well as the company's financial performance factors measured by financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios , activity ratio, the ratio of the market, and the ratios of the company's cash flow statement together towards the establishment of corporate bankruptcy prediction models. (1b) to analyze the influence of the variable cash flow ratios in bankruptcy prediction model building together with macro factors economy is measured from the level of inflation, interest rates, GDP, and the value of the currency and financial performance factors measured by financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios, activity ratios and market ratios. (2) to analyze the effect of macroeconomic factors are measured by the level of inflation, interest rates, GDP, exchange rate and financial performance factors measured by financial ratios consisting of liquidity ratios, profitability ratios, solvency ratios, activity ratio, the ratio of the market, and the ratios of the company's cash flow statement is partially the formation of corporate bankruptcy prediction models. (3) To analyze the level of prediction accuracy in predicting corporate bankruptcies obtained from the bankruptcy prediction model established by the macroeconomic factors and corporate financial performance factors that exist in Indonesia.

THEORETICAL DEVELOPMENT AND HYPOTHESES

Macroeconomic Factors, Performance Factors Corporate Finance and Business Bankruptcies

Business bankruptcy for a company is not only caused by one thing but many things that can lead to bankruptcy of a company. Therefore, in the formation of a company bankruptcy prediction models should also consider matters which may cause a company into bankruptcy. Things that can cause a business bankruptcy include:

1. Macroeconomic factors

Companies that are sensitive to macroeconomic conditions may experience a bankruptcy if the macro-economic conditions in a state of good and stable. This is due to the macro economic environment is affecting the day-to-day operations (Tandelilin, 2010), but it is because the company does not stand alone then bankruptcy prediction model should contain information about the environment outside the company as the macroeconomic situation where macroeconomic environment can be significant explanatory factor in explaining corporate bankruptcy (Balcaen & Ooghe, 2004). Opinions of other researchers is that the macro-economic factors such as interest rates, money supply and the inflation

rate is an important factor in predicting bankruptcy of enterprises (Lee et al, 2007) and macro-economic factors have a role in the formation of business bankruptcy prediction models (Nam et al , 2008).

2. The financial performance of the company

The financial performance of the company which can be seen from the financial ratios and cash flow ratios can affect survival of the company in which the financial ratios can provide a good overview of the analysts about the bad things or the financial position of a company (Munawir, 1998) while the company's cash flow is a measure of kelikuidan of a business (Sharma, 2001). Kelikuidan size company can give you an idea of the condition of the company if the company's statement of cash flows from operating activities primarily negative indicates that firms in illiquid conditions because of the company's operating loss (income <expenditure operations) so it is possible at any given time the company went bankrupt .

Opinions from other researchers are able to use financial ratios to predict bankruptcy business (Beaver, 1966) than that in shaping the business model of bankruptcy important variable is the cash flow generation, liquidity, financial leverage, turnover of equity (Mensha, 1984).

With the view that there are things that can cause a company goes bankrupt then merging the things that can cause an insolvent company can realize the bankruptcy prediction model building good business. Thus, the research hypothesis is:

H1a: macroeconomic factors and financial performance factors measured by financial ratios and cash flow ratios together to give effect to the establishment of corporate bankruptcy prediction models.

There is difference of opinion among researchers in the ratio of cash flow included in the modeling effort as bankruptcy prediction by Gombola (1987) ratio is an indicator of cash flow operations that do not particularly need to be used in the modeling of business bankruptcy prediction, Aziz et al (1988) found ratios of cash flow can not be used to establish predictive models of bankruptcy efforts and Atmini & Wuryana (2005) states that cash flow models are not powerful enough to be used as a predictive model financial distress while according Mesaki (1998) model of prediction of bankruptcy using cash flow yield prediction models efficient bankruptcy, Mossman et al (1998) found that the ratio of cash flow to predict the bankruptcy business is better than using financial ratios and cash flow to total debt is a good predictor in predicting bankruptcy of enterprises with highly accurate prediction rate (Beaver , 1966; Deakin, 1972) the differences need to be tested with the establishment of the following research hypothesis:

H1b: macroeconomic factors and financial performance factors measured by financial ratios together to give effect to the establishment of corporate bankruptcy prediction models.

Macroeconomic Factors and Corporate Bankruptcy

Macroeconomic factors are factors that can affect the survival of the company because the company is in the macroeconomic environment in the course of day-to-day operations and in their policy and take steps for the strategic business development company. Macroeconomic factors consist of inflation, interest rates, gross domestic product and the rupiah. The relationship between each of the macroeconomic factors and corporate bankruptcies can be seen from the findings of previous researchers, among others:

1. Research conducted by Lee et al (2007), Tirapat & Nittayagasetwat (1999), and Liou & Smith (2006) stated that inflation is an important factor in predicting bankruptcy and give effect to the possibility of companies experiencing financial distress so that it can be said that the inflation rate may give effect to the bankruptcy events business.

2. Research conducted by Shepard and Collins (1982) which states that the interest rate is an important indicator in the modeling bankruptcy. Research conducted by Salman et al (2009) which states that a high interest rate loans cause bankruptcy and Lee et al (2007) states that the interest rate is an important factor in the formation of corporate bankruptcy prediction models, so it can be said that the interest rate gives a positive influence to the emergence of business bankruptcy.

3. Research conducted by Liou & Smith (2006) which states that contribute to the formation of GDP bankruptcy models and Salman et al (2009) who in his research concluded that GDP has a negative relationship to the bankruptcy of the company.

4. The rupiah is the price of dollar against other currencies. Companies that use equity financing in foreign currencies may cause the company's debt has increased in the amount to be paid in case of weakening of the Rupiah. With increasing costs to the company are not offset by revenue earned, the company will incur a loss and can lead to bankruptcy business losses if conditions are not quickly addressed. Therefore the exchange rate can affect the appearance of the bankruptcy of a company's business.

Based on the above, the research hypothesis is:

H2: macroeconomic factors influence the formation of corporate bankruptcy prediction models.

Corporate Financial Performance Factor (Financial Ratios) and Corporate Bankruptcy

The company's financial performance factors can also impact the survival of the company which may cause bankruptcy, the company's financial performance factors include the company's financial ratios and cash flow ratios derived from the company's cash flow statement. Financial ratios consist of liquidity ratios, solvency ratios, activity ratios, profitability ratios and market ratios. . The relationship between each company's financial ratios and bankruptcy can be seen from the findings of previous researchers, among others:

1. Research conducted by Glezakos et al (2010) stated that the liquidity ratio is a good ratio to use in business bankruptcy prediction models. This is supported by research done by Hadad et al (2003) in which the research results indicate that the liquidity ratio is the best discriminator in differentiating a company that does not bankrupt the company bankrupt and Kaaro (2004) in his study concluded that a relatively consistent variable in predicting health firms are liquidity ratios.

2. Research conducted by Ohlson (1980), Tanthanongsakkun et al (2009), Manurung (2003), Gamayuni (2006) and Parulian (2007) which states that the solvency ratio which is represented by the ratio of total liabilities to total assets are statistically significant for use in established models of business bankruptcy, but it Mensha (1984) also stated in the study that the solvency ratio is an important variable in shaping the enterprise bankruptcy prediction model. Kaaro (2004) and Munthe (2008) in his study concluded that the variables are relatively consistent in predicting a company's health is the solvency ratio or leverage ratio.

3. Research conducted by Rodliyah (2004) which states that the ratio of the dominant role in the formation of one bankruptcy prediction model is the ratio of the activity represented by the total assets turnover ratio, it can also be seen in Altman's bankruptcy prediction model equations that the total assets turnover ratio be one the variables used in predicting bankruptcy business.

4. Research conducted by Keasy & McGuinness (1990) suggest that indicators of profitability provide significant results in explaining the state of bankruptcy. Atmini & Wuryana (2005) in his study concluded that the dominant financial ratios significantly affect the company's financial distress is a condition of profitability ratios, represented by the ratio of return on investment (ROI). Munthe (2008) states that the ratio of profitability can be used to predict corporate bankruptcy.

5. Research conducted by Atiya (2001) and Mensah (1983) which states that the ratio of the market can be used to help shape corporate bankruptcy prediction models.

Based on the description the research hypothesis is:

H3: Financial ratios give effect to the establishment of corporate bankruptcy prediction models.

Factors Corporate Financial Performance (Cash Flow Ratio) and Bankruptcies Company

The company's cash flow statement is often used by analysts of financial statements to evaluate and assess the performance of the company as seen in the cash flow statement is the use of a variety of activities such as cash operating activities, investing activities and financing activities. This is because when firms indicate difficulty in repaying the loan company cash shortage, especially when seen from the statement of cash flows experienced negative operating cash flow because the company can not make a profit. The importance of cash flow ratios in predicting bankruptcy of enterprises supported by research conducted by Beaver (1966) and Deakin (1972) which states that cash flow to total debt is a good predictor and accurate in predicting bankruptcy of enterprises, besides Mesaki (1998) and Mossman et al (1998) in his study concluded that the bankruptcy prediction model using the ratio of cash flow to produce an efficient insolvency prediction model and better than the use of financial ratios. Sung et al (1999) also states that the ratio of cash flow to total assets is the most important variable in shaping the company's bankruptcy prediction model.

Based on the above, the research hypothesis is:

H4: The ratio of cash flow to give effect to the establishment of corporate bankruptcy prediction models.

METHODS

Type of Research

This type of research used in this research is descriptive-associative method. Descriptive-associative method is a method of research used to know and be able to describe the characteristics of the studied

variables in a situation and be able to describe and determine the relationship of correlation and causal relationship between one variable with another variable (Sekaran, 2006; Suliyanto, 2009).

Operationalization of Research Variables

The variables used in this study consisted of macroeconomic factors and firm performance factors comprising financial ratios and cash flow ratios. These variables are the independent variables, while the dependent variable is a company with two conditions, namely the bankrupt company and the company does not go bankrupt.

Table 1.1

Variable Operational Research

No Type Variable Measurement Scale Measurement Research

1 Dependent Variable

a. The company went bankrupt

b. Companies that do not bankrupt categorization are:

Number one (1) for the bankrupt company.

The zero (0) to companies that are not bankrupt. Nominal Scale

2 Independent Variables

a. Macroeconomic Factors Calculate the average value of inflation, the average value of the interest rate, the average value of GDP and the average value of the rupiah. Ratio Scale

b. Corporate Performance Factors

1. Calculating Financial Ratios liquidity ratios, solvency ratios, profitability ratios, activity ratios, and the ratio of the market by using the formula of each of these ratios. Ratio Scale

2. Ratios of the Company Cash Flow Statement Calculate efficiency ratio and sufficiency ratio by using the formula of each of these ratios. Ratio Scale

Source: Results of Treatment Author

Population, Study Sample, Sampling Techniques and Data Collection Techniques

The population in this study are all the companies in the Indonesia Stock Exchange (IDX) of the nine sectors in IDX so that the number of companies in the Stock Exchange which is a population of 442 companies per month is April 2012.

The sample used in this study were taken by several criteria, among others:

1. Companies that used in this study is consistent firms issued financial statements which comprise the income statement, balance sheet and cash flow statement of the year from 1999 to 2010.

2. Not a company engaged in the financial sector, financial services and non-bank financial institutions.

3. Size of the firm view of the total fixed assets. The company has total fixed assets of at least 100 billion for the listing of the main board and at least 5 billion for the recording of board developer to be used as samples for the company goes bankrupt and the company does not go bankrupt.

4. For companies that do not bankrupt has a positive EBIT continuously during the study period (1999-2010) while the bankrupt company uses delisting criteria of the BEI.

Based on these criteria then there were 63 companies that are used as a sample. In a bankruptcy prediction model building, there are two conditions that the company is not insolvent and bankrupt the companies in this study there were 29 companies that went bankrupt and 34 bankrupt companies not based on the criteria used above for the period 1999-2010. In a bankruptcy prediction model building samples need to be grouped into the sample analysis and validation samples with a ratio of 60%: 40% means that 60% of the sample analyzes and 40% validation sample. Based on this comparison the number of firms used in the sample analysis and validation samples can be seen in the table below:

Table 1.2

Total Company To Sample Sample Analysis and Validation

Categories Companies of Samples	Total
Sample Sample Analysis	Validation
Not Bankrupt 20	14 34
Bankrupt 17	12 29
Total 63	

Source: Results of Treatment Author

Sampling technique in this study is a type of purposive sampling nonprobabilistic sampling, purposive sampling which is used for manifold judgment sampling in this study using the criteria in the form of a particular consideration in this study sampled.

Data collection techniques used in this research is the collection of data files by using the database as the data used in this study is a secondary data that financial and macroeconomic reports.

Method of Data Analysis

Analysis tools are used to test the research hypothesis is the method of logistic regression because the dependent variable is the independent variable categories with more than one variable. To measure the accuracy of bankruptcy prediction model, the authors use a neural network method. In conducting its analysis aided by SPSS 20 software and Matlab version 7.

RESULTS AND DISCUSSION

To obtain answers to each of these hypotheses has formed the study authors tested the model data for 3 years, 2 years and 1 year before the bankruptcy of the business by using logistic regression analysis and using a significant level (□) of 10% due by Hartono (2008) significant level (□) are most likely to be able to reject H0 is the significant level of 10%.

The results of testing hypothesis 1a can be seen in the table below:

Table 1.3

Variables (With Variable Cash Flow Ratio) The Giving Effect Of Bankruptcy Prediction Model Business For 3 Years, 2 Years and 1 Year Prior Bankruptcy Business In Simultaneous

Model Variables That Influence In Simultaneous magnitude Giving Effect Specification

3 years prior to the bankruptcy business 1. Macroeconomic Factors

2. Variable Ratio of Cash Flows

Financial Ratio 71.8% 3.Variabel macroeconomic factors, financial ratio variables and variable ratio of cash flow to give effect to enterprise bankruptcy prediction by 71.8%

2 years prior to the bankruptcy business 1. Macroeconomic Factors

2. Variable Ratio of Cash Flows

Financial Ratio 70.1% 3.Variabel macroeconomic factors, financial ratio variables and variable ratio of cash flow to give effect to enterprise bankruptcy prediction by 70.1%

1 year prior to the bankruptcy business 1. Macroeconomic Factors

2. Variable Ratio of Cash Flows

Financial Ratios 85% 3.Variabel macroeconomic factors, financial ratio variables and variable ratio of cash flow to give effect to enterprise bankruptcy prediction by 85%

Sources: Data Processing Results

The results of hypothesis testing simultaneously for bankruptcy prediction model 3 years, 2 years and 1 year before the bankruptcy venture is jointly macroeconomic factors consisting of inflation, interest rates, gross domestic product and the rupiah exchange rate and financial performance factors that perusahaann measured by financial ratios and cash flow ratios give effect to the establishment of corporate bankruptcy prediction models. This is supported by research conducted by Djumahir (2007) where his research states that macro variables and micro variables simultaneously can predict corporate financial distress. Munthe (2009) in his study stated that the four macroeconomic variables are used together to give effect to the probability of financial distress and bankruptcy of the company and by Nam et al (2008) have a role in macroeconomics pmbentukan business bankruptcy prediction model.

1b hypothesis testing results can be seen in the table below:

Table 1.4

Variable (Variable Without Cash Flow Ratio) The Giving Effect Of Business For Bankruptcy Prediction Model 3 Years, 2 Years and 1 Year Prior Bankruptcy Business In Simultaneous

Model Variables That Influence In Simultaneous magnitude Giving Effect Specification

3 years prior to the bankruptcy business 1. Macroeconomic Factors

2.Variabel Financial Ratios 57.8% macro-economic factors and the financial ratio variables impact the business bankruptcy prediction by 57.8%

2 years prior to the bankruptcy business 1. Macroeconomic Factors

2.Variabel Financial Ratios 68.3% macro-economic factors and the financial ratio variables impact the business bankruptcy prediction by 62.4%

1 year prior to the bankruptcy business 1. Macroeconomic Factors

2.Variabel Financial Ratios 78.1% macro-economic factors and the financial ratio variables impact the business bankruptcy prediction by 78.1%

Sources: Data Processing Results

The results of hypothesis testing simultaneously for bankruptcy prediction model 3 years, 2 years and 1 year before the bankruptcy business shows that the influence of macroeconomic factors and financial performance factors measured by financial ratios and cash flow ratios greater than the influence of macroeconomic factors and financial performance factors were only measured by financial ratios in predicting bankruptcy of the business.

It is proved that the ratio of cash flow variables significant influence in the formation of corporate bankruptcy prediction models because the ratio of cash flow is dominant in the measurement of bankruptcy and financial distress so that when the company started to have problems with debt service cash flow becomes dominant as the measuring tool (Prihadi, 2010). Also according Darsono & Ashari (2005) the company's cash flow can be used to assess the liquidity of the company so if the company obtains positive operating cash flow, it is a sign the company is operating in a healthy (Sundjaja et al, 2010).

The results of testing hypothesis 2 can be seen in the table below:

Table 1.5

Variable Macroeconomic Factors That Influence Of Giving Business Bankruptcy Prediction Model For 3 Years, 2 Years and 1 Year Prior Bankruptcy Business In Partial

Model Variables Sig. Result

3 years prior to the bankruptcy business GDP 0.929 H0 is accepted

Rupiah 0.705 H0 is accepted

2 years prior to the bankruptcy business GDP 0.931 H0 is accepted

Rupiah 0.838 H0 is accepted

1 year prior to the bankruptcy business GDP 0.488 H0 is accepted

Rupiah 0.359 H0 is accepted

Sources: Data Processing Results

The absence of influence of macroeconomic variables on the formation of corporate bankruptcy prediction models for model 3 years, 2 years and 1 year before the bankruptcy of the overall business is due to financial difficulties and bankruptcy occurred because the company is not able to manage and maintain the stability of the company's financial performance stems from a failure to promote products that are made that caused sales to decline (Brahmana, 2007), but it did Sandin & Porporato (2007) bankruptcy is often a consequence of corporate inefficiencies and errors in decision-making so that the economic and financial condition of the same two companies can face different situations in which one was normal, and the others could face bankruptcy process because managers, creditors, shareholders or government policy.

The results of testing hypothesis 3 can be seen in the table below:

Table 1.6

Variable Financial Ratios The Giving Effect Of Bankruptcy Prediction Model Business For 3 Years, 2 Years and 1 Year Prior Bankruptcy Business In Partial

Variable Models Financial Ratios The Giving Effect Effect magnitude Specification

3 years prior to the bankruptcy business 1. Current Ratio (current ratio)

2. Debt To Asset Ratio (Ratio of Total Debt to Total Assets) 57.8% Current ratio and debt-to-assets ratio to give effect to the establishment of corporate bankruptcy prediction models by 57.8%

2 years prior to the bankruptcy business 1. Debt To Asset Ratio (Ratio of Total Debt to Total Assets

2. . Return On Assets Ratio (Ratio Results Of Total Assets) 68.3% Current ratio, debt-to-assets ratio and the cash ratio to give effect to the establishment of corporate bankruptcy prediction models by 58.3%

1 year prior to the bankruptcy business 1. Total Assets Turnover Ratio (Total Asset Turnover Ratio)

2. Debt To Asset Ratio (Ratio of Total Debt to Total Assets)

3. Return On Assets Ratio (Ratio Results Of Total Assets) 78.1% Total assets turnover ratio, debt-to-assets ratio and return on assets ratio to give effect to the establishment of corporate bankruptcy prediction models by 78.1%

Sources: Data Processing Results

Based on these results we can conclude that the variables that need to be considered in the modeling prediction conditions are not bankrupt or the company will go bankrupt is the ratio of total debt to total assets (debt to asset ratio) as the ratio to give effect to the establishment of good corporate bankruptcy prediction models for model 3 years, 2 years and 1 year before the bankruptcy business, it is supported by Ohlson (1980) and Manurung (2003) which states that the ratio of total debt to total assets is the most dominant variable and can be used to form a bankruptcy prediction model .

Therefore, if the value of the ratio of total debt to total assets increases, companies need to evaluate and find the cause of the increase in the ratio that the company will avoid bankruptcy business.

Other financial ratios that give effect to the establishment of corporate bankruptcy prediction models, namely current ratio (current ratio), return on assets ratio (the ratio of yield to total assets) and total assets turnover ratio (total assets turnover ratio) is also noteworthy because of the ratio- this ratio provides an overview of the company's financial performance and efficiency as well as the company's

ability to manage existing assets, generate sales and create benefits all of which will give effect to the condition of the company is not insolvent or bankrupt businesses.

The results of testing hypothesis 4 can be seen in the table below:

Table 1.7

Variable Ratio Cash Flow Predictions Against The Giving Effect of Business Bankruptcies For Model 3 Years, 2 Years and 1 Year Prior Bankruptcy Business In Partial

Variable Model That Provides Cash Flow Ratio Effect Effect magnitude Specification

3 years prior to the bankruptcy business Cash Flow Return On Assets Ratio 57.4% Cash flow return on assets ratio to give effect to the establishment of corporate bankruptcy prediction models by 57.4%

2 years prior to the bankruptcy business 1. Cash flow to Return On Assets Ratio

2. Debt Coverage Ratio to 45.8% Cash flow return on assets ratio and debt coverage ratio to give effect to the establishment of corporate bankruptcy prediction models by 45.8%

1 year prior to the bankruptcy business cash flow to Return On Assets Ratio 79.7% Cash flow return on assets ratio to give effect to the establishment of corporate bankruptcy prediction models by 79.7%

Sources: Data Processing Results

Based on these results the ratio of cash flow to give effect to the establishment of the company bankruptcy prediction model for model 3 years, 2 years and 1 year before the bankruptcy business is cash flow return on assets ratio as cash flow return on assets ratio indicates how much profit to be gained from total managed assets to generate profits when seen from operating cash flow (Prihadi, 2010). If the value of cash flow return on assets ratio is low, it can be said to be less efficient firms manage existing assets to generate operating profits, cash flow is low and the company will have low cash funds, with low cash funds, the company will suffer severe financial hardship and can lead to bankruptcy for the company if the company's costs. In addition to cash flow return on assets ratio is the ratio of cash flow to be responsible for the formation of corporate bankruptcy prediction models is the Debt Coverage Ratio as debt coverage ratio shows how much cash flow to be able to shut down the entire operation is good to see corporate debt maturing debt and bad debt maturity (Prihadi, 2010). If the value of debt coverage ratio is high it shows operating cash flows are not able to cover all debts of the company due to the large debts of the company is greater than the operating cash flow that can lead to bankruptcy owned company in the future. It should be observed since the company 2 years before bankruptcy because when the bankruptcy one year prior to the new company is the observed value of the ratio of the company will be too late to be saved means to increase the value of operating cash flow and reducing debt would be difficult to do in a period of one year.

Level Corporate Bankruptcy Prediction Model Accuracy

To menentukkan the accuracy of bankruptcy prediction model, the authors use a Neural Network method and the results can be seen in the table below:

Table 1.8

Value Prediction Accuracy Rate for Model 3 Year 1 Year 2 Year and Business Before Bankruptcy partially or Simultaneous With Variable Ratio Cash Flow and Cash Flow Without Variable Ratio

Sample Analysis (Using Variable Cash Flow Ratio) Sample Validation

(Using Variable Cash Flow Ratio) Sample Analysis (Without Variable Cash Flow Ratio) Sample Validation (Without Variable Cash Flow Ratio)

Model 3 years 2 years 1 year 2 years 3 years 3 years 1 year 1 year 2 year 3 year 2 year 1 year

In Simultaneous 96.3 *) 98.2 99.1 48.39 95.16 97.58 95.9 97.2 98.2 90.32 90.32 95.97

In Partial: Sample Sample Analysis Validation

1.Variabel Financial Ratio 95.9 97.2 98.2 95.16 95.98 84.68

2.Variabel Cash Flow Ratio 96.8 97.2 98.2 87.9 92.74 93.55

*): Unit%

Source: Results of Treatment Author

The accuracy of bankruptcy prediction models generated showed that the accuracy rate approaching bankruptcy bankruptcy prediction models are rising, it is because the closer a company's financial condition, the higher the pressure the precision or accuracy of models in predicting corporate bankruptcies and the value of statistical simulation 1 years before bankruptcy business giving the most optimal value (Hadad et al, 2003).

CONCLUSION

1.a. Simultaneously with = 10% of all variables used in this study together to give effect to the establishment of corporate bankruptcy prediction models with the magnitude of the effect is equal to 71.8% for model 3 years prior to the bankruptcy business, 70.1% for model 2 years before bankruptcy business and 85% for model 1 year prior to the bankruptcy business.

1.b. Variable cash flow ratios provide a strong influence in shaping the company's bankruptcy prediction model together with macroeconomic factors and financial performance factors.

2. Partially by using = 10%, variable influence on the formation of corporate bankruptcy prediction models is the variable of financial ratios and cash flow ratio variables. For macroeconomic variables partial factor = 10% with no effect on the formation of corporate bankruptcy prediction models.

3. Bankruptcy prediction model established by the macroeconomic factors and corporate financial performance factors that exist in Indonesia has a high level of prediction accuracy in predicting the bankruptcy of the company so that the factors that influence the formation of corporate bankruptcy prediction models need diperharikan by the company.

Based on the study conclusions presented suggestions for practical interests or the interests of further study as follows:

1. The company went public should pay attention to the cash flow position of the company operating cash flow primarily due to the company's cash flow is a liquidity measure which indicates the company's ability to obtain sales to cover all operating expenses that are routine.

2. Business bankruptcy prediction model established by the authors are advised to use in predicting the condition of companies that go public have to be generated according to the prediction results because in this study the authors use research object, a company that went public and listed on the Indonesia Stock Exchange for all sectors except the financial sector and other financial institutions with total assets berwujudnya at least 5 billion to 100 billion.

3. For further research is recommended to evaluate the bankruptcy prediction model that has been established by using a variable that has been used in this study because of the different economic conditions in Indonesia's economy will continue to grow and are affected by global conditions so that business bankruptcy prediction model established by the authors will need to be evaluated to see if the variables used are still having the same effect or different.

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