The Analysis of Fundamental Variables and Macro Economic Variables in Predicting Financial Distress

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Abstract

Financial distress is a condition where the company is experiencing financial difficulties prior to bankruptcy. This study aims to identify and explain the influence of the fundamental variables and macroeconomic variables in predicting the probability of financial distress. Based on the eight variables used, current ratio, debt to assets ratio, return on equity and total asset turnover ratio is a fundamental variable. While the sensitivity of inflation, exchange rate sensitivity and interest rate sensitivity included in macroeconomic variables. The population in this study are all porperti and real estate company listed on the Stock Exchange in 2014-2018. The sample selection using purposive sampling technique, acquired 23 companies in the sample with the five companies in the category of financial distress and 18 companies in the category of non financial distress. The analytical method used is logistic regression and sensitivity analysis. The results showed that the variable current ratio, debt to assets ratio, total asset turnover ratio, inflation sensitivity, exchange rate sensitivity and interest rate sensitivity did not significantly affect the probability of financial distress. While return on equity significantly negative influence on the company’s financial distress.

INTRODUCTION

The financial crisis in 1997 had a significant impact on all aspects of life, whether social, political, and also the economy of a nation. This depreciation led to foreign debt payments and principal payments to be paid increasing so rapidly. So companies are listed on the Exchange at the time many of them have conditions insolvent or bankrupt. In this monetary crisis, the property and real estate sector experienced a severe enough impact, resulting in a wave of massive layoffs resulting in increased unemployment diangka 20 million inhabitants (BPS, 1998). Another phenomenon is the significant impact membeikan submarine mortgage crisis in 2008. The crisis is not only an impact on the financial sector but also the domestic real sector in Indonesia. This phenomenon non tell us that the company must anticipate and maintain its financial performance so that it remains in a normal condition or does not experience financial difficulties.

This study aimed to determine the effect of the Vendor fundamental variables such as current ratio, debt to assets ratio, return on equity, total assets ratio turnove. And the influence of macroeconomic variables such as inflation sensitivity, the sensitivity of exchange rates and interest rate sensitivity in predicting financial distress property companies and real estate 2014-2018 period. The property and real estate sector is the sector most sensitive to economic changes, where this sector signals the rise and fall of a country’s economy.

Financial distress is a condition in which a company experiences a deterioration in finan-
cial condition before it goes bankrupt. Beaver et al (2011) states financial distress as the inability of companies to pay financial obligations that are past due. Plat and Platt (2006) the company is said to experience financial distress when experiencing conditions such as: terminating work or not paying dividends, interest coverage ratio, cash flow lower than the company's long-term liabilities, negative operating net income, changing equity prices, terminated operations by government and required restructuring, have technical violations in debt and have negative EPS.

Financial distress is caused by two factors: internal form of corporate fundamentals and external form of macro-economic conditions (Damodaran, 2001). From the fundamental side the company is said to have financial difficulties if it has a negative profit and can not fulfill its obligations. There are several financial ratios that are often used in predicting financial distress. Mostly, the financial ratios used are the liquidity ratios, leverage ratios, profitability ratios, solvency ratios and activity (Riesta et al. 2014). Macro-economic activity also affects the company's state of financial distress. Tirapat and Nittayagasetwat (1999) in Afriyeti and Jumyetti (2017) states that the higher sensitivity to macroeconomic companies the possibility of financial distress companies higher.

Hypothesis Development

Current ratio is the ratio used to meet short-term liabilities with current assets of the company (Brigham and Houston, 2014). Any company that can afford to pay current debts well, the less likely the company will experience financial distress (Risamawanti et al, 2017). High liquidity levels reflect the company’s ability to repay its debt is also high, indicating that the company was in good health (Restiyanti and Agustina, 2018). Previous research conducted by Dance and Made (2019), Curry and Banjıhanor (2018), Widati and Pratt (2015), Kartika and Hasanuddin (2019) and Pure (2018) states that the current ratio negatively affect financial distress.

H1: Current Ratio give negative effect on financial distress

The company’s assets are used to meet the obligations must be greater than the debt itself if the company wants to be in a healthy condition or hinder financial distress. The ratio is used to measure the ratio between the total debt and total assets to assess the magnitude of the company's assets funded by debt is the debt to assets ratio (Kashmir, 2017). The higher the risk the possibility utang enterprise companies experiencing financial distress is also higher (Fitriyah and Hariyati, 2013). The larger the company's assets are financed by debt, the greater the likelihood of distress financial condition, due to the greater the company's obligation to pay the debt (Marota et al, 2018). Previous research on the effect of DAR in predicting financial distress conducted by Rohmadini et al (2018), Rochman et al (2018), Jaafar et al. (2018), and Safitri (2018) states that the debt to assets ratio (DAR) significantly influence financial distress.

H2: Debt To Assets Ratio (DAR) Current Ratio give significant effect on financial distress

Return on Equity (ROE) is the ratio of the net against equity to measure the return on investment of ordinary shareholders (Brigham and Houston, 2014). Its ROE company showed a positive number the greater, the less the possibility of companies experiencing financial distress (Assaji and Machmuddah, 2017). The higher level of ROE indicates that the possibility of financial distress companies getting smaller. Conversely the lower the value of ROE, then it is likely the company experienced higher financial distress. Previous research conducted by Restianti and Agustina (2018), Al-Khatib and Al Haroni (2016), Sirait (2016), Nilna and Ronny (2018), and Niswanda (2016) stated that the Return on Equity (ROE) negative effect against financial distress.

H3: Return on Equity (ROE) give negative effect on financial distress

High asset turnover indicates more efficient use of the entire company in assets in generating sales. So that corporate profits will increase and avoid financial distress. The ratio used to assess the turnover of all assets owned by a company and also to assess how many sales were obtained from each rupiah produced called total asset turnover ratio (Kasmir, 2017). If the asset turnover slowed the company will result in a buildup of products and reduced income, so the probability of financial distress companies higher. Research on the effects of total assets turnover ratio in predicting financial distress conducted by Kartika and Hasanuddin (2019), Amirulloh and Ishanah (2017), Setiawan and Ambonengytas (2018).

H4: Total Assets Turnover Ratio (TATO) give negative effect on financial distress
Boediono (2014) defines inflation as a tendency to increase the price level in general and continuously. Inflation will bedampak on the price of goods and indirectly used effects the ability of consumers to buy goods and would also lower the company's sales turnover. Sales declines will result in declining corporate earnings as well, so that it will allow companies experiencing financial distress. Research in line with Nurhidayah and Rizqiyyah (2017), Afriyeni and Jumyetti (2017), Kumalasari et al (2014), and Anggraini (2017) states that the inflation effect on the financial distress.

H5: Inflation give significant effect on Financial Distress.

Exchange rate shows the balance of demand and supply on the currency in domestic or foreign currency $ US. Nopirin (2014) defined as the exchange rate between two different currencies, in which the exchange will be giving out the comparison of the price / value between the two currencies. The depreciation of the rupiah would lead to increased production costs, so the impact on the profitability of the company (Darminto, 2010). Ethics companies are having problems in their income, the company may face financial difficulties (veronica, 2006) in Budilaksono (2013). Budilaksono Research (2013) and Sabrina and Cacik (2019) states that the exchange rate or the exchange rate significantly influence financial distress.

H6: Exchange rate give significant effect on financial distress.

Higher interest rates would increase interest expense as well as companies that have an impact on the deficit of income resulting additional costs and interest. So it will have an impact on the company's financial condition. The interest rate is the price of the use of investment funds or Loanable funds (Boediono, 2014). The higher the interest rate would cause interest expenses to be borne by the company the greater, thus the higher the interest rate will lead to greater possibilities for companies experiencing financial distress (Sulaksana, 2016). Previous research on the effect of interest rate in predicting financial distress conducted by Sari (2017), Fariyeti and Jumyetti (2017) and Faizatullail (2019) states that the interest rate significantly influence financial distress.

H7: Interest Rates give significant effect on the financial distress.

Based on the explanation of the relationship of independent variables on financial distress above, the following framework to analyze the fundamental variables think corporate and macroeconomic variables in predicting financial distress in the company's property and real estate.

![Figure 1. Research Model](image)

**METHOD**

This research is an exsplantory research and used quantitative method. Explain correlation financial distress as dependent variable and the independent variables such as current ratio, debt to assets ratio, return on equity, total assets turnover ratio, the sensitivity of inflation, exchange rate sensitivity and interest rate sensitivity. The data used in this research is pooled data that combining time series and cross section data. The data came from annual report property and real estate companies listed in BEI on 2014 until 2018. The macro economic data like inflation, exchange rates and interest rate are from Bank Indonesia (www.bi.go.id). The population in this study were company property and real estate listing on the Stock Exchange in 2014-2018. Selected 23 companies (Table 1) as the sample using purposive sampling with criteria for property and real estate company listed on the Stock Exchange in 2014-2018 and report financial performance as required in this research. Five companies categorized as financial distress and 18 companies were not experiencing financial distress. The Company classified financial distress if it has a negative EPS in two years or more while the company's non-financial distress if it does not have a negative EPS for 2 years.
Table 1. List of Sample Company’s

| No | Code | Company's Name                  | No | Kode | Company's Name                  |
|----|------|--------------------------------|----|------|--------------------------------|
| 1  | APLN | Agung Podomoro Land Tbk        | 13 | JPRT | Jaya Real Properti Tbk          |
| 2  | ASRI | Alam Sutra Realty Tbk          | 14 | MKPI | Metropolitan Kentjana Tbk      |
| 3  | BEST | Bekasi Fajar Industrial Estate Tbk | 15 | MTLA | Metropolitan Land Tbk          |
| 4  | BIPP | Bhuwanatala Indah Pemai Tbk    | 16 | MTSM | Metr Realty Tbk                |
| 5  | BKSL | Sentul City Tbk                | 17 | NIRO | City Retail Development Tbk    |
| 6  | BSDE | Bumi Serpong Damai Sentul City Tbk | 18 | PLIN | Plaza Indonesia Realty Tbk     |
| 7  | COWL | Cowell Development Tbk         | 19 | PWON | Pakuwon Jati Tbk               |
| 8  | CTRA | Ciputra Development Tbk        | 20 | RBMS | Ristia Bintang Mahkotasejati Tbk |
| 9  | DILD | Intiland Development Tbk       | 21 | RDTX | Roda Vivatex Tbk               |
| 10 | DUTI | Duta Pertiwi Tbk               | 22 | RODA | Pikko Land Development Tbk     |
| 11 | EMDE | Megapolitan Development Tbk    | 23 | SMDM | Suryamas Dutamakmur Tbk        |
| 12 | GMTD | Gowa Makassar Tourism         |     |      |                               |

Table 2. Measurement and Variables

| Variables                  | Proxy | Measurement |
|----------------------------|-------|-------------|
| Financial Distress (Y)     | Earning Per Share (EPS) | Using dummy variables. A value of 1 for companies that have a negative EPS for two years or more (financial distress). A value of 0 for companies that do not have a negative EPS for two years (non financial distress). |
| Current Ratio              | CR    |             |
| Debt To Assets Ratio       | DAR   |             |
| Return On Equity           | ROE   |             |
| Total Assets Turnover Ratio| TATO  |             |
| Sensitivitas Inflasi       | S_Inflasi | Y = a + b₁ X₁ + e (Riesta dkk, 2014) |
|                           |       | Y = Stock return of each month |
|                           |       | a = Constant |
|                           |       | b₁ = Sensitivity company against inflation |
|                           |       | X₁ = Inflation |
|                           |       | e = variable outside the model bullies |
| Sensitivitas Kurs          | S_Kurs| Y = a + b₁ X₁ + e (Riesta dkk, 2014) |
|                           |       | Y = Stock return of each month |
|                           |       | a = Constant |
|                           |       | b₁ = Sensitivity company against inflation |
|                           |       | X₁ = Inflation |
|                           |       | e = variable outside the model bullies |
| Sensitivitas Suku Bunga   | S_Suku Bunga | Y = a + b₁ X₁ + e (Riesta dkk, 2014) |
|                           |       | Y = Stock return of each month |
|                           |       | a = Constant |
|                           |       | b₁ = Sensitivity company against inflation |
|                           |       | X₁ = Inflation |
|                           |       | e = variable outside the model bullies |
Table 2 shows the dependent variable (financial distress) and the variables that affect financial distress (independent variable) and measurements.

Data analysis method used is logistic regression. The dependent variable used in this study a nominal scale (dichotomous) or variable dummy (Non-metric) with indices 1 to companies experiencing financial distress and 0 for a healthy company. The Company classified financial distress if it has a negative EPS for two years or more. Agusti (2013), Vitrianjani (2015), Tukan (2018), as well as Saleh and Sudiyatno (2013) also uses EPS as a proxy in the category of financial distress. While the independent variable in the form of a ratio scale which does not require the assumption of normality. Logistic regression analysis using the following formula:

\[
\ln(p/(1-p)) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7
\]

\(\ln\) = Logarithm of the probability of financial distress
\(p/(1-p)\) = logarithm of the probability of financial distress
\(\beta_0\) = constant
\(\beta_1\) = coefficient of current ratio
\(X_1\) = Current ratio
\(\beta_2\) = coefficient of debt to assets ratio
\(X_2\) = Debt to asset ratio
\(\beta_3\) = coefficient of return on equity
\(X_3\) = Return on equity
\(\beta_4\) = coefficient of total asset turnover ratio
\(X_4\) = Total asset turnover ratio
\(\beta_5\) = coefficient of sensitivity of inflation
\(X_5\) = Sensitivity of inflation
\(\beta_6\) = coefficient sensitivity to kurs
\(X_6\) = Sensitivity to kurs
\(\beta_7\) = coefficient of interest rate sensitivity
\(X_7\) = Interest rate sensitivity

RESULT AND DISCUSSION

Table 3 shows the results of the research descriptive statistics. Data were processed on the current ratio of 115 variables with missing data as much as 0. The average current ratio of 8.79 with a standard deviation of 29.23. The range of the maximum value of the data population amounted to 155.6 and the minimum value of 0.00. Data debt to assets ratio which is processed by N 115 missing as much as 0. The average debt to assets ratio of 0.38 with a standard deviation of 0.17. The range of the maximum value of the data population at 0.79 and the minimum value of 0.30. Descriptive results variable return on equity, data is processed as many as 115 to N missing as much as 0. The average return on equity 8.30 with a standard deviation of 9.67. The range of the maximum value of the data population at 32.29 and the minimum value of -24.20. Data were processed in total assets turnover ratio variable 115 with missing data as much as 0. The average total asset turnover ratio of 0.24 with a standard deviation of 0.28. The range of the maximum value of the data population minimum value of 3.15 and 0.007. Variable descriptive results of the sensitivity of inflation, the data is processed as many as 115 to N missing as much as 0. The average sensitivity of inflation with a standard deviation 2848.10 -262.76. The range of the maximum value of the data population at 136.00 and the minimum value -30,539.00. Data were processed at a variable rate sensitivity of 115 with missing data as much as 0. The average exchange rate sensitivity of -0.054 with a standard deviation of 0.204. The range of the maximum value of the data population of 0.98 and the minimum value of -0.76. Interest rate sensitivity of the data processed by the N 115 missing as much as 0. The average interest rate sensitivity of -0.009 with a standard deviation of 0.36. The range of the maximum value of the data population of 1.58 and the minimum value of -1.92.

Table 4 shows the test results of Hosmer and Lemeshow's goodness of fit test, chi-square value of 28.992 and significance value of 0.154. Significant value figures show more than 0.05 so that H0 or hypothesized model fit to the data.

| Table 3. Descriptive Statistic | N | Minimum | Maximum | Mean | Std. Deviation |
|-------------------------------|---|---------|---------|------|---------------|
| CR                            | 115 | .000 | 155.600 | 8.79113 | 29.239625 |
| DAR                           | 115 | .030 | .790 | .38809 | .173867 |
| ROE                           | 115 | -24.200 | 32.290 | 8.30461 | 9.678527 |
| TATO                          | 115 | .007 | 3.158 | .24576 | .382452 |
| S_INFLATION                   | 115 | -30539.000 | 136.000 | -262.76596 | 2848.103453 |
| S_EXCHANGE RATE               | 115 | -7.66 | .980 | -0.05432 | .204766 |
| S_INTEREST                    | 115 | -1.920 | 1.586 | -0.00950 | .360392 |
Table 4. Result of Hosmer and Lemeshow Test

| Step | Chi-square | Df | Sig. |
|------|------------|----|------|
| 1    | 28.992     | 8  | .154 |

Likelihood -2 Log Results in Table 5 show that the addition of independent variables in the regression model is better than the dependent variable only. Evidenced by the number konstata block 0 at 117.86 decreased to a constant 1 (with the addition of independent variables) to 51.813. So that the model (the independent variable) is fit or suitable. R2 Negelkerke Results showed that the ability of independent variables in explaining the dependent variable by 68%, while 32% is influenced by other factors.

Table 5. Comparison Result of -2Log Likelihood

| -2 Log Likelihood | Negelkerke R² |
|-------------------|--------------|
| Constanta (Block 0) | 117.866 |
| Constanta (Block 1) | 51.813 |
|                     | .680 |

In Table 6, the variable current ratio has a regression coefficient of -0.037 (B) with 0.339 signifikasi level (greater than 0.05) so that the first hypothesis is rejected, which means that the current ratio does not affect the financial distress. Current ratio because there is no effect on the company's data used in this study. There are some companies that have a low current ratio, but in the category of companies experiencing financial distress not. Meanwhile, there are also companies that have a high current ratio, but fall into the category of financial distress because of EPS for 2 years. The research result is in line with Sibabalok et al (2019), Rohmadini et al (2018), Restiyanti and Agustina (2018), Hapsari (2012) and Sagala (2018) which states that the current ratio does not affect the financial distress. Thus concluded that the current ratio is not appropriate to predict the company's financial distress.

Table 6. Result of Logistic Regression

| Step 1 | B       | S.E. | Wald  | df   | Sig.  | Exp(B) |
|--------|---------|------|-------|------|-------|--------|
| CR     | -.037   | .039 | .915  | 1    | .339  | .964   |
| DAR    | -4.504  | 2.449| 3.382 | 1    | .066  | .011   |
| ROE    | -.343   | .086 | 15.980| 1    | .000  | .710   |
| TATO   | .740    | .934 | .628  | 1    | .428  | 2.096  |
| S_INFLASI | .000   | .001 | .026  | 1    | .871  | 1.000  |
| S_KURS | -1.008  | 1.774| .323  | 1    | .570  | .365   |
| S_SUHU BUNGA | 1.535 | 1.159| 1.755 | 1    | .185  | 4.641  |
| Constant | 1.387 | .943 | 2.165 | 1    | .141  | 4.002  |
financial distress. This research is in line with Restianti and Agustina (2018), Arifin (2017), Wigati (2017), Ayesha et al (2017) which states that the total asset turnover ratio (TATO) did not affect the financial distress.

Variable sensitivity inflation has a regression coefficient of 0.000 (B) with a 0.871 signifikasi level (greater than 0.05), so the first hypothesis is rejected, which means the sensitivity of inflation does not affect the financial distress. Inflation does not affect the financial distress due in 2014-2018 still stands at 2.79% to 8.22% where the figure included in the mild inflation as less than 10%. The lightness of the inflation rate should not concern the national economy, so that the Indonesian economy still taste pasa stable position which does not have a significant impact on the company's financial distress. This study is in line with Rohiman and Darmayanti (2019), Darmanwan (2017) and Indranji (2016) states that inflation does not affect the financial distress.

Sensitivity rate has regression coefficient of 1.008 (B) with a 0.570 signifikasi level (greater than 0.05), so the first hypothesis is rejected, which means the sensitivity of exchange rate does not affect the financial distress. Sensitivity rate has no effect because in 2014-2018, when the exchange rate against the US dollar weakens, then foreign investors will increase its investment in the property and real estate in Indonesia. The increase in the exchange rate is a good time for people to invest in the form of Dollar (Nurysaman and Yesicca, 2017). Foreign investors or local communities will disburse funds in rupiah and getting results with more value, then the funds are used to invest in real estate and real estate. Property and real estate prices in the country will be more affordable if converted into Dollars. On the other hand, property companies and real estate investment levels of the relatively more secure and promising, because property prices tend to rise from year to year. The additional investment will certainly maintain the continuity of the company in the midst of turmoil weakening rupiah. So the existence of the company remain intact and still be able to increase the growth of the company's property and real estate.

CONCLUSION AND RECOMMENDATION

This study memproleh financial distress prediction model for property and real estate company of seven variables, current ratio, debt to
assets ratio, return on equity, total assets turnover ratio, the sensitivity of inflation, exchange rate sensitivity and interest rate sensitivity. The results showed that the only variables that influence return on equity (negative) impact of financial distress. While the variable current ratio, debt to assets ratio, total asset turnover ratio, the sensitivity of inflation, exchange rate sensitivity and interest rate sensitivity has no effect in predicting the company’s financial distress.

Suggestions for further research by adding variables outside of the seven variables that have been used so predictions financial distress through independent variables can be more clear and complete, such as earnings after tax, firm size, the price of gold and oil prices.

REFERENCES

Afriyeni, E. & Jumyetti. 2017. Faktor-Faktor Makro Ekonomi dalam Memprediksi Kondisi Financial Distress. Jurnal Polibisnis. 8(2), 1-10

Agusti, Chalendra Prasetya. 2013. Analisis Faktor yang Kemungkinan Terjadinya Financial Distress. Skripsi. Semarang: Program Sarjana Universitas Diponegoro

AISYA, N.N Et Al. 2017. The Influence of Liquidity Ratio, Activity Ratio, Profitability Ratio and Leverage Ratio on to Financial Distress (Studi at Textile Garment Companies Listed on the Indonesian Stock Exchange 2011-2015). E-Proceeding of Management. 4(1). 1 April 2017, 411-419.

Al-Khatib, H.B. & Al- Horani, A. 2016. Predicting Financial Distress of Public Companies Listed in Amman Stock Exchange. European Scientific Journal. 8(15). 1-17

Amalia, N.I. & Mardani, R.M. 2018. Analisis Rasio Keuangan terhadap Financial Distress (pada Perusahaan Perbankan yang Listing di BEI Periode Tahun 2014-2016). E- Jurnal Riset Manajemen. 7(9), 51-63

Amirulloh, M. & Isbahan, Y. 2017. Analisis Model Prediksi Financial Distress dan Determinan yang Mempengaruhinya (Studi pada Perusahaan Sektor Pertambangan di BEI Tahun 2014-2016). Seminar Nasional Call for Paper Surabaya. 83-98

Anggraini, R. 2017. Analisis Profitabilitas, Likuiditas, Leverage, dan Inflasi dalam Memprediksi Financial Distress pada Perusahaan Property dan Real Estate yang Terdaftar di Bursa Efek Indonesia. Skripsi. Sumatera Utara: Program Sarjana Sumatera Utara

ARIFIN, B. 2017. Pengaruh Rasio Keuangan terhadap Financial Distress pada Pt. Perkebunan Nusantara. Jurnal Akuntansi Unesa. 6(1), 1-22.

Assaja, J.P & Machmudah, Z. 2017. Rasio Keuangan dan Prediksi Financial Distress. Jurnal Penelitian Ekonomi dan Bisnis. 2(2), 58-67.

Badan Pusat Statistik. 1998. Data dan Informasi Kependudukan, Indeks Pembangunan Manusia, Tingkat Pengangguran Terbuka Indonesia. Jakarta: BPS Jakarta Pusat.

Beaver et al. 2011. Financial Ratios and Prediction of Failure, Empirical Research in Accounting: Selected Studies. Supplement of Accounting Research, 71-11. Institute of Professional Accounting, Chicago.

Boediono. 2014. Seri Sinopsis Pengantar Ilmu Ekonomi No. 5 Ekonomi Makro. Yogyakarta: BPFE.

Brigham, Eugene F and Joul F Houston. 2014. Dasar-dasar Manajemen Keuangan. Jakarta: Salemba Empat.

Budilaksano, A. 2013. Faktor - Faktor yang Mempengaruhi Financial Distress (Kesulitan Keuangan) Perusahaan (Tinjauan Atas Perusahaan Non Keuangan di Bursa Efek Indonesia). Jurnal Akuntansi Sekolah Tinggi Akuntansi Negara.

Curry, K. & Banjarhaner, E. 2018. Financial Distress pada Perusahaan Sektor Properti Go Public di Indonesia. Seminar Nasional Pakar 1 Tahun 2018, 207-221.

Damodaran, A. 2001. Corporate Finance: Theory and Practice, International Edition. New York: Willey.

Dance, M. & dan Made, S.I. 2019. Financial Ratio Analysis in Predicting Financial Conditions Distress in Indonesia Stock Exchange. RJOAS. 2(86), 155-165.

Darmawan, S. 2017. Analisis Pengaruh Corporate Governance, Variabel Ekonomi Makro terhadap Financial Distress dengan Variabel Kontrol Ukuran Perusahaan dan Jenis Kepemilikan. E-Jurnal Janabada. 7(1), 101-122.

Darminto. 2010. Pengaruh Faktor Eksternal dan Berbagai Keputusan terhadap Nilai Perusahaan. Jurnal Aplikasi Manajemen, 8(1), 138-150.

Dewi, N.K.U.G. & Dana, M. 2017. Variabel Penentu Financial Distress pada Perusahaan Manufaktur di Bursa Efek Indonesia. E-Jurnal UNUD, 6(11), 5834-5858.

Faizatullail. 2019. Pengaruh Rasio Likuiditas, Rasio Leverage, Rasio Profitabilitas, Rasio Aktivitas dan Tingkat Suku Bunga terhadap Financial Distress serta Tinjauannya dari Sudut Pandang Islam. Skripsi. Jakarta: Program Sarjana Universitas Yarsi.

Fitriyah, I. & Hariyati. 2013. Pengaruh Rasio Keuangan terhadap Financial Distress pada Perusahaan Properti dan Real Estate. Jurnal Ilmu Manajemen, 3(3), 760-773.

Hapsari, E.I. 2012. Kekuatan Rasio Keuangan dalam Memprediksi Kondisi Financial Distress Perusahaan Manufaktur di BEI. Jurnal Dinamika Manajemen, 3(2), 101-109.

Darmawan, S. (2016). Analisis Pengaruh Corporate Governance, Variabel Ekonomi Makro terhadap Financial Distress dengan Variabel Kontrol Ukuran Perusahaan dan Jenis Kepemilikan. Efektif Jurnal Ekonomi Dan Bisnis, 7(1), 100-122.

Jaafar, M.I et al. 2018. Determinants of Financial Distress among the Companies Practise Note 17
Listed in Bursa Malaysia. *International Journal of Academic Research in Business and Social Science*, 8(11), 800-811.

Kartika, R. & Hasanuddin. 2019. Analisis Pengaruh Likuiditas, Leverage, Aktivitas, dan Profitabilitas terhadap Financial Distress pada Perusahaan Terbuka Sektor Infrastruktur, Utilitas, dan Transportasi Periode 2011-2015. *Jurnal Ilmu Manajemen*, 15(1), 1-16.

Kasmir. 2017. Analisis Laporan Keuangan. Jakarta: Raja Grafindo Persada.

Kumalasari, R. D., & Indrawati, D. H. N. K. (2014). The Effect of Fundamental Variables and Macro Variables on the Probability of Companies to Suffer Financial Distress a Study on Textile Companies Registered in BEI. *European Journal of Business and Management*, 6(34), 275-285.

Kurniasari, A. & Muchtiah, M. 2018. Pengaruh Corporate Governance, Rasio Keuangan, Ukuran Perusahaan dan Makroekonomi terhadap Financial Distress (Studi pada Perusahaan Sektor Pertambangan yang Terdaftar di Bursa Efek Indonesia Tahun 2012-2016). *Jurnal Ilmu Manajemen*, 6(3), 197-212.

Kusanti, O. 2015. Pengaruh Good Corporate Governance dan Rasio Keuangan terhadap Financial Distress. *Jurnal Ilmu & Riset Akuntansi*, 4(10), 1-22.

Machmud, S. & Wijanarko, B. A. 2013. Analisis Pengaruh Tingkat Inflasi, Nilai Tukar USD/Rupiah, dan Tingkat Suku Bunga SBI. *Jurnal Ekonomi, Bisnis & Entrepreneurship*, 7(1), 30-40.

Marota, R dkk. 2018. Pengaruh Debt to Assets Ratio (DSR), Current Ratio (CR) dan Corporate Governance dalam Memprediksi Financial Distress pada Perusahaan BUMN Sektor Non Keuangan yang Terdaftar di Bursa Efek Indonesia. *Jurnal Ilmu Akuntansi Fakultas Ekonomi*, 2(2), 249-266.

Murni, M. 2018. Analisis Faktor-Faktor yang Mempengaruhi Tingkat Financial Distress pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2010-2014. *Jurnal Akuntansi dan Bisnis*, 4(1), 74-83.

Nopirin (2014). Pengantar Ilmu Ekonomi Mikro-Makro. Yogyakarta: BPFE.

Nurhidayah & Riziqiyah, F. 2017. Kinerja Keuangan dalam Memprediksi Financial Distress. *Jurnal JIBEKA*, 11(1), 42-48.

Nuryasaman dan Yessica. 2017. Determinasi Harga Saham Sektor Properti dan Real Estate di Bursa Efek Indonesia. *Jurnal Manajemen*, 21(2), 270-281.

Platt, H. D. & Platt, M. B. 2006. Understanding Differences between Financial Distress and Bankruptcy. *Review of Applied Economics*, 2(2).

Pratama, J. 2016. Prediksi Financial Distress pada Perusahaan Manufaktur di Bursa Efek Indonesia. *Skripsi*. Yogyakarta: Program Sarjana Universitas Negeri Yogyakarta.

Priyatnasari, S. & Hartono, U. 2019. Rasio Keuangan, Makroekonomi dan Financial Distress: Studi pada Perusahaan Perdagangan, Jasa dan Investasi di Indonesia. *Jurnal Ilmu Manajemen*, 7(4), 1005-1016.

Restianti, T. & Agustina, L. 2018. The Effect of Financial Ratios on Financial Distress Conditions in Sub Industrial Sector Company. *Accounting Analysis Journal*, 7(1), 25-33.

Rismawanti, R dkk. 2017. Pengaruh Likuiditas, Sales Growth, dan Leverage dalam Memprediksi Kondisi Financial Distress. *Prosidings Akuntansi*, 3(1), 1-7.

Rohiman, S.F. & Damayanti, C.R. 2019. Pengaruh Inflasi, Nilai Tukar dan Suku Bunga terhadap Financial Distress (Studi pada Semua Perusahaan yang Terdaftar di Bursa Efek Indonesia Periode 2013-2017). *Jurnal Administrasi Bisnis*, 72(2), 186-195.

Rohmadini, A. 2018. Pengaruh Profitabilitas, Likuiditas dan Leverage terhadap Financial Distress (Studi pada Perusahaan Food & Beverage yang Terdaftar di Bursa Efek Indonesia Periode 2008-2016. Thesis (Diploma). Program diploma thesis UIN Sunan Gunung Djati Bandung.

Sagala, L. 2018. Pengaruh Rasio Keuangan dalam Memprediksi Potensi Kebangkrutan pada Perusahaan Customer Goods yang terdaftar di Bursa Efek. *Jurnal Ilmu Ilmath Smart*, 2(1), 22-30.

Saleh, A. & Sudiyatno, B. 2013. Pengaruh Rasio Keuangan untuk Memprediksi Probabilitas Kebangkrutan pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Jurnal Dinamika Akuntansi, Keuangan dan Perbankan*, 2(1), 82-91.

Setiawan, H. & Amboningsih, D. 2018. Financial Ratio Analysis for Predicting Financial Distress Condition (Study on Telecommunication Companies Listed in Indonesia Stock Exchange Period 2010-2016). *Journal of Management*, 4(4), 1-18.

Sidabakol, E.L. 2019. Rasio Keuangan dalam Memprediksi Kebangkrutan Perusahaan Pertambangan Batubara. *Journal of Equity*, 20(2), 31-44.

Sireat, S. 2016. Analisis Rasio Keuangan untuk Memprediksi Kondisi Financial Distress pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Thesis*. Sumatera Utara: Program Magister Universitas Sumatra Utara.

Sulaksa, T. 2016. Analisis Rasio Keuangan dan Variabel Ekonomi Makro dalam Memprediksi Financial Distress Perusahaan Pertambangan di Bursa Efek Indonesia Periode 2011-2015. *Thesis*. Suralaya: Sekolah Tinggi Ilmu Ekonomi Perbanyakan Surabaya.

Tirapat, S. & Nittayagasetwat, A. 1999. An Investigation of Thai Listed Firms' Financial Distress Using Macro and Micro Variables. *Multinational Finance Journal*, 3(2), 103-125.
Tukan, T.N.N.S. 2018. Analisis Faktor Penjelas Financial Distress pada Perusahaan Manufaktur di Bursa Efek Indonesia. Skripsi. Yogyakarta: Program Sarjana Universitas Negeri Yogyakarta.

Vitrianjani, N. 2015. Prediksi Kondisi Financial Distress dan Faktor yang Mempengaruhi Studi Empiris pada Perusahaan Batubara yang Terdaftar di Bursa Efek Indonesia Tahun 2011-2014. Artikel Ilmiah Mahasiswa, 1-8.

Widarjo, W. & Setiawan, D. 2009. Pengaruh Rasio Keuangan terhadap Kondisi Financial Distress Perusahaan Otomotif, 11(2), 107-119.

Widati, L.W. & Pratama, B.A. 2015. Pengaruh Current Ratio, Debt to Equity Ratio, dan Return on Equity, untuk Memprediksi Kondisi Financial Distress. Prosiding Seminar Nasional Disiplin Ilmu & Call For Paper UNISBANK (SENDI_U).

WIGATI, T.P Dkk. 2017. Pengaruh Financial Indicators dan Non-Financial Indicators terhadap Financial Distress dengan Return on Equity sebagai Variabel Kontrol. Semantic Scholar, 1-10.

Yudiawati, R. & Indriani, A. 2016. Analisis Pengaruh Current Ratio, Debt to Total Asset Ratio, Total Asset Turnover, dan Sales Growth Ratio terhadap Kondisi Financial Distress (Studi Kasus pada Perusahaan Manufaktur yang Terdaftar di Bei Tahun 2012-2014). Diponegoro Journal of Management, 5(2), 1-13.