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The influence of ROA and Sales Growth on Firm Size

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ABSTRACT

The Industrial Revolution is a time when human work in various fields began to be replaced by machines. This study wants to examine how the effect of Return of Assets and Sales growth on firm size. The population in this study were 263 companies. And observations were made in accordance with the criteria and found a total sample of 40 companies. The data analysis method used in this research is Regression. The results are 1) Return on Assets has a negative effect on financial distress 2) Sales Growth has a negative effect on financial distress is rejected.

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1. INTRODUCTION

The Industrial Revolution was a time when human work in various fields began to be replaced by machines. The Industrial Revolution is also a major event that occurred in world history. Because with this Industrial Revolution every aspect of human life was affected. With the sophistication of technology, the Industrial Revolution spread rapidly throughout the world. So that in the process of goods or services that may initially be difficult, long production and even expensive costs with the Industrial Revolution can become faster, cheaper, effective and efficient.

The impact of the Industrial Revolution included Britain becoming an industrial country, urbanization, the emergence of new social layers, the labor class and the bourgeoisie, the emergence of social unrest, and the emergence of modern capitalism. In the economic field, the revolution in England also had an impact on abundant goods and low prices, small companies went out of business, trade was growing and transportation was getting smoother [1]. In addition, the impact of the Industrial Revolution included Britain becoming an industrial country where the phenomenon of urbanization occurred which was marked by the emergence of new social layers, the labor class and the bourgeoisie, the emergence of social unrest, and the emergence of modern capitalism. In the economic field, the revolution in England also had an impact on abundant goods and low prices, small companies went out of business, trade grew and transportation became smoother [1].

In addition to the Industrial Revolution, many extraordinary events can

cause a financial crisis. The economic crisis of 1965-1967, the currency crisis of 1997-1998, the financial crisis of 2008-2009, and the crisis due to the COVID-19 pandemic in 2020 have also affected some companies in the world with difficulties. The coronavirus disease (COVID-19) has taken the world by surprise. The World Health Organization (WHO) has officially declared the coronavirus disease (COVID-19) outbreak a global pandemic. The global economic situation is also increasingly challenging as slowing production activity has led to millions of people being laid off.

In the United States, the largest economy in the world, over 30 million new unemployment claims were filed within the first six weeks of social distancing, with the total surpassing 72 million within the first 10 months of the pandemic. In a single week, more than 6 million people filed new unemployment claims, setting a record even higher than the 8.7 million claims recorded during the Great Depression. The majority of these new unemployment cases were from sectors heavily impacted by COVID-19, including entertainment, commodities, transportation, trade, and manufacturing [2].

Apart from the world, the Industrial Revolution and the COVID-19 covid-19 pandemic have greatly impacted the Indonesian economy. The Chairman of KSPI said that the Industrial Revolution 4.0 will narrow the job market because technology can take over activities that were previously done by humans [3]. For retail, for example, sales can now be done online. With the Industrial Revolution, which uses a lot of technology in company operations, there are certainly risks to the technology itself. For example, the risk of hacker attacks that can be carried out by competitors or evencertain people who have certain goals. Not to mention the risk of human resources, for example because technology-based production certainly requires human resources who are already qualified in technology. So, the company needs to quickly adapt and provide competency development for its employees to operate its technology- based machines.

The changing phenomenon of the Industrial Revolution has shaken the company's performance, plus April 13, 2020 became a very historic date, where President Joko Widodo officially declared COVID-19 a national disaster. The determination was stated through Presidential Decree (Keppres) of the Republic of Indonesia Number 12 of 2020 concerning the Determination of a Non-Natural Disaster The spread of CORONA VIRUS DISEASE 2019 (COVID-19) is a phenomenon that includes a national disaster. The COVID-19 pandemic has had a very serious impact on the Indonesian economy, including disrupting people's welfare. Many could have predicted that the pandemic would be a huge wave that hit the economy. Amid the threat of transmission, high uncertainty, and many things that have not been fully revealed about the outbreak, strict social restrictions are steps that must be taken from the start.

One of the principles of the company that is included in the accounting principle is going concern, which means how to make the business always run and continue. There is never a company that has a goal to close the company. But in reality, with various conditions, the company may experience financial distress and even close the company.

Sitorus (2022) implies that low *returns* imply poor financial capability which will trigger a decline in earnings power along with a high probability of *financial distress* [4]. The company has a high *return on assets* (ROA) value, so the possibility of the company to experience financial difficulties is small but if on the contrary if the company with a small ROA is likely to experience financial difficulties.

The profits obtained by the company come from business circulation or sales, so the company is expected to continue to increase its sales (sales growth). If sales do not increase, investors will tend to experience losses and will withdraw their investment funds, if investors do this, the company will experience difficulties. Research conducted by several researchers including Ramadahni and Nisa (2019), Handayani et al (2019), Rismawanti et al (2019), Nursal et al (2023), Digdowiseiso (2022) states that an increase in sales or sales growth (SG) will affect financial

distress [5], [6], [7], [8], [9].

The company size factor or firm size (FS) also plays an important role in the success of a company. According to Ashifa (2023), it was found in several studies that company size can moderate the impact of liquidity and profitability on financial conditions. Consistent with the research of Mujiani and Jum'atul (2020) and Ramadhani (2021) they found that firm size moderates' liquidity during the financial crisis [10].

Based on the explanation above, it can be concluded that several problems will be formulated in this study as follows:

1. Can Return of assets affect firm size?
2. Can Sales Growth affect firm size?

2. LITERATURE REVIEW

2.1 Return of Assets (ROA)

Sunaryo (2020) explains that return on assets (ROA) is a ratio used to assess a company's ability to generate net income from its total assets. This ratio serves as an indicator of the company's overall performance by reflecting the return on the resources invested, emphasizing the need for efficient utilization of the company's resources [11]. Choiriyah et al. (2021) describe return on assets (ROA) as a tool to assess whether management has achieved a satisfactory return on the assets under its control. This ratio is particularly valuable for evaluating how effectively the company has utilized its funds [12].

The level of profitability can be evaluated by examining the return on assets (ROA). A higher ROA indicates greater profitability. The ROA is influenced by the extent to which assets are utilized for investment, with the total assets of a company being affected by various factors, including the use of assets to pay off liabilities [13].

2.2 Sales Growth

Elviana & Hapzi (2022) say that sales growth is a reflection of a company's ability in a period. The company can be said to be successful if the company's sales level is high, so the company is considered to have successfully carried out its strategy [14]. According to Astiasari and Mursal (2023), high sales growth contributes to increased profits, which in turn stabilizes the financial condition of the company and reduces the likelihood of encountering financial difficulties [15]. On the other hand, if sales growth declines and the company is unable to address it, this can lead to financial difficulties. A decrease in sales compared to the previous period can negatively impact the company's assets, profits, and debt levels. Conversely, higher net sales can drive higher gross profits, thereby boosting the company's profitability. [16].

Companies with high sales growth rates will require increased investment in various asset elements, including both fixed and current assets. Management must carefully consider the appropriate sources of funding for these asset expenditures. Companies with strong sales growth will be better positioned to meet their financial obligations if they finance their assets through debt, and the opposite holds true as well.

2.3 Firm Size

Company size reflects the total assets a company possesses. According to Sayari & Mugan (2017), cash flow provides crucial information for identifying the financial health or potential decline of a company [17]. This further underscores the importance of cash flow in ensuring the smooth operation of company activities

Company size is a key variable in determining a company's value, reflecting the total assets it owns. Companies are generally categorized into two types: small-scale and large-scale. The size of a company can be gauged by factors such as equity, sales, and total assets. According to Kolamban (2020), a larger total asset base indicates that a company has likely reached its maturity stage [18].

2.4 Framework and Hypothesis

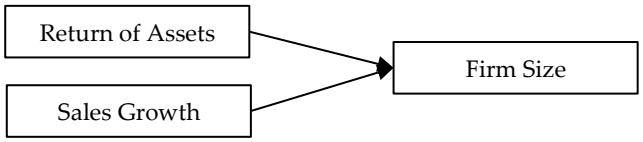

Figure 1. Research Model

Based on the conceptual framework, the following hypothesis is formed:

H1: *Return on Assets* has a negative effect on *financial distress*.

H2: *Sales Growth* has a negative effect on *financial distress*.

3. METHODS

3.1 Research Approach

This type of research is causal quantitative research. According to Sujarweni (2015) Quantitative research is a type of research thatproduces findings that can be achieved (obtained) using statistical methods and other quantification (measurement) techniques [19].According to Sugiyono (2016) Cause-and-effect relationship or what is called causality is astudy that aims to determine the relationship between two or more variables where one (independent) variable affects the other (dependent) variable [20].

3.2 Population and Sample

The population in this study were all manufacturing companies in Indonesia totaling 263 companies. The sample used in. From this population, observations were made in accordance with the criteria and found a total sample of 40 companies.

3.3 The Data

The data in this study are quantitative. This quantitative data comes from secondary data obtained from the capitalmarket and the need to obtain data on each ofthese variables on several sample company websites.

The data used in this study were processed using panel data adjustment regression using Microsoft Excel and EViews 13 software. Microsoft Excel was used to determine and calculate important financial figures. Eviews 13 software was used to process the data. Eviews 13 was used as the software and compared during the study period, before COVID-19, and during the COVID-19 pandemic.

According to Basuki and Prawoto (2017), panel data combines time series data and cross-sectional data. Time series data refers to data consisting of one or more variables observed over time within a specific observation unit [21]. In contrast, cross-sectional data consists of observations from several units at a specific point in time. Panel data is chosen for this study because it spans multiple years and involves a large number of companies. The use of time series data is appropriate due to the five-year period covered in the study, from 2018 to 2023. Additionally, cross-sectional data is utilized to include data from numerous companies used as research samples.

1. $Yti = \alpha + b1X1ti + b2X2ti + e$
2. $Yti = \alpha + b1X1ti + b2X2ti + b6X11ti + b7X2Zti + e$

Description:

Y= Dependent variable (Financial Distress)

A = Constant

X1 = Current Ratio

X2 = debt to asset ratio

Z = Firm Size

e = error term

t = time

i = company

4. RESULTS AND DISCUSSION

4.1 Results

a. Object of Research

The object of this research is to test the effect of financial ratios on financial distress by using firm size as a moderating variable that will strengthen or weaken the independent variable with the dependent variable. The variables used in this study are liquidity variables proxied by current ratio (CR), leverage variables proxied by debt to asset ratio (DAR), and financial distress variables with ZScore calculations. This research period was conducted from 2018 to 2023 with a total population of 263 companies. From this population, observations were made in accordance with the criteria and found a total sample of 40 companies.

b. Analysis Multicollinearity Test

According to Ghozali (2016) explain that the multicollinearity test aims to determine whether the regression model found a high correlation between independent variables. This test can be known by using the Variance Inflation Factor (VIF) method. Known decision making is as follows [22]:

1. If the centered VIF value > 10, it is stated that multicollinearity occurs.
2. If the centered VIF value < 10, it is stated that there is no multicollinearity.

The Multicollinearity test results of this study are shown in the table as follows:

Table 1. Multicollinearity Test Results

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
X1CR	0.001583	1.354415	1.271133
X2DAR	1.950220	5.060129	2.252995
ZFS	129.4082	328.7594	1.081887
C	181.2297	346.4023	NA

Based on the results of the data table 1 above, it can be seen that the Variance Inflation Factor (VIF) method obtained results where the centered VIF value of each independent variable < 10, so there is no multicollinearity problem.

c. Chow Test

According to Ratnasari (2021) explain the Chow test is a test used to select one of the models in panel data regression which is seen from the value of selecting the model, namely the common effect model (CEM) and the fixed effect model (FEM). It is known that the decision making is as follows [23]:

H_0 rejected = CEM model chosen (prob > 0.05)

H_0 accepted = FEM model chosen (prob < 0.05)

The following presents the results of the chow test to test which model is best between the common effect model (CEM) and the fixed effect model (FEM).

Table 2. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	121.264166	(65,328)	0.0000
Cross-section Chi-square	1275.16569	_ 65	0.0000

Source: Eviews 9 Workfile

Based on the Chow test estimation results in Table 2 above, it shows that the prob. value is 0.0000. For cross-section chi- square> 0.05, the CEM is chosen. And if the cross-section chi-square <0.05 then statistically H_0 is accepted and the approach because the cross-section Chi-square is 0.0000 <0.05 then statistically H_0 is accepted and the right approach to use is the fixed effect

model(FEM).

d. Hausman Test

According to Ratnasari (2021) explained that hausman test is a test to choose between random effect model (REM) and fixed effect model (FEM) in panel data regression. It is known that decision making takes place as follows [23]:

H_0 rejected = REM model chosen (prob> 0.05)

H_0 accepted= FEM model selected (prob < 0.05)

The following presents the results of the chow test to test which model is best between the Random Effect Model (REM) andthe fixed effect model (FEM).

Table 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-sectionrandom	17.324457	2	0.0002

Source: Eviews 9 Workfile

Based on the Hausman test estimation results in Table 3 above, it shows a random cross-section of 0.0000. From these data it can be seen that the cross-section random value is 0.0002 <0.05. We can get a result on statistically H_0 is accepted and the right approach to useis the fixed effect model (FEM).

Table 4. Fixed effect model (FEM) panel data regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
_3ROA	6.161683	0.038335	160.7322	0.0000
_4SG	0.065362	0.333686	0.195879	0.8448
C	5.596960	2.549972	2.194911	0.0289
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.999068	Mean dependent var		315.9732
Adjusted R-squared	0.998878	S.D. dependent var		980.3030
S.E. of regression	32.84076	Akaike info criterion		9.976251
Sum squared resid	353753.0	Schwarz criterion		10.65993
Log likelihood	-1907.298	Hannan-Quinn criter.		10.24710
F-statistic	5248.216	Durbin-Watson stat		1.441732
Prob(F-statistic)	0.000000			

Based on the results of the fixed effect model (FEM) panel data regression, the respective coefficients of each variable are obtained, namely the dependent variable, namely financial distress, the independent variable, namely ROA, and SG. From the research results in Table 4, the panel data regression is obtained as follows:

$$Y = 5.596960 + 6.161683\ X1 - 0.065362X2 + e$$

Description:

Y = financial distress (FD)

α = Constant

X1 = return on assets (ROA)

X2 = sales growth (SG)

e = Error

From the regression equation it can beconcluded that:

a. The constant (C) is 5.596960 which statesthat if the amount of variable X consisting of ROA and SG is 0, the value of variable Y, FD is 5.596960.
b. The return on assets (ROA) coefficient is 6.161683 which means that every 1 unit increase in the ROA variable will result in an increase in the FD value of 6.161683 assuming that the independent variable is constant.
c. The sales growth (SG) coefficient is 0.065362 which means that

every 1 unit increase in the SG variable will result in an increase in SG of 0.065362 assuming that the independent variable is constant.

The calculation of t table is obtained by calculating n - k - 1 = 240 - 7 - 1 = 232, t table =1.651448. Based on the partial t significance test results in Table 4 above, the following conclusions can be drawn:

a. Table 4 shows that the return on assets (ROA) variable has a $thitung$ value of 160.7322 > $ttabel$ of 1.651448 with a probabilitylevel of 0.0000 < 0.05, so H1 is accepted, whichmeans that return on assets (ROA) has a positive effect on financial distress (FD).
b. Table 4 shows that the sales growth (SG)variable has a value of $thitung$ of 0.195879 > $ttabel$ of 1.651448 with aprobability level of 0.8448 > 0.05 then H2 is rejected which means that sales growth (SG) has no effect on financial distress (FD).

Based on the $R2$ test results in table 4 above, the Adjusted $R2$ value is 0.99 or equivalent to99.88%. So it can be concluded that the independent variables ROA and SG are able to explain or describe FD by 99.88% and 0.12% is explained by other factors not included in this study.

4.2 Discussion

The results of this study are different from research conducted by Africa (2019), Sariand Setianingsih (2022), Septaningtiyas et al (2020), Sitorus et al 2022), Wahyuni (2021), Yudawisastra (2020) and Hassan et al (2023). If in a financial situation the ROA value is high, it will result in a lower or smaller financial distress number, because the smaller the number of financial distress variables willindicate that the company is in poor financial condition[4], [24], [25], [26], [27], [28]. Companies that have a high ROA level indicate that the company is able to generate profits that can be used for various things both to fund company activities and pay its obligations.

However, the condition of ROA in this IDX special-notation company does not really affect the condition of financial distress. Low returns can still be anticipated by increasing capital and selling assets to secure financial performance.

The sales growth ratio is a reflection of the management performance of a company to be able to increase sales from one period. This is because the low sales growth value illustrates the company's ability to create salesis decreasing which will affect the company's financial distress condition. When viewed from the descriptive table, the average increase in sales for special-notation companies is 0.170192 or around 17%, meaning that in general the company has increased sales which will have an impact on increasing profits. This increase in profit will further avoid financial distress.

5. CONCLUSION

The results of the analysis of the factors that affect financial distress, provide evidence that:

1. Hypothesis 1 states that return on assets has a negative effect on financial distress. However, the research results in the period 2018 to 2023 were rejected. The variable return on assets (ROA) has a positive effect on financial distress (FD). This happenseven though the company is experiencing a decline in returns, the company still has sufficient capital to bear the risk, has liquidityand good expense management capabilities so that the ROA value owned by the companyis safe because it does not affect financial distress.

2. Hypothesis 2 states that salesgrowth has a negative effect on financial distress is rejected because the results of research in the period 2018 to 2023 state that sales growth has no effect on financial distress. Increased sales should be directlyproportional to the profits earned. But in reality, it is not necessarily successfully obtained. This is because high sales growth, may have more expenses, so that the profit earned is only a little and even losses can be obtained. If profits continue to decline and even experience losses, the possibility of the company experiencing financial distress will be even greater.

5.1 Research Implications

a. Theoretical Implications

1. A low return on assets does not always indicate financial distress as long as the company can still maintain its liquidity.
2. Sales growth that is linear with increasing debt is still risky

b. Managerial Implications

1. The company maximizes returns while maintaining liquidity.
2. Company needs to increase sales, but need to be mindful of the increase in debt and operating costs.

5.2 Research Limitations and Suggestions

1. Academic advice

   The results of this study are expected to make a meaningful contribution in increasing understanding for both academics and practitioners regarding financial distress factors. This research is also expected to be a useful reference in measuring and dealing with financial distress. For future researchers, it is recommended to consider the use of other proxies that can be used in measuring financial distress, expanding the research sample, samples in closed companies, samples on other exchanges and countries and considering the use of variables and measurement methods and time.

2. Practice suggestion

   Many factors affect the company's financial distress. The role of debt in influencing financial distress is very dominant. For this reason, companies must becareful in conducting financing. For small companies, financing is important to grow the company, for large companies financing isalso important in maintaining trust.

3. Advice for investors

   Some recommendations include that in the financial cooperation of investors and potential investors are expected to be able to consider financial distress factors, and pay attention to the company's risk preference.The variables used in this study can help detect financial distress, so it is hoped that investors will not invest in companies that are experiencing financial distress.

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